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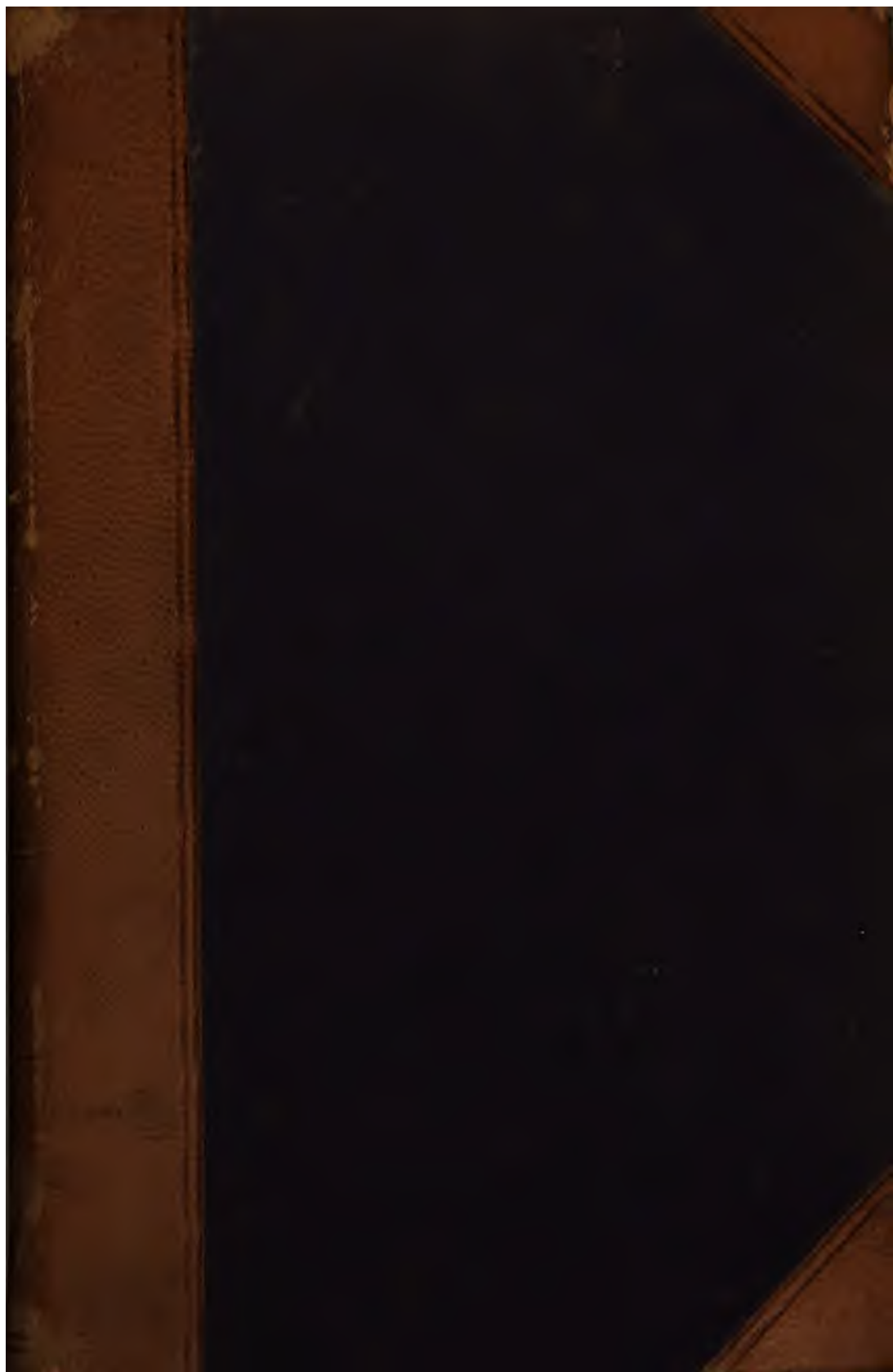
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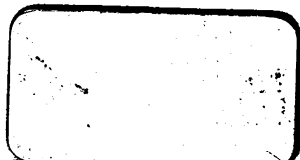
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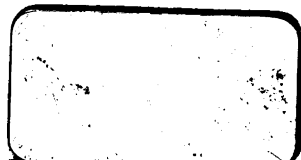


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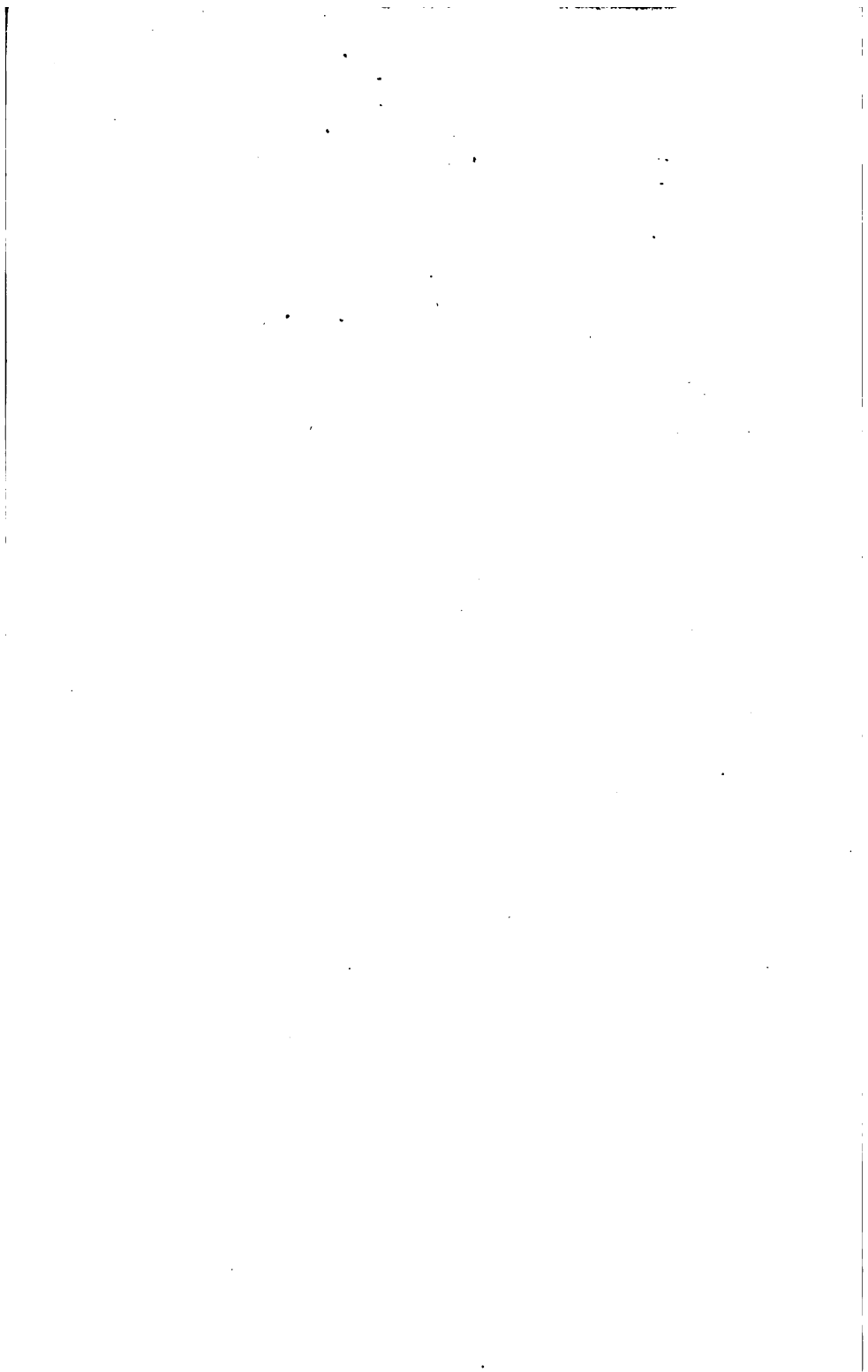


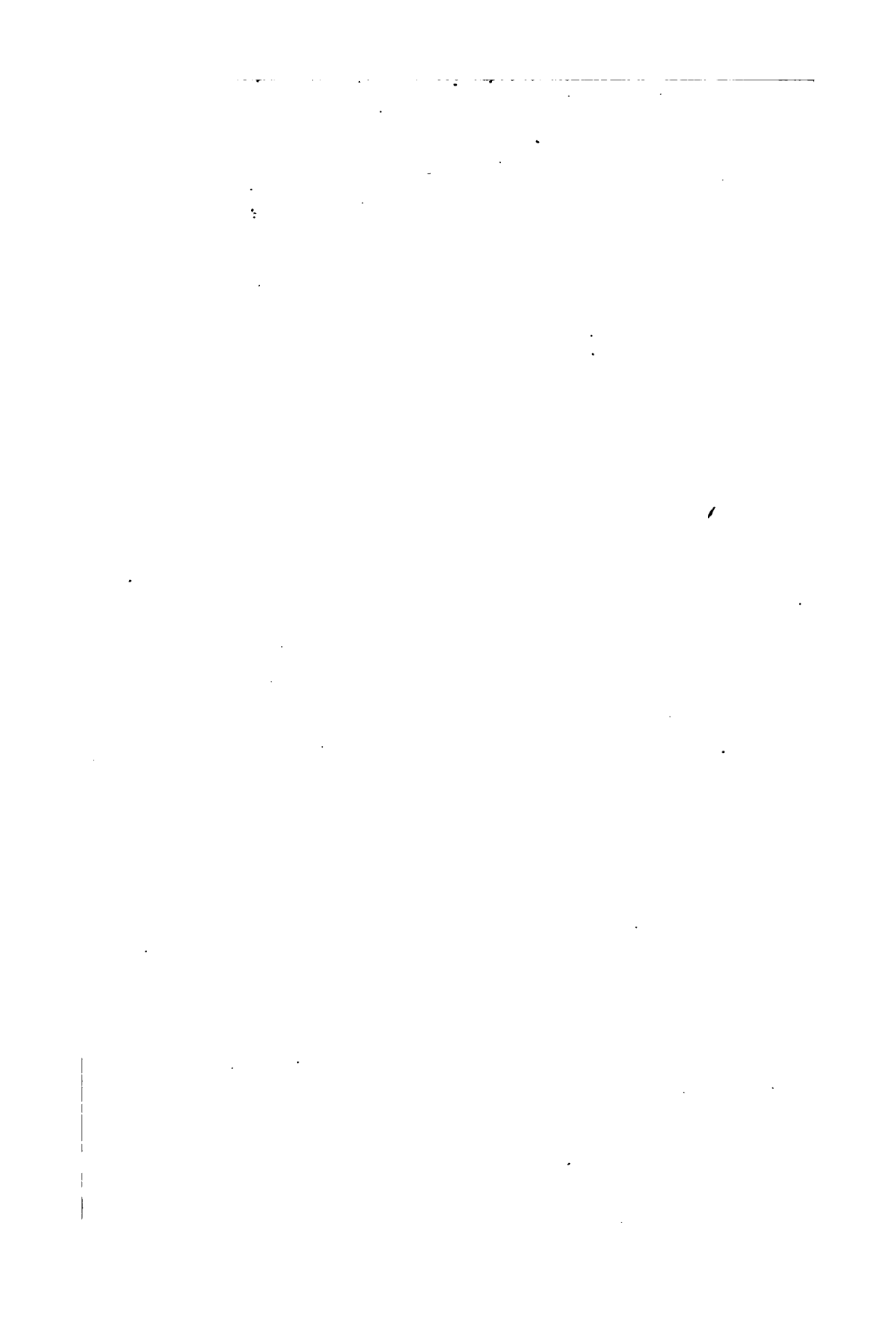


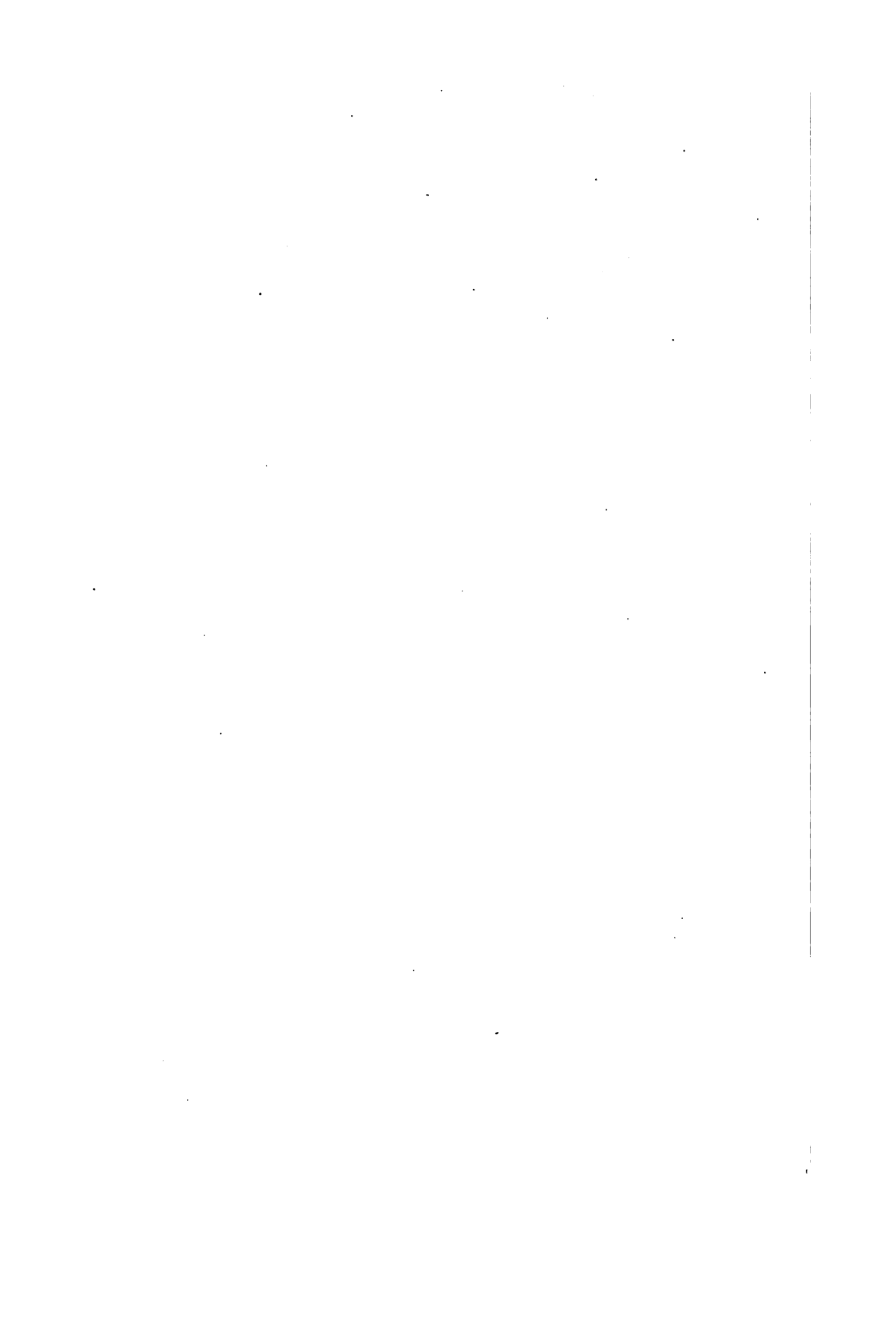
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Nos. CXIII-CXVI.]

[Vol. XXIX.

THE SHIPWRECKED MARINER

"There is Sorrow on the Sea."

Quarterly Maritime Magazine.

EDITED BY
W. R. BUCK, ESQ.,
Secretary of The Shipwrecked Mariners' Society.

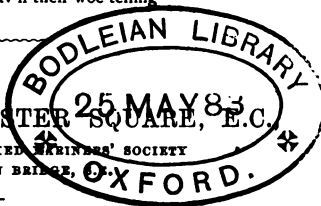


"HELP!—HELP!—HELP!"—
'Tis the Mariner's Cry! 'mid the tempest's fierce yelling!
"HELP!—HELP!—HELP!"—
'Tis his Home's echo'd Wail! unto Heav'n their woe telling

London:
GEORGE MORRISH, PATERNOSTER SQUARE, E.C.

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HIBERNIA CHAMBERS, LONDON BRIDGE, OXFORD.

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Quarterly Numbers, Sixpence each; Annual Volume, Three Shillings and Sixpence.

INSTITUTED
1839.



INCORPORATED
1850.

"There is Sorrow on the Sea."

The one NATIONAL INSTITUTION, providing
for every want of the Shipwrecked Fisherman and Mariner:
relieving the distress of the bereft Widow and Orphan; and
specially helping all the Fishing and Seafaring Classes
providently to help themselves.



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AMID THE HAZARDS OF WAR, THE HERO IS HARDLY
TAKEN BY SURPRISE ; AND UNDER THE SCOURGE
OF PESTILENCE, AND FAMINE, THE LINGERING SPIRIT
HAS TIME TO BEQUEATH A BLESSING, OR TO BREATHE A
PRAYER !

BUT, IN THE PERILS OF THE SEA, WHEN THE LIFE-
FREIGHTED VESSEL FOUNDERS IN MID-OCEAN, OR
IS DASHED UPON THE REEF, OR WRECKED UPON THE
SHORE, THE INTERESTS OF THE FUTURE DISAPPEAR IN
THE TERRORS OF THE PRESENT—THE CRY, FOR "HELP"
FROM MAN, IS LOUDER THAN THAT, FOR "MERCY"
FROM HEAVEN.

AND, WHILE THE BODY PERISHES, IN THE WILD
EMBRACE OF THE WAVES, THE SOUL IS HURRIED,
UNSHRIVEN, TO ITS ETERNAL HOME !

SIR DAVID BREWSTER.

Patron:—Her Most Gracious Majesty the Queen.

INSTITUTED
FEBRUARY THE 21ST,
1839.



INCORPORATED
BY ACT OF PARLIAMENT,
1850.

“There is Sorrow on the Sea.”

The one NATIONAL INSTITUTION, providing for every want of the Shipwrecked Fisherman and Mariner; relieving the distress of the bereft Widow and Orphan; and specially helping ALL the Fishing and Seafaring Classes providently to help themselves.

FORTY-THIRD ANNUAL REPORT
OF THE
Shipwrecked Fishermen & Mariners'
ROYAL BENEVOLENT SOCIETY.



“HELP!—HELP!—HELP!”—
’Tis the Mariner’s Cry! ’mid the tempest’s fierce yelling!
“HELP!—HELP!—HELP!”—
’Tis his Home’s echo’d Wail! unto Heav’n their woe telling.”

General Office:
SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY,
HIBERNIA CHAMBERS, LONDON BRIDGE.

SUPPORTED BY VOLUNTARY CONTRIBUTIONS.

THE SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY, which is the **SAILORS' own ROYAL BENEVOLENT SOCIETY**, was Instituted in 1838, Incorporated by Act of Parliament in 1850, under the Management of the Central Committee, at the Society's Central Office, and is Supported by Voluntary Contributions.

IMMEDIATE ORGANIZED RELIEF TO MARINERS AND FISHERMEN, their Widows and Orphans, or Aged Parents, is daily afforded by **THIS SOCIETY**, as the **ONE NATIONAL INSTITUTION**, providing (through its 1,200 Honorary Agents, stationed at every Port, Fishing-Town, &c., in the United Kingdom, as well as Inland, Abroad, and in the Colonies) for every want of the **SAILOR** when **SHIPWRECKED**; alleviating the distress of his sorrowing Dependents, whatever the cause of their bereavement; and specially helping **ALL** the **FISHING** and **SEAFARING CLASSES** providently to look forward and help themselves against the ever-recurring losses and perils of their hazardous calling.

Annually Relieved—Between 14,000 and 15,000 persons.

CONTRIBUTIONS IN AID OF THESE NATIONAL OBJECTS are very earnestly requested, and will be most thankfully received by the Society's Honorary Agents and Travelling Secretaries; by the Bankers, Messrs. Williams, Deacon, and Co., Birchin Lane, London, and all the London and Country Bankers; and by the Secretary, W. R. Buck, Esq., at the Society's Central Office, Hibernia Chambers, London Bridge, S.E.

Life Governors, £10. Life Members, £5. Annual Subscriptions and Donations of various Amounts—even the smallest of which are most acceptable.

Clergymen making a Congregational Collection of £5, or £10, are respectively Life Members, or Life Governors of the Society.

Executors under any Will, paying to the Society £50 or upwards, are Honorary Life Governors. Testators and Donors of £50 or upwards have their Names inscribed on a Tablet in the Chambers of the Institution.

Shipwrecked Fishermen & Mariners'

Instituted,
February the 21st,
1839.



Incorporated,
By Act of Parliament,
1850.

"There is Sorrow on the Sea."

ROYAL BENEVOLENT SOCIETY.

(SUPPORTED BY VOLUNTARY CONTRIBUTIONS.)

Patron.

HER MOST GRACIOUS MAJESTY THE QUEEN.

Vice-Patrons.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G., &c.

HER ROYAL HIGHNESS THE PRINCESS OF WALES.

REAR-ADMIRAL HIS ROYAL HIGHNESS THE DUKE OF EDINBURGH, K.G., &c.

CENTRAL OFFICE:—HIBERNIA CHAMBERS, LONDON BRIDGE, S.E.

THE FORTY-THIRD ANNUAL REPORT OF THE COMMITTEE OF MANAGEMENT,

READ AT

THE SOCIETY'S ANNUAL MEETING, HELD AT THE MANSION HOUSE, LONDON,
FRIDAY, JULY 21, 1882.

IN presenting, to the many friends and supporters of this great NATIONAL CHARITY, the Annual Report of its proceedings and operations during another year—being the forty-third year of the Society's existence and beneficent labouring on behalf of our vast sea-faring population—the Committee of Management desire again to give expression to their feelings of deep thankfulness to Almighty God, for the continued blessing vouchsafed to the Society and to its noble national work.

Truly memorable as the preceding year, 1880, only too sadly proved to be, more memorable still, alas! in the annals of the sea and its perils, has been the year 1881, just past. Irrespective of every prior storm and casualty of the year, it is stated, of the one single month of October alone, that its woful experiences seem to have ex-

hausted all the varieties of maritime horrors—the violent and protracted gales of the same and succeeding months being literally terrific on various parts of the coasts of the United Kingdom, and in the Atlantic blowing for days together with the force of hurricanes, while the reports which reached Lloyds', of the recurrent disasters to ships, were probably the most melancholy and numerous on record.

Referring, more particularly, to these "Shipping Losses, and Storms, in 1881," some telling facts and figures have already been quoted, from authoritative sources, in the Society's quarterly magazine, "THE SHIPWRECKED MARINER."* It thereby appears that no less than 2,039 actual shipwrecks (including an excessive proportion of vessels of large tonnage, with cargoes of exceptional value, and involving the great loss of 4,134 lives) occurred throughout the world during the year, or an increase of 359 as compared with the previous year, 1880. The British-owned sailing ships and steamers, amongst those wrecked, are duly noted, further, as having aggregated 1,048 of the yearly total named; with, also, as many as 826 vessels, of which the British-owned formed three-parts, accounted for as entirely lost off the shores of England, Scotland, and Ireland, only. To this grievous tale of more formally recorded destruction and death, there yet remains to be still added the long and harrowing story of the several special calamities which, likewise within the past year, well-nigh completely overwhelmed whole fishing communities in the Shetland Isles, on the east coast of Scotland, and at Eyemouth, &c.; besides, too, the almost innumerable isolated and minor casualties of the year to smaller craft and their crews.

As the inevitable result of so unprecedented a series of combined mishaps to ship and sailor, with all the consequent distress and woe for widow and orphan, unprecedented, also, have been the urgent claims upon the Society's prompt and benevolent aid, through its Executive in London, and Local Honorary Agents, as stationed, to the number of 1,200, at every port, and fishing town, &c., in the

* "THE SHIPWRECKED MARINER:" ILLUSTRATED QUARTERLY MARITIME MAGAZINE, published under the auspices of the Shipwrecked Fishermen and Mariners' Royal Benevolent Society. The Work contains various Articles on Miscellaneous Subjects, as well as Accounts of Shipwrecks, of Voyages, of Marine Inventions, and Discoveries beneficial to Seamen, &c., &c.—in short, it gives information, as extended as its limits permit, of everything instructive and useful to the seafaring man, or those who are interested in his welfare.

"THE SHIPWRECKED MARINER," may be ordered of the Publisher, GEORGE MORRISH, 20, Paternoster Square, E.C., or through any Bookseller; or a Copy will be sent from the Society's Central Office, to any Address. Price Sixpence Quarterly, or Two Shillings Yearly, paid in advance. The Annual Volumes of the Magazine, since 1854, containing the Four Numbers of each Year, can also be had, handsomely bound in blue cloth, gilt lettered, price Three Shillings and Sixpence each.

United Kingdom, as well as Inland, Abroad, and in the Colonies. From the following summary of the augmented numbers thus helped and relieved, here subjoined by the Committee, the continued great increase in the Society's work, during the year ending 31st December, 1881, will be fully evident, viz.:—

Number of shipwrecked fishermen and mariners (including foreigners of all nationalities) boarded, lodged, clothed, medically cared for, and forwarded to their homes; and also of fishermen and mariners (of every class and every circumstance of accident and need) pecuniarily helped in their extremity, or assisted to restore their lost boats, clothes, &c.—5,510; being 706 more than in 1880.

Number of widows and orphans, &c., of fishermen and mariners succoured in their sudden bereavement, or further aided with annual grants, &c.—8,725; exceeding by 395 those in 1880: and

Total number of distressed fishermen and mariners, and their destitute dependents, &c., thus relieved, for the year—14,295; giving, altogether, an increase of 1,101 upon the number for 1880, or a grand total of 325,046 recipients of relief, since the Society was first instituted, in 1839.

As rewards for saving life, six silver medals, besides various testimonials and pecuniary grants, were given within the year—placing the number of medals already awarded at 38 gold, and 284 silver medals, respectively, and raising the total number of lives saved, for which recognition has been granted by the Society, to 7,145, in all. Under this same head, the Committee have the satisfaction of once more bringing to notice the most generous gift to the Society, from a philanthropic French gentleman, Monsieur Emile Robin, of a sum of money, in trust, for the founding of two special life saving rewards, to be allotted to the Captain and Chief Officer of the British vessel saving a ship's crew from imminent peril, during the year immediately preceding each Annual Meeting. The Committee, however, again have to add that, up to the present moment, they have no eligible claimant or sufficiently exceptional recommendation to report, in regard to this newly-instituted reward for English seamen; but they desire to state their intention of forthwith taking steps for still more prominently, if possible, promulgating to those concerned, the terms and conditions of a trust much valued

by the Committee, in the interests of humanity, and on behalf both of the Society and of the British sailor.

Amongst other matters embraced within the wide scope of the Society's most comprehensive functions, the important national duty of relieving and re-patriating distressed colonial seamen, as entrusted to the Society by Government, under defined arrangements with regard to repayment of the cost in each instance, has again been satisfactorily carried out, with most advantageous results, in various pressing cases of great need, during the past year. The Committee, too, in connection with such national duties, have, also, again had the gratification of seeing the Society's organisation utilised as a medium for receiving, and safely handing over for due disposal, a benevolently subscribed sum, amounting to £111 15s., remitted from residents at Shanghai, for the benefit of a disabled seaman, lately a patient in the local hospital of that port, and himself forwarded home to his family in this country from the same charitable source. And, in further reference to such additional beneficent action, always most willingly undertaken by the Society's Executive, and its Honorary Agents, the Committee have gladly to allude to the material assistance, which it was happily in the power of the Society to render, by the collection of special contributions for relief of the great distress occasioned amid the poor fishing population of the Shetland Isles, through one of the exceptionally disastrous gales of the last year. The fund thus raised, under the Committee's auspices, reached the total amount of £776, the list of donors including, amongst numerous others, the names of Her Majesty the Queen (Patron of the Society), £25; His Royal Highness the Prince of Wales (Vice-Patron), £15; His Grace the Duke of Marlborough (President), £5; The Most Hon. the Marquis of Cholmondeley, £10; Sir J. W. Copley, Bart., £100; The Worshipful Company of Goldsmiths, £50; with, also, a special donation of £100 from the Society itself, for general needs, in addition to all immediate and prospective relief, &c., by the Society's Honorary Agents on the spot.

As directly bearing upon the Society's earnest and prolonged efforts, from its very first institution, for the amelioration of the condition of our immense Fishing Classes generally, by the inculcation of habits of thrift and self-help, the Committee would here record the fact that, following up the precedent of the late Fisheries Exhibition in Norwich, where it was locally represented, the Society was specially entered as an Exhibitor at the recent International Fisheries Exhibition, in Edinburgh. The Exhibition was held under the presidency of His Royal Highness the Duke of Edinburgh a Vice-

Patron of the Society, and thereat the Society has been awarded a Diploma of Honour, in respect of its Exhibits of Medals, Publications, and Statistics of Objects and Working Results.

The Committee have now to state that, in view of the greatly increased and still yearly increasing field of the Society's labours, with all the varied demands and enlarged operations involved thereby, they have, in conjunction with other points, taken under consideration the more correct and stricter definition of the terms of eligibility of Fishermen and Mariners for beneficiary membership of the Society, and as to which a Resolution, embodying the amendments required in Rule II., will be put before the Annual Meeting. The Committee have, likewise, directed their attention to the revision of the issues of Annual Grants of additional relief to the Widows and Orphans of deceased members, that the yearly proportion of this wholly extra aid may, with due regard for the Society's other specific objects, be as far as possible more certainly regulated, within the limits prescribed by the Society's Rules. And the Committee have, further, after very full inquiry, come to the conclusion that, while the inauguration and management, under the Society's auspices, of the Mariners' National Mutual Pension Fund, has amply secured an advantageous provision for the contributors thereto, the subsequent creation, and existence at this date, of many similar facilities, open to the Seaman, renders any continued extension of the number of insurers in the Fund unnecessary.

With respect to the important matter of Finance, the Committee, in referring to the Statement of the Society's Receipts and Payments, as duly audited and appended to this Report, have here to record their satisfaction that, notwithstanding the many depressing influences peculiarly affecting the past year, the amount of the Society's ordinary Income, therein, has still maintained its continued advance upon each preceding year. While the total receipts, for 1881, through a diminution in the fluctuating item of Legacies, stood at £90,648, as compared with £93,110, for 1880, the Society's standing Income, irrespective of Legacies, showed the not inconsiderable increase of £3,674—happily enabling the Committee in part to meet, from this source, the many augmented claims of the year for urgent relief, as already specially alluded to. The pressing demands thus made upon the Society's benevolence, resulted in a total issue of £90,174 in relief, for the entire year, exceeding, by nearly £5,000, that for 1880—these figures representing, beyond all precedent, the largest amount of charitable aid ever dispensed by the Society in any one year, and necessitating the Society's funded reserve being further drawn upon, from time to time, to the extent of no less than £7,500.

The Committee thankfully acknowledge the following Special Contributions of £15, and upwards:—

HER MOST GRACIOUS MAJESTY THE QUEEN, £25 (Annual).

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G., &c., £26 5s.

HIS GRACE THE DUKE OF MARLBOROUGH, K.G. (President of the Society),
£15 15s. (Annual).

	£	s.	d.		£	s.	d.
Aberdeen Harbour Commissioners	21	0	0	Henderson, R., Esq. (annual)	20	0	0
Aberdeen Town Council	21	0	0	Henderson Bros., Messrs., Glasgow, being collections on "Anchor Line" Steamers	64	17	5
"A. M. L." in reverent memory of H.R.H. the late Princess Alice, "who lost her own life in minister- ing to others."	105	0	0	Hoare & Co., Messrs.	21	0	0
Allan, Messrs. C. Gow & Co., Glasgow, being collections on "State Line" Steamers	15	5	6	Hul Trinity House (annual)	20	0	0
Annesley, Right. Hon. Countess Dowager of (collected by)	20	10	0	Jones, Mrs. Ann	15	0	0
Anonymous	20	0	0	Lambton Office (Sunderland)	28	5	0
Ames, E. L., Esq.	25	0	0	Lewis, Miss S.	20	0	0
Barclay, J. G., Esq.	25	0	0	Lloyd's Register of British and Foreign Shipping	105	0	0
Baring Brothers, Messrs.	21	0	0	Mainland, Captain David, (Member of the Committee)	52	10	0
Belfast Harbour Commissioners	20	0	0	National Fisheries Exhibition, Nor- wich (per W. O. Chambers, Esq., Hon. Secretary)	25	0	0
Bevan, Charles J., Esq.	60	0	0	Northumberland, The Dowager Duchess of (per Captain the Hon. Francis Maude, R.N., Chairman of the Committee)	25	0	0
Bruce, The Hon. Mrs. Robert	60	0	0	Patten, John, Esq.	25	0	0
Budd, Vincent, Mrs. (per Captain Vincent Budd, Deputy-Chairman of the Committee)	21	0	0	Rhodes, Miss	50	0	0
Campbell, A. E., Esq.	25	0	0	Rothschild, Baron F. de	25	0	0
Clothworkers' Company, The	21	0	0	Salters' Company, The	21	0	0
Coghlan, H. T., Esq.	21	0	0	Shrewsbury, The Dowager Coun- tess of	20	0	0
Cooper, Hall & Co., Messrs. C.	52	10	0	Smith, Heathfield, Esq.	20	0	0
Cordwainers' Company, The	21	0	0	Stock Exchange, Collected on the, by W. Kingsbury, Esq.	62	5	0
Courtenay, Miss L. B.	20	0	0	S. W.	25	0	0
Dalgety, F. G., Esq.	21	0	0	Thorngate, Trustees of the late Wm. Esq. (annual)	70	0	0
Dalhousie, The Right. Hon. the Earl of	20	0	0	Trustees of the Clyde Navigation	50	0	0
Dent, W., Esq.	50	0	0	Turner, Mrs.	100	0	0
Drapers' Company, The	21	0	0	Vigouroux, Frank, Esq.	15	0	0
Dundee Harbour Trustees (annual)	30	0	0	Waterford Harbour Commis- sioners	20	0	0
Ditto (don)	21	0	0	Wood, Mrs. B.	20	0	0
Dundee Town Council (annual)	20	0	0	Yarborough, The Right Hon. the Earl of	20	0	0
Ditto (don)	20	0	0				
Fishmongers' Company, The	105	0	0				
Goldsmiths' Company, The	200	0	0				
Grocers' Company, The	100	0	0				
Henderson, James, Esq. (annual)	20	0	0				

The following Legacies have been received or announced since the last Annual Meeting, viz:—

Edward Baker, Esq., £200; Brian Bates, Esq., £500; Christopher Russell Brown, Esq., £1,000; C. H. Childers, Esq., £10; Mrs. Christian Chivas, £53 17s.; Admiral H. E. Coffin, £50; Miss H. E. Carbin, £47 14s. 8d.; C. R. Craddock, Esq., £100; Edward Cushee, Esq. (Consols), £449 18s. 9d.; Mrs. A. Davie, £5; Miss M. Dockray, £100; Mrs. Jane Draeger, £90; Mrs. A. Fooks, £19 19s.; Miss M. E. Green, £210 16s. 6d.; H. Gregson, Esq., £189 12s. 6.; Mrs. M. L. Griffith, £99 5s.; Mrs. Mary Gunston, £1,000; Thomas Hall, Esq. (balance), £142 0s. 8d.; Miss M. E. Hitchman, £19 19s.; Miss E. G. Hollis, £150; Alexander Johnston, Esq., £19 19s.; Captain John Monk, R.N., £100; Captain William Moore, £148 7s. 8d.; J. N.

Paterson, Esq., £500; John Platt, Esq., £89 17s. 9d.; John H. Reed, Esq., £19 19s.; Miss Silly, £219 9s. 8d.; Captain William Smithett, £25; Mrs. A. Sutherland, £19 19s.; Miss E. W. Sutton, £10; Mrs. J. Wait, £19 19s.; Miss Matilda White, £25; Mrs. E. J. P. Wickman, (Division of Trust Fund); Mrs. Anne Williamson, £100; H. W. De Winton, Esq., £100.

The Committee regret to have to record the loss, by death, of the following gentlemen, who acted as Honorary Representatives and Agents of the Society:—J. Thompson, Esq., Armagh; Mr. Edward Stammers, Brightlingsea; J. Walsh, Esq., Dublin; Mr. W. Lloyd, Dumfries; Rev. A. C. McLatchy, Enniskillen; Rev. D. Webster, Fetlar; Mr. Thomas Smith, Inniscrone; James Walls, Esq., Kirkwall; James Bishop, Esq., Looe; Mr. John Swan, Muchals; William Liddersdale, Esq., Newbury; Frederick Symonds, Esq., Oxford; William Stewart, Esq., Peebles; Lieut. Fletcher, R.N., Ripon; C. Middleton, Esq., Sligo; Captain John Rendell, R.N., Steyning; Captain James Pottinger, Westray; and Captain H. B. Davis, R.N., Worthing.

Adverting to changes which have taken place in the list of Vice-Presidents, and amongst their own body, the Committee have, with extreme regret, to record the very recent decease of The late Most Hon. the Marquis Conyngham, enrolled in the number of Vice-Presidents of the Society; and, also, the further loss sustained by the Committee itself, and the Finance Committee, through the enforced withdrawal of the very constant services and personal co-operation of William Toller, Esq., on change of residence to a distant part of the country. The Committee have, however, the gratification of recording, at the same time, the addition of the names of The Right Hon. the Earl of Dalhousie, K.T., and of The Right Hon. the Earl of Erroll, to the list of the Society's Vice-Presidents; as well as the election, to seats at the Committee, of the Right Hon. Lord Ashley, Edward Edwards, Esq., lately Prime-Warden of the Fishmongers' Company, and James Hiscutt Crossman, Esq., lately Master of the Brewers' Company.

The Committee, as in previous years, now, again, with more especial regard to the very arduous duties involved throughout the past exceptionally disastrous year, most heartily acknowledge their obligations to the Society's Honorary Officers, for their kind co-operation; to the Travelling and Visiting Secretaries—Messrs. James Bancks, Lindon Saunders, C. K. McAuliffe, S. H. Miller, Lovell Pennell, and Captain Ivey—who have most zealously laboured to advance the Society's interests; and to the several Honorary Agents and Lady and Gentlemen Collectors, without whose invaluable aid the

benevolent work of the Society could not be carried on. Also, to the Clergy and Ministers, of various denominations, who have advocated the cause of the Charity from their pulpits; to the Superintendents of the Training Ships; to the various Sailors' Societies; to the Scottish Board of Fisheries, whose Agents act for the Society; to the Officers of the Coastguard and Customs; and to the Railway and Steam Packet Companies, who still continue to promote the Society's objects by reducing the expense of forwarding shipwrecked men to their homes.

In conclusion, as the Committee thus take into review all the details of the Society's immense operations and world-wide organisation, here publicly presented for but the one year of this Annual Report, they find themselves unable to refrain from recording their feelings of fervent gratitude that, by the Divine blessing, amidst every other Benevolent Institution of this great Empire, there exists, for the distressed sailor and his dependents, such an one as the SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY. Truly national as are the Society's whole scope and objects, the Committee, with no little pride, recall to mind the fact that truly national, too, are the Society's vast labours, and their beneficent results; and, year after year witnessing the Society's noble fulfilment, for the Nation, of these high national duties, the Committee have, during the year just closed, with peculiar satisfaction rejoiced to know that, as a fitting sequel to the philanthropic sentiments uttered by His Royal Highness the Prince of Wales on the occasion of the opening of the late Fisheries Exhibition at Norwich, the Society's special functions and extended work, as a NATIONAL FISHERMEN AND MARINERS' AID SOCIETY, were accorded the personal recognition of His Royal Highness, himself a Vice-Patron of the Society.

For this National Institution, then, and the still further development of its varied charitable benefits, amongst the whole fishing and seafaring community—on whose behalf the several Exhibitions in connection with their hazardous calling have recently aroused so sympathetic an interest—the Committee now once more claim, and very earnestly rely upon, the continued generous aid, and the increasingly sustained support, of all ranks and all classes, throughout this maritime Nation.

(Signed, on behalf of the Committee,)

FRANCIS MAUDE, Captain R.N.,

Chairman.

W. R. BUCK, *Secretary,*

Central Office: Hibernia Chambers, London-bridge, S.E.

FRIDAY, July 21st, 1882.

STATEMENT OF THE RECEIPTS AND PAYMENTS OF THE "SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY,"
Between the 1st January and the 31st December, 1881.

	£	s.	d.		£	s.	d.
Balance due to Bankers (overdrawn account) 1st of January	168	4	8	Balance, 1st January,—Disbursements account	234	16	11
Belief distributed by Central Office and 1,155 Agents and Auxiliaries to 14,235 Fishermen and Mariners, their Widows, Orphans, &c.	30,174	1	5	" " Auxiliaries (including the value of Tickets and Medals on hand)	3,084	16	9
Rewards for Saving Life at Sea.....	10	16	0	Less Mariners' Pension Fund Trust	3,319	13	8
Office Rent and Incidental Expenses at Central Office and 1,155 Auxiliaries	1,108	1	3	Less Mariners' Pension Fund Trust 1,624 8 2	1,695	5	6
Parcels and Postages at Central Office and Auxiliaries	220	2	3	Contributions to Central Office and Auxiliaries—			
Printing and Stationery at Central Office and Auxiliaries.....	515	13	6	Mariners' Subscriptions 9,057 5 0			
Advertising, Central Office and Auxiliaries.....	375	19	3	Less—Cost of Medals	192	9	4
Salaries	1,559	6	8	supplied them	8,864	15	8
Travelling Expenses and six Travelling and Visiting Secretaries	1,670	12	3	Honorary Subscriptions	8,963	7	9
Commission, Travelling and Visiting Secretaries and Auxiliaries.....	1,179	19	9	Donations	6,085	8	11
Interest on Loans.....	14	16	3	Legacies (including transfer of £190	1,654	2	6
Transfer to Society of Legacies of £190 Consols	189	2	9	Three per Cent. Consols).....	25,567	14	10
Balances—Williams, Deacon, & Co.....	24	11	3	Interest—Savings' Bank and Auxiliaries	0	14	8
Disbursements acct.	348	11	4	*Dividends on Stock	2,312	0	9
Auxiliaries	3,615	10	11	Belief returned by Consuls, Railway and Steam Packet Companies, &c.	2,258	6	10
Less—Mariners' Pension Fund Trust 1,803 19 11	3,988	13	6	Dividend on M. Emile Robin's Trust Fund.....	20	0	0
	2,184	13	7	Sale of £7,500 Consols Stock	7,517	7	0
	<u>£39,371 9 7</u>				<u>£39,371 9 7</u>		

W. R. BUCK, Secretary.
J. W. FFEIL, Accountant.

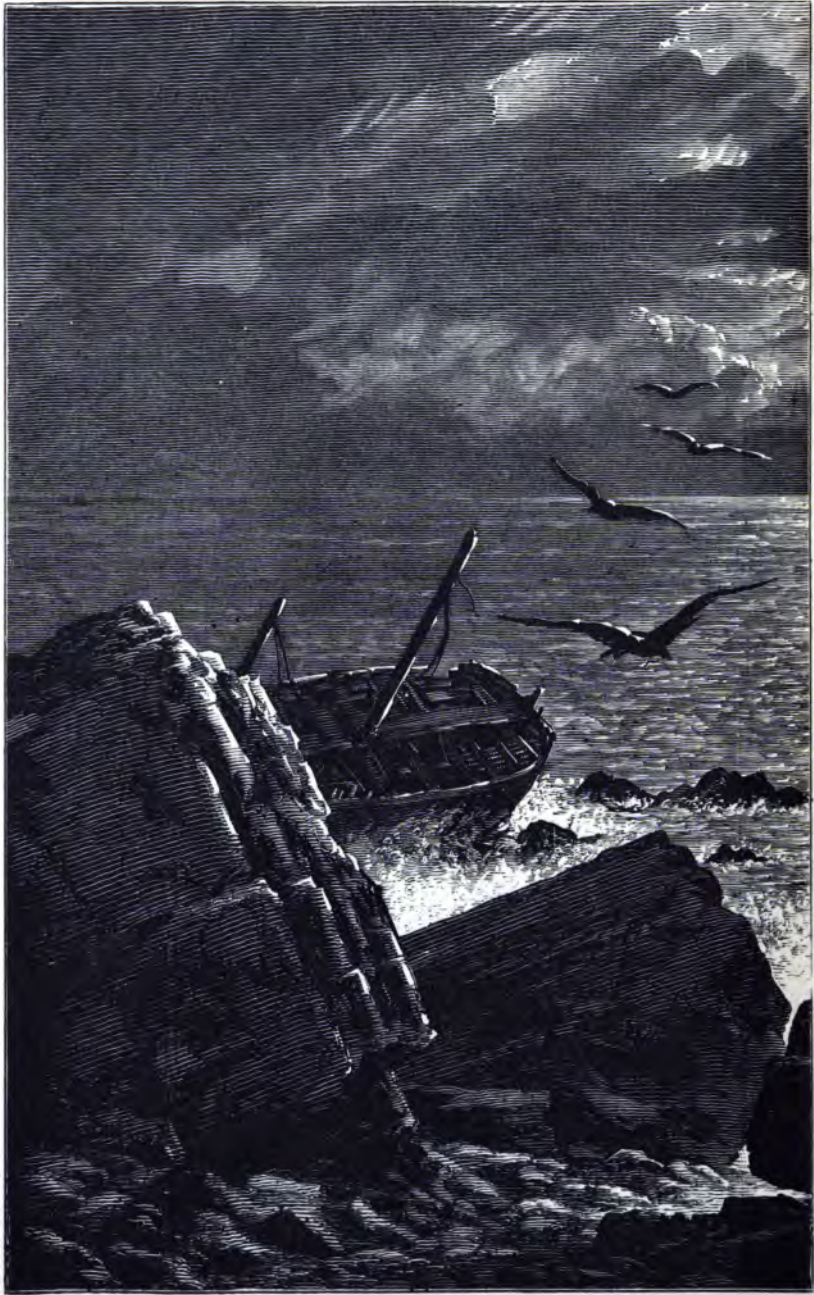
SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY,
CENTRAL OFFICE, HIBERNIA CHAMBERS, LONDON BRIDGE, S.E.

* N.B.—These Dividends are devoted to the distribution of small Annual Grants to the most necessitous Widows and Orphans.

Examined and found correct,
(Signed) R. WALKER, } Hon. Auditors.
H. GLANVILL, }



The one NATIONAL INSTITUTION providing for every want of the Shipwrecked Fisherman and Mariner; relieving the distress of the bereft Widow and Orphan; and specially helping all the Fishing and Seafaring Classes providently to help themselves.



AFTER A GREAT GALE.



Published under the Auspices of the "Shipwrecked Mariners' Society."

GREAT GALES.

(BY A FELLOW OF THE METEOROLOGICAL SOCIETY.)



"When were the winds
Let slip with such a warrant to destroy?
When did the waves so haughtily o'erleap
Their ancient barriers, deluging the dry?"

COWPER.*



I.



HE atmosphere which surrounds our globe is in a state of constant agitation—the motion being gentle, or violent, according to the intensity of the disturbing forces, which may destroy the equilibrium of the air slowly and gradually, the greatest commotion ensuing when these forces are spent. The air itself strives to be at rest.†

Two oceans belong to our globe—the ocean of air and the ocean of water; the one overlaps the other, and between the two there is a frequent conflict; they act and re-act upon each other, and the source of their disturbing forces is exterior to both. If the

* From Cowper's poem "*The Task*," written in 1783, a year remarkable for storms, meteors, and earthquakes; and during the summer of that year both Europe and Asia were almost constantly enveloped in fog.

† When the air is spoken of as being *at rest*, what is meant is, of course, *rest* in relation to the earth.

aqueous ocean did not exist, the air would be calm and peaceful—not in absolute rest—but, then, stillness and deadness would co-exist, for neither animal nor vegetable life could be sustained.*

Acted upon by the powerful agency of the sun, the water commingles with the air, in enormous quantity, permeates it in all directions, in the *vapour form*, and while this commingling continues there is no violent disturbance. But when the blending force is withdrawn the vapour returns to the state of water, leaves the air and descends to the solid earth or the ocean bed; then, indeed, the air, having lost its aqueous companion—or to a large extent in some region more than in another—rushes onward to fill up the void, and becomes furious in order to become quiescent. The enraged air sweeps over the earth, raises waves upon the surface of the sea, and lashes them into foam. The ships, then, are not so much at the mercy of the waves as at the mercy of the wind, whose fury ceases when the surrounding air has filled up the void caused by the condensation of vapour—although the ocean waves may, for a time, continue to roll, as if refusing to be comforted, while the wind has gradually been lulled to rest.

Heating and cooling influences are in constant operation in the air, the former producing evaporation from the waters on the earth, the latter causing condensation of vapour. The warmer the air is, the more moisture it will retain within itself—and while warm moist air is always pressing upwards, there must yet be a limit to which vapour can rise. The atmosphere extends at least 50 miles above the earth, how much more we know not—except that at 100 miles there is a vacuum more complete than any air pump can make one. In all probability moisture does not rise to any such height; as our highest cloud—the *cirrus*†—is composed of frozen particles,‡ and these clouds are generally about 10

* Dry air would be very slightly heated by the solar rays, and the attraction of the heavenly bodies would produce but a slight motion.

† Latin, *cirrus* (plural, *cirri*), a “tuft of hair,” a “curl.”

‡ It is true that evaporation at the earth's surface goes on while the temperature is below the freezing point, but the same conditions do not exist in the upper air. Poëy compares the filaments of *cirrus*, reflecting the sun's rays, to the hair of some inoffensive nymph, existing in the high regions of perpetual frost (“La forme de ces *cirri*, semblables, lorsqu'ils nous réfléchissent les rayons solaires, à la blonde chevelure de quelque nymphe inoffensive, habitante des hautes régions perpétuellement glacées”). Can, then, the vapour of water exist beyond the region of constant frost?

or 12 miles high.* It is beneath that height the great commotions in the air occur.

It may not be amiss to state here that the drier the air is the heavier it is. Hence in fine dry weather the barometer is higher than in wet; and for this reason—the vapour of water is the lightest of all bodies except hydrogen gas, and a column of air charged with this vapour must be lighter than a column of comparatively dry air of equal height.



PRIMITIVE FORMS OF "CURL-CLOUD," OR "CIRRUS."

We must proceed, now, to illustrate briefly what has been only broadly enunciated above; but we shall not go into numerous details as to the causes of land and sea-breezes, and the trade winds, the effects of the earth's rotation, or the influence of continents and mountains on atmospheric currents. Our purpose is to give the history of Gales, rather than to attempt a scientific essay on Wind-laws; though from time to time we shall offer remarks, by way of notes, in order to elucidate, if possible, some of the laws of storms.

* "Mr. Glaisher found that, at 37,000 feet above the soil of England, he was still far below the *cirrus*."—Flammarion, on "The Atmosphere," page 419.

It is at the earth's surface that the greatest heating process by the sun's rays goes on, but the full power of those rays never reaches the surface. Dry air is said to be *diathermanous*, that is, it allows the heat rays to pass through it without becoming itself sensibly heated; hence the upper dry air is cold. The vapour in the lower air arrests part of the rays and stores up their heat.* The atmosphere becomes most heated where the sun's rays are most direct, that is, near the equator; and there the amount of evaporation is greatest. The warm moist air streams upwards; in fact, in the equatorial regions the sun's power thus lifts up, with the ascending column of air, as much as 16 feet depth of water in a year; † about half of this falls again as rain—that is, within the tropics—the other half is carried towards the extra-tropical regions. The waters of the globe cover nearly 111 million square miles; and we may assign more than half thereof to the tropics, or 60 million square miles. Now, 16 feet of water raised from the whole of this area would amount to thousands of billions of cubic feet; and this may give some idea of the sun's work in one year.

But a cubic foot of water, when converted into vapour, occupies nearly 1,800 cubic feet; and when the converse takes place over any considerable area, and that suddenly, the displacement or void to be filled up is enormous.

Let us, then, suppose only half an inch of rain to fall rather suddenly over an area equal to that of Ireland; and there would be a void left equal to 30 billion cubic feet of air, the filling up of which must cause a strong inrush of air. But there is another effect, that is, the setting free of heat; for if much heat is absorbed while water is being converted into vapour, there is also much heat to be liberated when the vapour returns to the state of water. This produces an upward rush, and intensifies the inward or lateral rush. Maury remarks—"When the ascending vapour is condensed, and its latent heat set free in the upper air, we often have the most terrific storms." ‡ Flammarion, too, says—"Of all the causes

* Professor Tyndall estimates that the water in the air absorbs, on an average, about 60 times as much heat as the air does.

† Flammarion, on "The Atmosphere," page 206.

‡ "Physical Geography of the Sea and its Meteorology," page 85

which are assigned to the winds, one of the most powerful is, beyond doubt, the condensation of vapour in the atmosphere." *

To quote again—"The precipitation of immense quantities of rain appears constantly to accompany storms in the Indian Ocean. For hundreds of miles, on every side of the vortex, there is a dense stratified bed of clouds, pouring out rain, in torrents, without intermission, and this is continued for weeks together. During the Rodriguez hurricane,



THE "RAIN-CLOUD," OR "NIMBUS."

as well as in every other similar storm, incessant rain is repeatedly recorded by the different vessels involved in them." †

A storm begins, however, before rain has fallen. The upper air is first disturbed (it may be at the height of five or six miles where the condensation commences) simply thus—the warm moist air mounts upwards like the hot air in a chimney shaft; cold currents above impinge upon it and condense its vapour, not immediately into rain-drops, but into vesicles which form clouds; a whirling motion sets in

* "The Atmosphere," edited by J. Glaisher, F.R.S., page 307.

† "Geographical Distribution of the Currents of Air," in the Physical Atlas by A. Keith Johnston.

the warm air still ascending within the whirl; the intruding cold air increases in velocity; condensation becomes more rapid, and the storm cloud darkens and lowers, till the commotion reaches the surface of the earth and the rain descends.

We come, then, as the result of these various considerations, to two simple conclusions:

First. The process of evaporation, and the expansion of air by heat, may extend over a wide area, but are always gradual and often scarcely perceptible.

Second. Condensation is comparatively rapid, and its effects are often sudden and violent. We might include electricity; for, though evaporation may develop electricity in the atmosphere, it is during condensation that the effects are most violent.

If the foregoing explanations of the causes of storms be correct, we should expect to find the most frequent and violent disturbances where the sun's rays have the most power; and so it is. Hurricanes are most frequent within the tropics; and notably so in the West Indies during August, September, and October, and in the Indian Ocean, beyond 10 degs. S. But great storms do not recur, with equal frequency and intensity, year by year; they have their periods, and we think we find an explanation of this phenomenon in the fact that the sun is variable in its energy.

The following quotations on the subject will lead us to a discussion on this point:—

(1.) "Dr. Meldrum has found that there are more cyclones, in the Indian Ocean, in years when there are most sun-spots, and fewest cyclones in years when there are fewest sun-spots."

(2.) "In 1877, Mr. Henry Jeula, of Lloyd's, and Dr. Hunter, found that the percentage of casualties, on the registered vessels of the United Kingdom, was $17\frac{1}{4}$ per cent. greater during the maximum two years, than during the minimum two years in the common *sun-spot cycle*."*

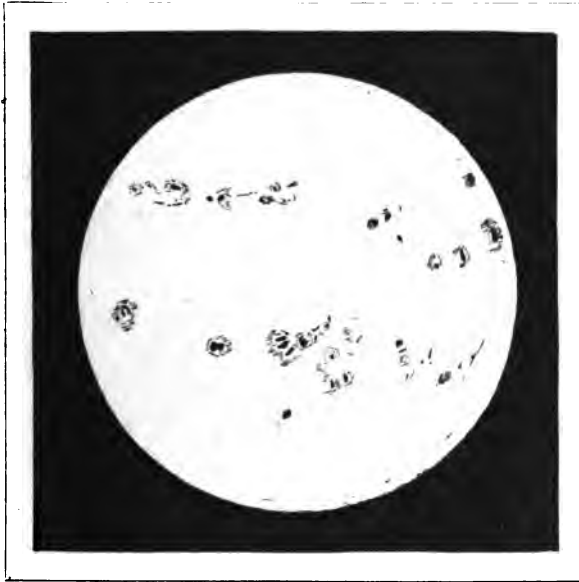
It seems a rather far-fetched idea, however, to try to account for the periodicity of storms by this existence, or non-existence, of spots on the sun. But the conclusion has not been arrived at in a hurry, and there have been many workers in this field of investigation.

More than half a century ago, Schwabe, of Dessau, observed the

* Prof. Balfour Stewart, F.R.S., on Solar Physics; a Lecture at South Kensington, April 27th, 1881.

spots, and his records of 40 years showed that they were more numerous about every tenth year (Galileo had observed the spots and ascertained the sun's rotation thereby); then General Sabine found that the greatest magnetic disturbance on the earth occurred at the time of sun-spot frequency.*

Casually, it would appear that sun-spots do not indicate an activity productive of heat, that is, regarded as mere dark spots on the sun's



SPOTS ON THE SUN.

disk. In 1774, Wilson, of Glasgow, found "that sun-spots behaved exactly as if they were caverns, with sloping sides, dug into the body of the sun," and he concluded they were pits or hollows. The spots, however, are not dark patches, nor caverns of solid matter, but "cloud-pits." Yet dark spots do not exist alone; they are *always* accompanied by *bright spots*, or, as they are called, *faculae*.

There is abundant proof to show that the *dark spots* are down-rushes of comparatively cool matter (which had given off its heat and light), and the *bright patches* are up-rushes, bringing up fresh heat from the

* *Researches in Solar Physics*; by Messrs. Warren de la Rue, B. Stewart, and B. Loewy, London, 1865.

interior of the sun ; thus corresponding, in a measure, to the process which we have explained, in reference to the warm ascending and the cool descending currents of an atmosphere. *

An authority already quoted says—“ We may add that this system of currents appears to be in all respects most powerful, during periods of maximum sun-spots, at which times the velocity of solar matter is absolutely enormous.” †

In order to enable the reader to understand the force of these arguments, as to the influence of sun-spots, we give a fact or two relating to their size. In October, 1865, a great sun-spot was observed by the Rev. F. Howlett, F.R.A.S. ; it occupied an area of 972 million square miles ; ‡ other spots existed at the same time ; the grand total of displacement was 1187 million square miles, or about six times the superficial area of our globe. These dimensions were exceeded in 1870 ; for, in April of that year, the total area of the spots was 5,200 million square miles, or about 27 times the area of the earth's surface.§

Professor Stokes, also, while treating on solar spots and the magnetic disturbances and auroræ, states :—“ Now, if there is reason to believe that, when the sun is in a state of activity in this manner, there is increased radiation from it, it may well be that the meteorology of the earth is affected by the change which takes place at the surface of the sun.” ||

We shall not further pursue this part of our subject at present, but will, in the next chapter, enter upon the historical record of Great Gales. In the sequel, we may be better able to gain a full appreciation of what has already been advanced, and to show how far the periodicity of storms accords with the great disturbances observed in the sun.

S. H. M.



* See Lecture, by Prof. Stokes, F.R.S., at South Kensington, April 6th, 1881.

† Prof. Balfour Stewart, on Solar Physics.

‡ Proceedings of Royal Astronomical Society, vol. xxvi. (See engraving at end of vol.)

§ Rev. F. Howlett, F.R.A.S., on the Coincidence of Sun-spot Activity and Terrestrial Magnetic Disturbances, at British Association, at York, September, 1881.

|| See Second Lecture, by Prof. Stokes, F.R.S., at South Kensington, April 1881.



LIGHTSHIPS, AND THEIR CREWS.*

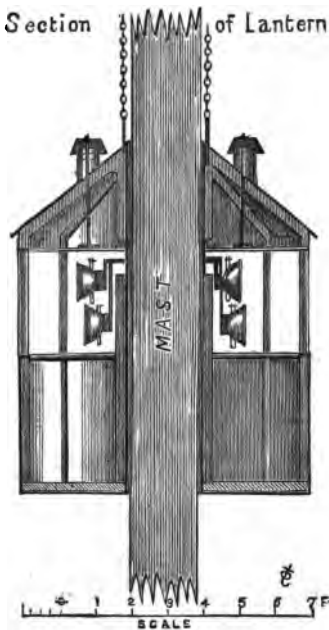


THE efforts which, more especially during the past year, have been brought under consideration of the Trinity House, towards effecting some connection of the various lightships round our coast with the shore by means of the electric telegraph, will have brought these very useful and interesting institutions under public notice to a somewhat unusual extent. Few establishments of equal importance attract so little attention in a general way, though the authorities in charge of them are always ready to afford every facility to persons desiring to visit them; and that not merely from a desire to gratify public curiosity, but because occasional visitors are believed to exercise a very useful influence in keeping up the *morale* of the men, and the general good order and efficiency of the vessels. Comparatively few persons, however, are found to visit the vessels, and the crews of most of our lightships must spend, upon the whole, perhaps the most isolated and monotonous existence known to free men.

It is just a hundred and fifty years exactly since the first lightship was stationed at the Nore, and now we have at various points of danger, around the English coast, 43 vessels, varying in size from about 130 to 212 tons burthen. All but four of these have been set up during the present century, and our shores may, we suppose, be considered to be at present fairly studded with these friendly beacons,

* From *The Globe*, and *Illustrated London News*, &c.

which, of course, are established only at dangerous points too far off the coast to be guarded by a lighthouse set upon *terra firma*. One of the latest institutions of the kind was the vessel which now marks the dangerous Sovereign shoal, between Beachy Head and Dungeness, and which was at the time it was placed in position, and is now, it is presumed, the best light round the coast. It is a white revolving light, giving a triple flash, that is to say, three short flashes very rapidly one after the other, followed by a half-minute interval of darkness. This vessel, like all the others, is under the control of the



Trinity House, which, by an Order in Council, is empowered to levy upon all vessels passing it a toll of two-sixteenths of a penny per ton, if on an over-sea voyage, or six-pence per vessel, if on a coasting voyage. In this manner all the other lightships round the coast are also maintained.

Originally these ships had not been designed for the work. They were merely old Dutch vessels, bought up and applied in a rough and ready way, the light being hung out at the ends of the cross yards; and in a rough sea a very lively time the crew must have had of it. Our present lightships have been built especially for their work, and are designed principally

with a view to their riding easily in a storm. As a precaution against the accident of their being driven from their moorings, however, each ship is provided with sails, and can, if required, make a very good speed. Their masts, of which they have usually two, though sometimes only one and sometimes three, are utilised for the elevation of the light, generally an octagonal lantern some five or six feet across, and divided into halves, which, when fitted together round the mast, slide up and down readily. An oil light is employed, and this is so skilfully economised by means of

parabolic reflectors as to be usually visible, on a very clear night, for a distance of ten miles. Where lights are of the revolving kind, as in the case of the vessel at the Sovereign shoal, just alluded to, clock-work, of course, is employed. These newest of lanterns, too, differ somewhat in form and structure from the generality of the lights.

Important, in the interests of navigation, as is the maintenance of every one of these forty-three lights on the coast, it may readily be believed that the cleaning of the lanterns, and the setting up of the light at sun-down, is not a very arduous task. This, however, does not of course constitute the whole of the duties of a lightship's crew, which consists of six seamen, three lamplighters, a mate, and a master, or eleven men altogether. Four of the eleven are always on shore, and upon the other seven devolves all the work of the ship, two of the seven being employed as a watch on deck, both by day and night. The ship has to be kept clean and bright as a new pin; every man has to do his washing and mending; besides which, all cables have periodically to be hauled and examined. Then it is at all times necessary that observations should be used to be assured that no drifting is going on. These and other odd duties take up a good deal of the time of the men; but when all has been done there is a vast amount of time on their hands, and we are assured by an experienced officer of the Trinity House that unless a man take up with some sort of hobby—as most of them do—shoe-making, fishing, needlework, painting, or something of the kind—he is pretty sure to degenerate into a sort of mere dummy, good for nothing but keeping a look-out. The majority of the men have some occupation to which they devote their leisure, and those who are in the habit of visiting them say that they appear to live tolerably comfortable and contented lives. The two officers of each vessel have a month on land and a month afloat, alternately; the rest of the crew have three months on board ship and one month on shore. A man on first joining the service gets his board and £34 10s. a year, with an allowance of 1s. 7d. a day for maintenance while on shore. He starts as a seaman, and if well conducted and lucky he may become lamplighter, mate, and master, at a salary of £80 per annum. Latterly a further source of income has been added, though most people will agree that the men may be very well excused if they fail altogether to appreciate it. Those of us who may have heard the Syren fog signals only at a distance can have

little idea what instruments of torture they must be on the ship from which their frightful blast emanates. It is said that one of these machines has been heard at a distance of twenty-five miles. They are intended to be heard, we believe, in an ordinary way, at a distance of ten miles ; and on board the lightships, upon some of which Syrens have been established, the men have been so distressed by them that it has been found necessary to reconcile them to their use by giving them a penny an hour all the time the engine is sounding. In one or two cases, we understand, men have been found quite unable to bear it, and have had to be transferred to other vessels.

The hardship and dreariness of life on board one of these floating prisons might well prompt the desire that, if possible, they should be placed in telegraphic communication with the shore. Such communication would undeniably be useful very often, and the fact that it would has slowly been recognised by the authorities. But experience has proved that the establishment of such communication is really a very difficult matter.

It may in all probability be within the recollection of many persons that the attempt to maintain a telegraph station afloat, at the mouth of the Channel, some ten or twelve years ago, was a signal failure ; and part of the cause of failure was the entanglement and complication of cables and telegraph wire, as the ship swung round her moorings under the action of wind and tide. Then, again, any spot frequented by vessels would be very perilous to a telegraph wire laid on the sea-bottom, in consequence of ships dragging their anchors ; and in many places it would be difficult to maintain a line which must necessarily be in perpetual motion over jagged rocks. Still, as every year increases the desirability of some ready means of communication between lightships and the shore, it is to be hoped that the efforts in favour of its accomplishment will result in its achievement. A great deal was expected some time ago of an experiment with carrier pigeons on board such ships. Six birds were placed on each of two lightships, and it was hoped that they would afford ready means of communicating with the shore in the case of emergency. The result, however, was very disappointing. Just when the messengers were most required it was found that they refused to fly, being deterred, no doubt, by the darkness and tempestuous weather in the midst of which, of course, their services were especially needed. The electric telegraph

seems to be the only really satisfactory means of communication at all practicable; and, both in the interests of lightship crews and of imperilled vessels, it is earnestly to be hoped that eventually the difficulty may not be found insuperable.

The following notes, upon the interesting subject of the periodical relieving of the crews of lightships, &c., are from the pen of a visitor who made a trip in the Trinity House relieving vessel,* when proceeding on one of her usual rounds for the purpose:—

“ We started from Trinity Wharf, Blackwall, early on a Thursday morning, our decks filled up with barrels of provisions and water, and



A LIGHTSHIP AT NIGHT.

with the baggage of the crews to be put on board the ten lightships; besides which we had several large buoys on our fore-deck.

The first light we called at was the Mucking, a pile lighthouse, connected with the shore by a long bridge, the keepers living in cottages. The next light was the Chapman, also a pile lighthouse, which we relieved. We then started for the Nore Lightship. Before reaching it an incident took place which shows the uncertainty of the work. The master of a smack, running past us, gave the information that the West Ouse buoy was adrift. After relieving the Nore Lightship, which we went alongside of, the weather being fine, we made for

* Mr J. R. Wells, the Artist, of the *Illustrated London News*.

the West Ouse buoy, and found it waterlogged and considerably deranged. It had been run into by some ship. The buoy was first capsized; a man, jumping on it, made a tackle fast; it was then hoisted on deck by a derrick from the foremast. It proved to be very much damaged, being bulged in and knocked out of shape. A temporary buoy was painted and rigged up, and was put overboard in its place, the whole thing being done in a wonderfully short time.

We then proceeded to the Mouse and Girdler Lightships, which were relieved by boats. An exciting scene is that of relieving a lightship by night, which was done in two instances, the Tongue and the Princes Channel. The former has two fixed lights—a high, white light, visible ten miles, and a low, red light, visible four miles.

On a very dark night it is difficult to perceive exactly how a lightship is lying, as little can be seen for the blinding glare from the lantern making a band of reflected brightness on the water like molten silver. The word is passed forward to tell the crew of the lightship to show a light over their quarter; we then creep up cautiously to the windward quarter. A rope is thrown from the steamship to the crew of the lightship, who are standing ready to catch and make it fast. A boat is then lowered from the lightship, bringing a rope to our quarter for the relieving boats to haul backwards and forwards on. Then begins the work of getting provisions, water, coal, &c., into the boats. Down in the forecastle of the lightship the crews are getting their things ready for the transfer. After everything is got on board, the boats are hoisted up; the order is given to let go, and we leave the new crew to their two months' lonely watch. The whole business of the relief only occupied about an hour, as everybody seemed thoroughly used to the work.

After relieving the Princes Channel we brought up for the night. At daybreak we started for the Kentish Knock and the Galloper, two of the most exposed lights. Sometimes, in bad weather, they are unable to approach these lightships for days. The master of the Galloper says the biggest sea he had ever seen broke on board one night during the recent gales. He says he thought at first the lightship would ride over it, but it came curling on, and the lightship, dipping her nose, took it all, filling her deck with water, and carrying things overboard. There were two men up in the lantern, and the

sea reached them, and filled their sea-boots. She was riding at the time with 175 fathoms of cable out.

All lightships are moored with mushroom anchors; some with single cables, others with what is called a span; that is, two anchors laid down, with a long stretch of cable between them, the lightship riding by a sixty fathom cable from the centre.

Proceeding further, then, upon our trip, from the Galloper we made for Harwich, passing the Bell Buoy, with its melauncholy clanging, at dark. A similar buoy is the Swin. The sinkers vary from ten to thirty cwt., with a chain three times the depth at high



RELIEVING THE "GALLOPER" IN A GALE.

water. We left Harwich, at daybreak, for the Swin Middle Lightship. From there we passed on to the Maplin, which is a pile lighthouse built on the Maplin Sand. On reaching the East Ouse Gas Buoy, we found that it had gone out. We lowered a boat, and one of the crew climbing up, lighted it again. This buoy was filled with gas, lasting to burn about a month; the gas is brought down by one of the boats in tanks. We reached the Nore at dark on Saturday evening, and brought up for the night; then steamed up to Blackwall on Sunday morning, the work of the relief of the ten lights having been done in three days."





CAPTAIN COOK.



(Continued from p. 264, vol. xxviii.)

XI.—THIRD VOYAGE. TRANSACTIONS IN QUEEN CHARLOTTE'S SOUND—CHARACTER OF THE NEW ZEALANDERS—ACCOUNT OF THE MASSACRE OF A BOAT'S CREW—THE LAST DEPARTURE—DISCOVERY OF WATEEOO—TALE OF A SHIPWRECK.



F anyone were inclined to cherish the opinion that the aborigines of any country, who had remained isolated through many generations, were disposed to live in general harmony and to progress in social life, the details which Captain Cook has given of the condition of the South Sea islanders ought to disabuse his mind of that impression. During Cook's last visit to New Zealand, made in February, 1777, the voyagers had stronger proofs than ever before of the depravity, indolence, and cannibalism of the natives.*

When our ships arrived (on this voyage), the natives appeared alarmed, fearing they would be punished for having murdered a boat's crew belonging to Captain Furneaux's ship; but our great navigator went not in the spirit of retaliation, for he says, "If the natives entertained any suspicion of our revenging these acts of barbarity, they very soon laid it aside." He then relates that many from different parts of the coast flocked around his encampment; of course these

* The reader is asked to contrast the condition of New Zealand, 100 years ago, with that of the present day, when the country can support a university, recently supplied with professors from England.

were they who had taken no part in the massacre, and they had no fear that our people would entrap them. Cook tells us how the men built the huts, while some of the women took care of the canoes, and others secured the provisions or gathered the firewood, and he himself amused the children. We quote his own words: "As to the children, I kept them, as also some of the more aged, sufficiently



A NEW ZEALANDER BEING TATTOOED.

occupied in scrambling for beads till I had emptied my pockets, and then I left them."

The food of the New Zealanders consisted largely of fish, which they roasted, for they were ignorant of the art of boiling; sometimes they procured birds, such as penguins and rails; they bred dogs, which afforded some variety of food; and they roasted the root and part of

the stalk of the large fern-tree, which yielded a substance somewhat like sago powder. A smaller fern root, and dried fish, formed the provision which they obtained when they removed their huts—as above mentioned, from one spot to another. They had no idea of cultivating the ground, nor were they disposed to learn, though seventeen gardens were planted for them, on the shores of Queen Charlotte's Sound, when the *Adventure* was there in 1773; now, just four years after, not a vestige could be found of them; they had been rooted up for building a village. Some gardens, planted by Captain Furneaux, still contained cabbage, onions, radishes, mustard, &c., and a few potatoes, but were overgrown by weeds. The New Zealander was fond of the potatoes given to him, but would not take the trouble to plant one. If any visited the ships when seal blubber was being melted for oil, "they relished the very skimmings of the kettle, and the dregs of the casks; but a little of the pure, stinking oil was a delicious feast."

On this visit, Cook "fully intended to have left not only goats and hogs, but sheep, and a young bull, with two heifers, if he could have found a chief powerful enough to protect and keep them, or a place where there might be a probability of their being concealed from those who would ignorantly attempt to destroy them. But neither the one nor the other presented itself." As no man's property was secure, he resolved not to leave any animals behind him.

Although Cook was more impressed than ever that these people were almost hopelessly debased, he yet showed them every possible kindness; and, so strong grew their confidence in his friendly intentions towards them, that the very man, one Kahoora, who headed the party that cut to pieces and devoured the bodies of the unfortunate crew of the *Adventure's* boat, became an occasional visitor to the encampment before named. Kahoora had actually slain Mr. Rowe, the officer of the boat. He, however, was looked upon as a bad man by the natives themselves, who asked Cook to kill him. On this point our narrator remarks: "I believe they were not a little surprised that I did not listen to them; for, according to their ideas of equity, this ought to have been done. But if I had followed the advice of all our pretended friends, I might have extirpated the whole race; for the people of each hamlet or village, by turns, applied to me to destroy the other. One would have almost thought it impossible that so

striking a proof of the divided state in which this miserable people live, could have been assigned."

By the 23rd February, the ships were again supplied with wood and water, the tents were struck, and everything carried from the shore to the ships. The next morning anchor was weighed, but the wind not



CARVED MONUMENT IN NEW ZEALAND.

being favourable, the ships were anchored outside Motuara, an island in Queen Charlotte's Sound ; here two chiefs paid a visit, and begged some goats and hogs from Cook, who says : "They made me a promise not to kill them ; though I must own I put no great faith in this."

While the ships lay at this anchorage, many natives from the shores

of the Sound went off and carried on a brisk trade in curiosities.* In one canoe was the miscreant Kahoorā, who, although he had been openly taxed with having murdered the crew, showed no fear of receiving the punishment he deserved. Cook says: "This was the third time he had visited us, without betraying the smallest appearance of fear."

The captain, however, was on shore when this man went off to the ship, but returning on board before the canoe left the ship, Omai,† who was with Cook, pointed out Kahoorā, and requested to have him shot; as this was not complied with, Omai addressed himself to Kahoorā, threatening to slay him if he ever came off to the ship again. Nothing daunted, however, this savage went off the next day with his whole family—about twenty in all. Omai espied his approach, and then asked the captain if he might invite the fellow to come on board; consent was given, and Omai introduced him into the cabin, saying, "There is Kahoorā, kill him," and then retired, apparently fearful of being called on to put his threat into execution. Coming back shortly after and finding the chief unhurt, Omai expostulated with the captain, and, in fact, turned advocate for the Crown, exclaiming: "Why do you not kill him? You tell me if a man kills another in England that he is hanged for it. This man has killed ten, and yet you will not kill him; though many of his countrymen desire it, and it would be very good."

But Cook was not moved by the wrath of Omai. The latter being interpreter, was requested to ask the chief why he had killed Captain Furneaux's people. This question brought a cloud over the features of Kahoorā, who folded his arms and hung down his head, seeming like a doomed criminal. But being assured of his safety, he ventured to tell that the quarrel began about payment for a stone hatchet, bought by a seaman. No one else gave this version of the fray. From all that Captain Cook could gather from a variety of witnesses he concluded that it was the pilfering ways of the natives that gave

* The New Zealanders were great experts at carving, though they had only stone tools, formed of the green serpent-stone or jasper; their substitute for a knife was a shell, a bit of flint, or jasper; a shark's tooth fixed in wood, formed an auger. The heads of their canoes were ornamented with carved work, which showed considerable skill in design and execution.

† For account of Omai, see p. 259, vol. xxviii.

rise to the quarrel. The boat's crew were seated on the shore at dinner, surrounded by several of the blacks, some of whom stole bread and fish, or snatched them from the hands of our people, who resented the affront ; it is said two Zealanders were shot, and then there was an on-rush, which overpowered our people, who were all put to death.

One Pedro* and his companions related the story of the massacre, and pointed out the spot where it occurred, also the place of the sun to mark at what time of day it happened. It was at Grass Cove, in Queen's Charlotte's Sound, and late in the afternoon, that the tragedy took place.

Most of the natives were surprised at Captain Cook's forbearance,



"PAH," OR FORT, NEW ZEALAND (AFTER COOK).

for they had not only fully expected, but wished, that he would avenge the massacre with the death of Kahoorā. But although Cook did not resent this barbarity as he really had power to do, he did not treat the matter with tameness, but made Kahoorā and others understand that a second attempt at this inhuman treatment, would be revenged with all the power at his command.

At Omai's particular request to Captain Cook, two New Zealand youths were specially permitted to go with him on the voyage.

* Even Pedro, a constant visitor during the second voyage, betrayed manifest signs of fear when Captain Cook arrived on this last occasion.

On the 25th February, anchor was weighed, and the ships sailed eastward through the Strait, and on the 27th they took their departure from Cape Palliser. Land had no sooner been lost sight of than the two Zealanders were afflicted with sea-sickness, and sorely lamented their departure from their country, and it was not till after many days that their sorrow subsided.

Cook was anxious to make a quick passage to Otaheite, or the Society Islands; but unfavourable winds obstructed his course for several days, and it was not till the 27th March that he crossed the tropic in longitude 201° east, or 9° west of his intended port. On the 29th, the *Discovery* made signal that land was in sight; this proved to be the island of Manglea, and some of the inhabitants went off in a canoe and conversed with Omai. Leaving this island on the 30th, a northerly course was observed, and on the next day another island was discovered, called Wateoo. Canoes went off to the ship, and presents were exchanged. One double canoe contained 12 men. "As they drew near the ship, they recited some words in concert, by way of chorus. When they had finished their solemn chant, they came alongside, and asked for the chief." A pig, and a few cocoa-nuts, were then conveyed on board; the visitors went on board also, and were shown about the ship; they seemed surprised at some objects, though nothing fixed their attention, and they were afraid of the cows and horses. Some gentlemen from the ship landed, and were received with the ceremony of "rubbing noses," and Omai was not a little surprised to find three of his own countrymen there, about two hundred leagues from their home. They had been at Wateoo twelve years. The story of their migration will help to show how other islands may have been peopled. It appears that about twenty persons, of both sexes, embarked in a canoe at Otaheite, to cross over to Ulitea.* A strong gale prevented their return, or their approach to their destination; their provisions were scanty, as the intended trip was short, and therefore soon exhausted. "The hardships they suffered, while driven along by the storm, they knew not whither, are not to be conceived; they passed many days without having anything to eat or drink; their numbers gradually diminished, worn out by famine and fatigue; four men only survived, when the canoe upset, and then

* See note on p. 259, vol. xxviii.

the perdition of this small remnant seemed inevitable. However, they kept hanging by the side of their vessel, during some of the last days, till Providence brought them in sight of the people of this island, who immediately sent out canoes, took them off their wreck, and brought them on shore." One of the four survivors had died, and the other three were so well satisfied with the treatment they received that they refused to accompany Omai to their native islands.

Wateoo is described as a beautiful spot, with a surface composed of hills and plains, and covered with verdure of many hues; but, having no running streams, is deficient in fresh water.

Cook, having discovered some other islands in the neighbourhood, made but a short stay here, and early in April prepared to sail from Wateoo.

S. H. M.



AFTER THE STORM.*



PATIENCE! for the strife is o'er;
 Weary wave, and dying blast,
 Beat and moan around the shore;
 Peace must come at last!

Lo! the seagull's silver wing
 Flashes in the sunset gold;
 Wait! another morn shall bring
 Gladness, as of old!

Sunlight, on the yellow strand;
 Shadows, lying still and clear;
 Pearly fringes, on the sand;
 Murmurs, sweet to hear!

Storms of life must have their way,
 'Ere these changeful years may cease;
 Foam and tempest, for to-day—
 And, to-morrow, peace!

SARAH DOUDNEY.

* From *The Girl's Own Paper*. London: The Leisure Hour Office, 56, Fater-noster Row.



EYEMOUTH.

(BY ONE WHO HAS BEEN THERE.)



THE fishing village of Eyemouth, in Berwickshire, is situated at the mouth of the river Eye—whence it takes its name—is about 12 miles from Berwick, and has a population of 2,960, of whom 370 are fishermen. The river Eye flows between high banks, wooded on the south side, and drops gently into the natural bay which constitutes the harbour of Eyemouth. This is some one-third of a mile in width, and bounded on the north-east side by precipitous cliffs, and rugged rocks—very similar, half-sunken rocks, called the Hurcars, over which the sea beats in huge breakers from the southern entrance to the harbour. The place, in olden times, was celebrated for smuggling; and the town, with its irregular streets, and wooded river, presents a picturesque appearance, as it extends along the curve of the horse-shoe beach, bounded by the Whinstone cliffs, above referred to.

The fishermen of Eyemouth are a hardy and industrious race; and, intermarrying among themselves, their wives are already trained to such work as baiting lines, &c., and fetching them to and from the boats, a service which is considered *infra dig.* for the fisherman himself to perform. The boats, of which their owners are justly proud, are decked vessels, from 45 to 55 feet in length, by 18-foot beam.

The very salutary custom prevails among these fishermen, moreover, of the minority being bound by the majority; so that when a man refuses, without sufficient cause, to go to sea, he has to shut

himself up in the house, and is then shunned by the women, who abhor all such cowardice.

The deep-sea line fishing was commenced by the Eyemouth fishermen, at the beginning of October last, just after the close of the herring fishing ; and the morning of the 14th October, which will there, and elsewhere, long be remembered as the date of the most disastrous gale of any recent year, opened bright, but squally. The men, owing to the state of the weather, had not been out for some days previously, and the bait getting stale, though the barometer was ominously low, they at length consulted together as to the advisability of starting ; those in favour of going, unfortunately the majority, contending that, should the threatened gale really come on, they could make for home again. Under their rule, as to the minority being bound by the majority, the latter prevailed, and all hands accordingly prepared for the fatal trip. There were not a few, however, who went with heavy hearts, having, somehow or other, sad forebodings—one man firmly refusing to go, nor would he state his reason, and even prevailing on his substitute not to venture.

It was a gladsome sight, that morning, to see those forty-two boats sail out in a gallant cluster, the wives and daughters cheering the brave fellows, and bidding them " God speed." Yet, amongst the crews was one old skipper who, seemingly with an inner consciousness of what was to happen, exclaimed, on taking the helm : " There will be many a tear shed for the Eyemouth fishermen going to sea this day, and the glass so low !" This sadly prophetic speaker was Alexander Maltman ; with whom, however, duty still prevailed, though he would appear to have felt he was steering to certain death, and was, in fact, one of the first to perish.

Even the heroic Captain Strachan, of the *Cyprian*,* so fearlessly facing death, could, when he nobly gave the last life-belt to the poor stowaway lad, trust to those powers of swimming which gave him at least a chance ; but with Alexander Maltman it was, at best, a forlorn hope.

Of the fleet of forty-two boats which thus left Eyemouth that morning, twenty-three were lost in the hurricane which, with fearful

* See the Account of the Wreck of this Vessel, under the head of " Wrecks and Casualties," at p. 49 of " The Sea and its Perils," in the current Number of this Magazine.

rapidity, came on ere they had time to cast their lines ; and the roaring approach of which has been described by one man as like that of thunder, or the noise of a rushing railway train. As the gale sprung upon them, the fishermen abandoned their lines, and quickly made for home, but the boats were speedily scattered ; the crews, powerless to assist, saw their shipmates washed out of boat after boat, and it became a case, virtually, of *saue qui pent*. Some boats made for the open ocean, others, instinctively, for the shore ; but the remaining occupants of these, blinded by the stifing mist, and stunned by



"MAKING FOR HOME."

the awful commotion of the sea, were presently cast upon the rocks, and engulfed within actual sight of their loved ones at home.

One of these Eyemouth boats, the *Harmony*, with six hands, when within 50 yards of the entrance to the harbour, was so destroyed, all hands perishing within hailing distance of the friends who could stretch out not a hand to save. A poor fellow, in this boat, for some time clung to a projecting piece of rock, wistfully looking for aid, till he sank through exhaustion. Another Eyemouth boat, the *Radical*

with its seven hands, was dashed to pieces at the same spot, every soul being lost. Scarcely had the people on shore time to realise the extent of this disaster, when another boat, the *Press Home*, with a crew of six men, was discerned struggling with the surf, in which it was instantly swamped. The people became bewildered, looking utterly helpless, when yet another boat, the *Pilgrim*, of Eyemouth, was seen approaching; and she, too, was soon on the verge of a ledge of rocks, at the west side of the bay, the men clinging to the masts and ropes, as sea chasing after sea, was hurrying them on. Amongst the watching hundreds, were aged men, and women, praying, and children in great terror; when a mighty sea bore the vessel up, over the rocks, to the high ground, and the *Pilgrim* was saved, and the prayers of the people heard.

Of the boats which put to sea, the *Fisher Lassies* turned up at Shields on the following Sunday, the 16th October, after great hardships to her crew; others, along the Yorkshire coast; and of some no tidings have ever been heard.

The total number of boats, possessed by the 270 fishermen of Eyemouth, is stated at 120. Of these, 42 boats, with 281 fishermen on board, left on that 14th of October; and before the sun went down, 28 boats, and 129 men, were no more. But the calamity was not confined to Eyemouth. Burnmouth (the mouth of the Burn)—a little village, picturesquely situated at the base of a steep cliff, about two and a half miles east of Eyemouth, and where there is a small harbour constructed at the expense of the Scotch Fishery Board, and by the contributions of fishermen, but having no natural shelter—possessed 27 boats, with 110 men. Of these, 9 boats, and 51 men, went out to sea, and 5 boats and 24 men were lost—one fifth of the Burnmouth fishermen thereby perishing. Another fishing village, Coldingham, two miles from Eyemouth, in the opposite direction, lost 2 boats, and 3 hands; out of 9 boats, and 46 men, on this occasion.

But were we to chronicle all the disasters occasioned by this storm, the limits of our whole space would scarcely suffice—all England suffering through the gale, which extended even to Germany and France.

At Eyemouth, it was painfully interesting to witness the movements of the people, shortly after the calamity, when the sea was smooth again, and the sun shining forth—a contrast, indeed, to what had happened within so brief a period. The survivors, after burying the

dead, or such of them as were washed ashore, gathered themselves together, and feeling that they must work to live, went about their occupations mechanically, and in silence, putting to sea with heavy hearts—the shore still strewn with fragments of wreck, and of clothing, mingled with sea-weed. Whilst we stood and looked on, we saw a woman gazing vacantly on the sea—“like one entranced on viewless air;” and, as she did so, a bright-eyed little fellow came up from the shore, gleefully dragging with him a sea-boot, as big as himself, and playfully laid it at his mother’s feet. The woman hastily seized the child, kissed it, and disappeared—the tears of her too recent woe



“GAZING, SADLY GAZING.”

rolling down her cheek. And many, and many another such touching incident could we relate, till, indeed, the eyes, both of writer and of reader alike, would stand bathed in the irrepressible tears of a mutual sympathy. Such was Eyemouth in its sorrow, and there must we leave it, amid all the saddest memories of those never-to-be-forgotten disasters of October 14, 1881.

C. K. McA.





A TALE OF THE BERWICKSHIRE FISHING DISASTER, Oct. 14, 1881.*



A deeply pathetic story is connected with Eyemouth, the hamlet that has most suffered by the late terrible disaster to the Berwickshire fishing-fleet. The story is that William Nisbet, the skipper of one of the ill-fated boats, called the *Forget-me-Not*, who was a member of the local Freemasons' Lodge (the St. Abb's, No. 70, in which, *en passant*, Burns, when in Eyemouth, was made a royal archmason), coxswain of the lifeboat, and superintendent of the Evangelical Union Church Sunday School, had a parrot which, under his tuition, had become remarkably proficient in the use of language. Ever since the storm, the parrot had been depressed and silent, as though it were conscious of its loss. A few days after, however, it found and maintained its voice, repeating mournfully, and with pathetic iteration, "Euphie! (*Euphemia*—the poor widow's name) Willie's awa' noo!—Willie's awa' noo!"



I.



YE, the sea is blue this morning, and the waves seem flashing
with smiles,

Like the smiles of an innocent baby that the bonny sunbeam
beguiles;

Bright and blue are the waters, there's light on the earth and sky,
And yet it is scarcely a fortnight since the awful storm swept by!

II.

The boats were starting that Friday, and Willie had reached the door.
When he turned back again to kiss me, though he'd bid me good-bye before
And I felt the tears in my eyes, and yet I couldn't tell why—
He was always so good, my Willie!—and then I watched him go by!

* From "*In Memoriam*—WILLIAM NISBET." Published in aid of the Widows and Orphans of the Berwickshire Fishermen, who were lost in the terrible Gale of 14th October, 1881. London: Hatchards, Piccadilly.

III.

And I went to my work as usual, I wanted the room to look bright,
Tidy and cosy for Willie, against he came back at night ;
And baby slept in his cradle, and Mary was playing about,
And sorrow seemed far, far distant, although the boats were out !

IV.

But all at once—in a moment—came the rush, and the roar, and the hiss ;
They'd been out in many a storm, but never in one like this !
For the whirlwind came in a moment, and the noonday sky was black,
And, oh ! how we watched and trembled for the boats that would never
come back !

V.

I cannot speak of that day, though 'tis seared like fire on my brain—
The awful noise of the tempest, the beat of the surge and the rain !
I tried to soothe the children, and to hush my baby's cry,
And I seemed to feel Willie's kiss, and to hear his ' Lassie, good-bye !'

VI.

Aye, there were some of them saved—just a few poor souls came back—
Worn, and haggard, and thankful, for death had been on their track !
But my heart was sick with longing, and I turned away in despair,
For the face I yearned for was absent—I did not see Willie there !

VII.

There was weeping on every side, and there was na a home unbereft ;
Fathers, and brothers, and lovers—there was hardly a man of them left !
Yet I could not join their weeping, for my eyes were hot and dry,
And Willie was lost !—my Willie !—and the joy of my life had gone by !

VIII.

And his brother came in the morning, and he said, with pitying eyes,
' Euphie ! my lass ! hope is over, for Willie's in Paradise !'
He had been out in the gun-boat, seeking the missing men,
And I'd hoped, and hoped, till I saw him—but hope was over then.

IX.

And the parrot that drooped on his perch, and had never spoken a word
 Since that awful day of the storm, looked up and seemed to have heard—
 'Euphie!' the bird said, 'Euphie! Willie 'll na come hame the noo!'
 And I buried my face in my apron, for I knew that the words were true!



"GOOD-BYE, FATHER!—GOOD-BYE!"

X.

There's a Fishermen's Fund, they tell us, and the Queen has helped us well;
 Aye, the Queen, she knows what we feel, and yet I cannot tell—
She could bid her husband good-bye, as he passed away to his rest,
 But I could not be with my Willie, nor pillow his head on my breast!

XI.

Dinna ye think we're ungrateful, the money will help us, indeed ;
 For our houses are sad and desolate—there are fatherless children to feed !
 Thankful we are for the money—but will money bring back my man ?
 Ye may *try* to comfort the mourner, but 'tis only God who *can* !

XII.

I watched that night by my babies, as they lay in the bed asleep—
 My fatherless, sleeping bairnies—but I could not sob nor weep !
 Oh ! life was so dark and lonely, life could never look the same—
 And the parrot kept saying, ' Euphie ! Willie 'll na come hame !'

XIII.

But I slept, for I dreamt of my man in the awful clasp of the wave,
 Sinking, helplessly sinking, with never a hand to save !
 And I thought he called for ' Euphie !' and I strove to reach him in vain—
 Oh ! the cruel, cruel tempest, so pitiless of our pain !

XIV.

Then I saw, in another moment, that my darling was not alone—
 For One came over the waters, and a light through the darkness shone,
 And He stretched out His hand to Willie, and Willie looked strangely
 at peace—
 And I knew that the Lord was with him, Who maketh the storm to cease !

XV.

O Willie ! O husband ! I woke, and fell on my knees to weep,
 For I knew that you were safe with Him Who gives His beloved sleep—
 Safe in the blessed home, safe in His Paradise—
 I shall see you again, my Willie ! He will wipe all tears from our eyes.

XVI.

I will try to follow you, Willie, and lead the bairns in His way,
 For I know that He will be with us, and I seem to hear Him say,—
 ' Come unto Me, poor Euphie ! cast all your care upon Me ;
 My strength is made perfect in weakness, My grace is sufficient for thee.'



MARITIME NOTES.



“The Sea! the Sea! the open Sea!
The blue, the fresh, the ever free!”

PROCTER.

“Thou glorious mirror, where the Almighty's form
Glasses itself in tempests!”

BYRON.



HYDRAULIC MACHINERY ON SHIP-BOARD.



OR some time past, attention has been given by mechanical engineers to improvements in the methods of loading and unloading, and other work, on board ocean-going steamers, and especially those which carry both passengers and freight. The *Quetta*, for instance, which sailed for Calcutta from London recently, and is the last built of the British India line, offers a striking example of some of these improvements. This vessel was built by Messrs. Denny, of Dumbarton, her length being 380ft., breadth 40ft., depth of hold 29ft., and gross tonnage 3,302 tons; and she is distinguished from all other vessels by a new system of hydraulic machinery applied for the first time to ocean-going steamers for the purpose of steering the ship, heaving the anchor, and taking on board and discharging the cargo. All these functions are performed by a hydraulic system, ramifying throughout the ship, and worked by pumping engines of 100-horse power in the engine room. The various pipes spreading fore and aft, and even up the masts, and serving to transmit the force originated by steam power in the centre of the vessel, might be compared to the

arteries of the human frame circulating the blood pumped into them by the heart.

The machinery, as adopted on board the *Quetta*, may generally be described as follows:—A pair of compound condensing engines, of 100 indicated horse-power, pump water (or in winter non-freezing fluid) from a tank into a steam accumulator. The pumping engines are started and stopped by the falling or rising of the steam piston in the accumulator; and since the piston falls when the hydraulic power is being utilised, and rises to its former level when the power is not in use, it follows that the apparatus is perfectly automatic. Once started, it does not require the supervision of an engineer, and it maintains a steady pressure of 700lb. per square inch in the hydraulic mains or pressure-pipes. These are carried up from the engine-room fore and aft of the ship. Alongside the pressure mains a similar return main is laid, which discharges into the tank. From the pressure mains, branches are connected to the various hydraulic machines. In order to admit the pressure, to any one of these machines, nothing is required except a turn with an iron key. After having done its work, the water is discharged into the return mains, being thus used over and over again.

Next may be stated, in detail, the ship's gear worked by this hydraulic system. At the fore-castle is placed a hydraulic capstan of 15 tons power, which is driven by four pendulous hydraulic cylinders, collectively of 50-horse power, acting upon a revolving eccentric, the shaft of which is directly connected to the windlass for heaving the anchor, while the capstan above is available for warping the ship. A similar, but less powerful capstan, is placed at the other extreme end of the mains on the poop.

The ship is steered, not by means of the usual wheel aft, but from the bridge amidships, by a simple wooden tiller similar to that of a small yacht. A wheel, indeed, was originally added to humour the prejudices of the crew, but after the experience of a voyage, it has been stowed away as superfluous. By moving the tiller, a slide valve is opened, which is in connection with the hydraulic rams and cylinders aft. When the valve is open, to either port or starboard cylinder, a corresponding movement of the rams and rudder takes place, strictly controlled, however, by mechanism which prevents the helm from running away from the steersman. The rudder itself is connected with the rams in such a way that the latter obtain an increasing leverage as the rudder is being put hard over, when this leverage is of course most needed.

A hydraulic cylinder, with a similar arrangement of valve and automatic controlling levers, is applied to the marine engines, by

which they can be reversed or stopped in three seconds by a single reversing lever. The water-tight door of the shaft tunnel, too, is opened and closed by a hydraulic cylinder, the valve of which is near the deck, and in the event of accident this door can be instantly closed. In the stoke-hole, also, is fixed a hydraulic hoist for lifting ashes.

As has been said, however, the most valuable application of hydraulic machinery is to the loading and unloading of the cargo. Notwithstanding the great advance in speed which has been attained, during the last quarter of a century, by improvements in ships' build and engines, it is somewhat remarkable that the method of loading and discharging cargo speedily has received little or no attention. The prevailing arrangement for effecting this purpose has, for the last twenty-five years, been nothing more nor less than the old hand-worked winch, with its train of cog-gearing, but with two steam engines applied to dispense with manual labour. These steam winches are placed at the different hatches, involving, in our longest steamers, a length of copper steam piping of 600ft. The disadvantages of such a system are obvious, as those can testify who have made the passage to Calcutta, and who have tried to sleep in their berths under the noise and rattle of the many cog-wheels, and quick-running engines, working at night at the various ports on the way. In the *Quetta*, not only is this noise and vibration obviated, but, at the same time, a higher speed of lifting the cargo is obtained, which, of course, means a saving of labour and a quicker voyage. As an instance of this, it may be mentioned that at Colombo, in the course of the single voyage which the *Quetta* has already made to Calcutta and back, 1,250 tons of rice were discharged in ten hours. Besides these advantages, others are obtained, such as economy of fuel by the adoption of compound pumping engines, and the absence of long steampipes which condense the steam; and, lastly, following upon the absence of noise and friction, a great reduction of wear and tear in deck machinery.

The hydraulic lift is well known and largely adopted in docks, but has never before been successfully applied to ocean-going steamers. On the *Quetta's* deck there are four hatches. Those at the extreme ends, fore and aft, are fitted with single hydraulic lifts, the two main hatches having double hydraulic lifts. Each of these lifts is capable of raising a ton and a-half through a height of 70ft., at a speed of 5ft. per second. The lifts consist of hydraulic rams fitted into cylinders, and working through stuffing-boxes. Each ram is connected to three chain pulleys, while the other three are carried by the cylinder base-plate. A foot of rise in the ram raises the load 6 feet. The water is admitted to the cylinder by a slide-valve worked by a single lever, whereupon the load is lifted; while, by reversing the

lever, the water is allowed to escape and the load to descend. An ingenious arrangement, which we have no space to describe, prevents the load from running from one extremity to the other, through the unskilfulness of the driver, and thus risking damage to the cargo. A wholly inexperienced man can thus work the apparatus, without any danger. The hoists will discharge cargo at the highest speed of 5 feet per second, and be brought to a state of rest, automatically, at any position required.

It is not claimed that the hydraulic system, as applied to ships' fittings, is absolutely new, but it has not before been successfully and completely applied to ocean-going steamers. The same engineer who fitted the *Quetta* applied, twelve years ago, hydraulic steering-gear and reversing gear to the Birkenhead ferry boats. The Peninsular and Oriental Company's steamer *Poonah* was also fitted by him with hydraulic steering-gear, which, owing to the want of sufficient controlling power, was not a success. Three years ago the *Kosmos* likewise built by Messrs. Denny, to ply on the River Plate, was fitted by the same engineer as completely with hydraulic machinery as the *Quetta*; but, as a comparatively small river steamer, it is not to be considered on the same footing as the larger ship.

To summarise the advantages of hydraulic machinery, as applied to the *Quetta*, a pair of engines in one place do, with no noise and half the consumption of fuel, the work usually performed by, perhaps, a dozen donkey engines; while about £80 or £40 a voyage is saved in wear and tear. The increase of speed obtained in loading and discharging cargo practically insures a quicker voyage. The rapidly-working machinery necessitates double gangs of men in the hold; but, though the hands are more numerous, they are paid for a shorter time; and the cost of labour per ton of cargo is thus less than usual. The prime outlay is considerably greater than under the ordinary system; but it is calculated that in at least three years the extra expense will have been saved.



ICEBERG FLEET.—Advices from Newfoundland recorded the appearance off St. John, at the end of October, of the "vanguard icebergs of the huge Arctic armada, now sailing southwards along the coasts of Labrador and Newfoundland." No less than twenty-three huge masses of glacial drift ice are

reported to have been seen during October off the northern shores of the island, slowly but surely drifting southwards across the track of vessels plying between Europe and America. The first berg sighted off St. John's was estimated to be not less than a quarter of a mile in length and 800 feet in height above water. As 2 feet of

ice are under water for every one above, the total height of this huge mass must have been 900 feet. Its form was that of a vast plateau rising not more than a few feet from the surface of the sea, and extending about 200 feet from the southern side, with a high range of ice peaks suddenly rising out of the plain. The rate at which this huge mass of ice drifted to the southward, against a head wind, was estimated at 2½ miles per hour. Commanders of vessels crossing the Atlantic would need to keep a good look-out for these invaders from the Arctic regions; and the powerful electric head-lights, borne by most of the large passenger steamers, should render good service in enabling their presence to be detected.

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SHIPBUILDING IN IRELAND.—Whatever may be said of other branches of Irish industry, its shipbuilding may, it would appear, compare not unfavourably with that of any other part of the kingdom. The Clyde claims pre-eminence, but Messrs. Harland and Wolff, of Belfast, have latterly shown that it is by no means necessary to go to the Clyde for fine specimens of naval architecture. During the past ten years, in the fleet of the White Star Line of Atlantic steamers, the firm have launched vessels which for strength, beauty, and speed, have not been surpassed by the productions of other shipbuilding yards. For the improved accommodation and shorter duration of the Atlantic voyage, passengers to and from the New World are largely indebted to the steamers of this line, which were all built in Ireland, as already stated. And in the interval which has elapsed since the Belfast builders launched the first vessels of this fleet, the unvarying success of

steamer after steamer built by them for the Peninsular and Oriental, the West India and Pacific, the British Shipowners', and other companies, shows that Belfast has secured a firm hold on the shipbuilding trade. Messrs. Ismay, Imrie, and Co. (White Star Line), who have already expended £2,000,000 in building steamers at Belfast, have now arranged with Messrs. Harland and Wolff for the construction of two other steamers and a sailing ship—the latter to be the largest sailing ship afloat. In the autumn, the builders completed and delivered to Messrs. Ismay, Imrie, and Co. a large and powerful steel steamship, called the *Arabic*, and expected to be able soon to deliver the sister ship, the *Coptic*. These vessels are excellent specimens of naval architecture. When the steamers now contracted for are delivered, Messrs. Harland and Wolff will have built for Messrs. Ismay, Imrie, and Co. 60,000 tons of shipping, and Belfast will have benefited to the extent of nearly £2,500,000 sterling. These facts possess a national significance, and suggest what might well be done in other industries in Ireland, likewise.

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CARRYING TRADE OF THE WORLD.—From a recent comparative statement it appears that, omitting vessels of less than 50 tons measurement, Europe possesses 42 tons to every 1,000 inhabitants; America, 40; and Australia, 79; while Asia and Africa have only two tons per 1,000. Liverpool ranks as the most important port in the world, with a tonnage of 2,647,373; this is succeeded by London, with 2,330,688, and Glasgow with 1,432,864; New York comes next, with 1,153,676 tons. The nine leading ports of Great Britain have a

tonnage of 8,724,128, while the first four ports of the United States have only 1,976,940. St. John, New Brunswick, is in this respect as important as Boston or Charleston, and more so than Philadelphia. Great Britain and Ireland possess a gross tonnage of nearly 12,000,000 sailing-vessel tons; and with the tonnage of her colonies the British flag covers 14,000,000 tonnage, out of the total existing world's tonnage of 27,000,000. The United States, 20 years ago, carried 66 per cent. of their foreign trade in their own bottoms, whereas now they carry something less than 18 per cent.

THE WELLAND CANAL.—This canal, connecting Lakes Erie and Ontario, has now been successfully opened, by the passage of the steamer *D. A. Dickenson*. This vessel is 300 tons burthen, 150 feet long, 25 feet beam, and of 15 feet draught. As soon as the railway from Prince Arthur's Landing, Lake Superior, to Winnipeg, has been completed, which will doubtless be next year, grain can be carried direct from the landing to Kingston; indeed, it only requires the canals between the latter place and Montreal to be deepened, to a uniform depth with the Welland Canal, to enable Canadian shippers to send grain from Manitoba, and the Canadian North-west territory, to Europe without transshipment, specially-built vessels being, of course, provided. Such craft would traverse upwards of 2,000 miles of inland navigation before entering upon their ocean voyage. The effect of the opening up of this route will be seen when it is stated that the distance from Chicago to Montreal, by the Canadian route, is 150 miles less than that from Chicago to New York *via*

Buffalo and the Erie Canal, and by the latter route there are 16 more locks and 89½ feet more lockage than by the former.

“ST. ELMO'S FIRE.”—Captain Roy, of the Greenock-owned ship *Oimara*, arrived at San Francisco from Liverpool, has furnished the following details of a somewhat singular phenomenon witnessed at sea:—“On the 3rd of August, in latitude 58° south, longitude 62° west, had a heavy gale from the westward, with snow squalls in quick succession. At 1.30 a.m. on the 4th the ship was brilliantly lighted up with St. Elmo's fire, or Jack-o'-lanterns, as they are called. At each mast-head was a large ball of fire, very much resembling an electric light, but of a softer, bluer appearance. On all the weather yard-arms, from the lower topsail-yards up, were other large fire-balls; while, up the lifts along the footropes, topmast and topgallant rigging and weather side of the masts were covered with small star-like lights. Those on the masts clustered together and moved into each other, forming as it were a band of fire. A large light hung at the gaff end, while all along the chain span was lined with smaller lights. The night had previously been pitchy dark, but during this display the ship (to use one of the sailors' similes) was lighted up like a music hall; every rope was distinctly visible. The snow at this time was flying through the rigging in dense clouds, but did not seem to touch or in any way affect the lights. This lasted for about 20 minutes, during which the ship presented a strange, weird sight. When the squall began to abate, the lights entirely disappeared. These fire-balls are generally regarded as the precursors of bad weather, and

in this instance the general opinion was amply verified; as from that date until the 20th August a succession of heavy gales from the westward were encountered, with snow, hail, and sleet, and accompanied by an intensity of cold rarely experienced in that part of the world, the ship being covered with snow and ice to such an extent as to make it a matter of extreme difficulty to manage, and a number of the crew being laid up through frost bites and injuries received about the decks. On the 20th there was a snow-storm from the south-east which lasted thirty-six hours, after which the weather was much milder, although westerly gales still prevailed."



RIGIN OF THE MEDITERRANEAN.

—The degree of likeness, or unlikeness of the fauna and flora, in regions more or less apart, may be found to throw light on changes that have occurred in the configuration of land and sea. This line of thought has lately engaged the attention of M. Blanchard. In an interesting paper to the Paris Academy, he shows by numerous examples how the fauna and flora on the extensive coasts of the Mediterranean present the same general character, which disappears at a short distance from the coast, where the ground rises. If the Mediterranean coasts, he says, were brought together, the most attentive investigator might pass from Europe to Africa, or to Asia, without any trait of living nature making him aware of it. Now, as very moderate obstacles prevent the dissemination of a large number of animals and plants, it seems certain that the Mediterranean would be absolutely impassable for most species. M. Blanchard infers that the sea has

been formed at a recent epoch, in the midst of a region already inhabited by the animals and plants now found on its coasts. Recent data as to the marine fauna he regards as confirming this view; for the fauna of the depths appear to be entirely from the Atlantic. M. Milne-Edwards suggested that the uniformity of natural production in the Mediterranean region (which had struck several naturalists) was rather to be explained by easy communication between the northern and southern sides of the basin or basins, by two broad isthmuses, now submerged, one between Sicily and Tunis, the other between Spain and Morocco. The inland sea must at one time have extended much further eastwards, and may have communicated with Arctic waters and with the Indian Ocean; it appears not to have been in junction with the latter since the miocene epoch. From the geological point of view, M. Daubr e was also unable to think the Mediterranean of quite recent formation; for there are cretaceous, eocene, and miocene deposits in the space it covers. More recently, in pliocene times, the sea exceeded its present shores, and pliocene deposits are found throughout the extent of the present basin, in the numerous islands which rose from the sea at the end of the tertiary epoch



THE FRENCH FISHERIES.—A report of considerable interest appeared some little time back in the *Journal Officiel*, as to the condition of the French fisheries during the year 1880, showing that they have somewhat declined in value. In 1879 the total value of the fisheries was 88,079,840 francs, while that of 1880 was only 86,917,668 francs, a diminution of 1,162,181. The cause of this

decrease did not lie in a diminution of fish, for, as a matter of fact, there were caught in 1880 over 8,500,000 kilogrammes more than in 1879. The very abundance of fish injured the markets, there being very frequently such a glut that the prices were almost nominal. In the Cherbourg arrondissement there was a decrease in the herring, mackerel, and shrimp fisheries. In that of Brest it was in fishes of all kinds, save and except that of anchovy; in Lorient, principally in prawns and sardines. In the arrondissement of Rochefort, however, the sardine fishery was very successful, resulting in a considerable increase; and in that of Toulon there was a slight gain in shell-fish. The deep-sea fisheries showed a very decided decline. While in 1879 the cod fishery of Newfoundland, and off Iceland, was valued at 14,746,790 francs, in 1880 it was only 13,290,790, employing 30 boats less than in the previous year. This falling-off took place principally in Newfoundland, the Iceland fishery having been fairly good, although it is worthy of remark that the size of the fish caught on the east coast was greatly in excess of that caught on the west. There is also a considerable difference in the value of the cod that is brought to market by the Dunkirk and Boulogne fishermen in comparison with what the Breton fishermen bring, the reason being that the former immediately salt their cod in barrels, while the latter only use seaweed.

The barrelled cod is not only in condition, but, if the market is extremely low, the holders can afford to keep it longer than that which is preserved in seaweed. The herring fishery, so far as numbers went, was most successful on the French coast, but the prices of the year were unusually low, being often only a rate of 1 f. 50 c. the measure, instead of the ordinary value of 4 f. The sardine appears to have been most successful. While it was tolerably abundant in the neighbourhood of Rochefort, other places which are usually barren finds for this fish were absolutely bare. Generally speaking, the Brittany sardine fishery was a failure, and particularly at localities like Etel and Quiberon, where hitherto it has been the source of much profit. The money realised, however, of the sardine fishery was satisfactory, owing to the high prices realised. The fisheries designated "all sorts," and comprising turbot, soles, salmon, mullet, &c., were profitable, yielding 1,116,844 kilogrammes in 1880 over 1879, and employing 184 extra boats. That fishery, as an industrial occupation, raising very high, is shown by the fact that a little decked vessel of 25 tons, belonging to the port of Croisic, earned during the last five years upwards of 74,000 f., after paying expenses, of which sum the owner received 23,421 f., or at the rate of 4,700 f. per annum—a very handsome interest for his outlay.



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THE SEA AND ITS PERILS.



'Oh, many a bark, to that breast grappled fast,
Has gone down to the fearful and fathomless grave;
Again, crash'd together the keel and the mast,
To be seen tost aloft in the glee of the wave!'

SCHILLER.



THE WRECK REGISTER AND CHART, FOR 1879-80.*



FEW weeks after the British Isles have been visited by one of the most destructive storms on record, it may not be inappropriate to call attention to the last issue of the Wreck Register. Its pages clearly show that, along with the expansion of our shipping interests, disasters at sea continue to maintain, unfortunately, their wonted pre-eminence—2,519 wrecks having occurred on our coasts and seas during the year 1879-80, which are fully and minutely detailed in the Register. The magnitude of our shipping interests will soon clearly become larger than all the other shipping interests of the world combined.

Some trite remarks relating to this subject were made, as its President, by the Earl of Ravensworth at the opening of the last session of the Institution of Naval Architects, and which emphasize again the absolute necessity of being amply provided with lifeboats and other means to meet the shipping catastrophes on our shores. It appears, from what his Lordship said, that there must be invested in the shipping interest of this country one hundred millions of money. There are employed 200,000 men, who earn £10,000,000 of wages

annually. Besides this, there are 100,000 more men employed in ship-building establishments and marine engine works, earning wages to the annual amount of seven millions of money. This is a mighty interest—now for its importance. In peace, the shipping interest of this country largely feeds our teeming multitudes of working men. It is a fact, as stated by the Vice-president of the Committee of Council, that about one half of the butcher's meat slaughtered in London is imported from abroad; but not only that, our working millions are indebted for the whole of the raw material to be worked into manufactured goods, from which they derive their livelihood, to the shipping interests of this country. These two facts are sufficient to justify one in calling the shipping interest the most important of our national interest, with one exception—that of agriculture. So much for its importance in peace; but the foresight of Governments has also secured, in case of war, the service to the country of those magnificent steamers which form the great ocean liners that convey all this vast commerce to our shores.

Again, our steam fleet has increased since 1850 from 1,350 to 6,690 vessels, representing 2,730,000 tons of shipping, or 1,000,000 tons more than all the steam fleets of the world put together. We thus hold the very highest position in the carrying trade of the world. In regard to large ocean sailing ships, America holds a very good position. England stands first on the list with 1,276 ships; and America has 884. Norway stands very close to America with 882; France has only 57. When we turn to the ocean steam tonnage, we find that out of a total of 590 steamers engaged in the trans-oceanic trade, England counts for 447, America for only 46; and of these 14 only are trans-oceanic strictly speaking. Twenty-five years ago the United States carried 75 per cent. of their own trade in their own ships. Steamers are monopolising the carrying trade, and of the £156,000,000 worth of produce that is exported from New York to England, £130,000,000 is now carried by steamers. It is a remarkable fact that there is not a single American iron steamship crossing the Atlantic Ocean from the great port of New York.

The 2,519 wrecks of 1879-80 include every kind of maritime disaster. Thus of the whole number of wrecks, casualties, and collisions only 355 cases involved total loss, or about 1 in 7 of the vessels lost or damaged; while only 81 of the cases were accompanied by loss of life.

Deducting these 355 destructive cases from the year's casualties, the balance consists of 1,130 more or less serious disasters, and 1,034 other wrecks.

Taking the aggregate number of shipwrecks, the total is truly startling—the sad record from 1854 to 1879 80 making a total

number of 51,841 wrecks, in twenty-six years, and what is still more lamentable, the actual loss from these very shipwrecks of 18,550 lives, a total nearly equal to the number of men who man the British Fleet.

It appears that 3,138 vessels were involved in the wrecks—2,519—of the year. The number of ships is in excess of the casualties reported, because in cases of collision two or more ships are, of course, involved in one casualty. Thus 603 were collisions, and 1,916 were wrecks and casualties other than collisions. On sub-dividing these latter casualties, we find that 291 were wrecks, &c., resulting in total loss, 591 were casualties resulting in serious damage, and 1,034 were minor accidents. During the year 1878-79 the wrecks and casualties, other than collisions, on and near our coasts numbered 2,301, or 385 more than the number reported during the twelve months 1879-80.

The localities of the wrecks, still excluding collisions, are thus given:—East coasts of England and Scotland, 573; south coast, 360; west coasts of England and Scotland, and coast of Ireland, 747; north coast of Scotland, 64; and other parts, 172. Total, 1,916.

The greatest destruction of human life happened on the west coasts of England and Scotland, and east coast of Ireland.

On the accompanying Wreck Chart, for the year under consideration, the sites of the various shipwrecks are delineated with great accuracy, and the havoc thus created is clearly depicted. The chart, however, does not tell the important fact that the lifeboats of the National Lifeboat Institution, the rocket apparatus of the Board of Trade, and other means, save every life from shipwreck on our coasts that it is practicable to save.

Again, excluding collisions, out of the 1,916 casualties, 1,674 disasters occurred to vessels belonging to this country and its dependencies, and 242 disasters happened to ships which belonged to foreign nations. Of these 1,674 British vessels, 1,095 were employed in our own coasting trade, 497 in the (over-sea) foreign and home trade, and 82 as fishing vessels. There were 7 casualties to ships belonging to foreign countries and states employed in the British coasting trade, and 180 to foreign vessels bound to or from British ports, although not actually engaged in our coasting trade; while there were 55 casualties to foreign ships which were not trading to or from the United Kingdom.

The Register gives figures showing that between 1861 and 1880 the number of British and foreign ships that were wrecked on our coast, and from which life was lost, was 3,109, resulting in the loss of 14,711 lives—a most distressing fact, showing the urgent necessity of continued and ceaseless efforts to counteract it.

Again, we observe with concern that the total number of English

ships, which appear to have foundered or to have been otherwise totally lost on our shores, from defects in the ships or their equipments during the year, is 30; while 68 happened through the errors, &c., of masters, officers, crews, or pilots, 97 through stress of weather, and 42 from other or unknown causes.

The number of casualties arising from the same causes during the year, and resulting in serious damage, is as follows:—Through defects, 45; errors, 115; stress of weather, 218; other causes, 126; and the cases of minor damage were, through defects, 62; errors, 132; stress of weather, 581; and other causes, 133.

It is interesting to observe the ages of the vessels wrecked during the period under consideration. Excluding foreign ships and collision cases, 145 wrecks and casualties happened to nearly new ships, and 223 to ships from 3 to 7 years of age. Then there are wrecks and casualties to 329 ships from 7 to 14 years old, and to 586 from 15 to 30 years old. Then follow 262 old ships from 30 to 50 years old. Having passed the service of half a century, we come to the very old ships, viz., 37 between 50 and 60 years old, 20 from 60 to 70, 7 from 70 to 80, 5 from 80 to 90, and 2 upwards of 100 years old, while the ages of 58 of the wrecks are unknown. Nearly all these no doubt were wooden vessels; they are rapidly becoming ships of the past, and are replaced by stately iron and steel ships.

Excluding collisions, 405 steamships and 1,511 sailing vessels were lost or injured on our coasts last year. Of the 1,674 British ships meeting with disaster in the year, 872 did not exceed 100 tons burthen, 459 were from 100 to 300 tons, 107 were from 300 to 500 tons, and 236 were above 500 tons burthen. Of the 237 British vessels totally lost, irrespective of collisions, 23 are known to have been built of iron; and of this number, 18 were steamships and 5 were sailing vessels.

The Wreck Register only gives the winds in 679 out of the 2,519 cases. Dealing with these 679 cases only, we find that the winds that have been most fatal to shipping on and near the coasts of the United Kingdom during the year were as follows:—N. to E. inclusive, 107; E. by S. to S. inclusive, 138; S. by W. to W. inclusive, 310; and W. by N. to N. by W. inclusive, 124. Total, 679.

On distinguishing these last-named casualties, according to the force of the wind at the time at which the disaster occurred, 310 happened with the wind at forces 7 and 8, or a moderate to fresh gale, when a ship, if properly found, manned, and navigated, ought to be able to keep the sea with safety; while 369 disasters happened when the force of the wind was 9 to 11, that is to say, from a strong gale to a storm.

Happily the casualties to ships in our rivers and harbours were not

so numerous during the year; the number having been 729, of which 9 were total losses and 720 were partial casualties.

Of these casualties, collisions numbered 526, foundering 3, strandings 144, and miscellaneous 56.

These 729 casualties caused the loss or damage of 1,289 vessels, viz.—641 British sailing, 562 British steam-vessels, 62 foreign sailing and 24 foreign steam-vessels. The lives lost were:—In the Thames (above Gravesend) 7; in the Mersey (above New Brighton) 2; in the Avon 2; and in the Usk 1. Total, 12.

Of the collisions during the year, 48 of the 603 cases were between two steamships, 181 between two sailing vessels, and 164 between a steam-vessel and a sailing vessel, all under way; and it is hardly possible to conceive a casualty more awful in its consequences than a collision between two great ships at sea.

As regards the loss of life, the Wreck Abstract shows that the number was 231, from the various shipwrecks enumerated during the twelve months—a number fortunately smaller than ever previously known, notwithstanding the large number of the wrecks of the year, and the constant increase of new ships.

Of the lives lost, 17 were lost in vessels that foundered, 62 through vessels in collision, 80 in vessels stranded or cast ashore, and 40 in missing vessels. The remaining 32 lives were lost from various causes—being washed overboard, explosions, missing vessels, &c.

Of the 81 ships from which the 231 lives were lost, 72 were British, losing 183 lives, and 9 were foreign, with the loss of 48 lives.

In the midst of this doleful record of disasters at sea in one year, it is gratifying to observe that by means of the lifeboats, the rocket apparatus, and other agencies, in conjunction with the successful efforts used on board the distressed vessels themselves, as many as 2,923 lives were saved from the various wrecks on our coasts during the year.



SHIPPING LOSSES, AND STORMS, IN 1881.



TWO thousand and thirty-nine actual shipwrecks occurred throughout the world last year, and the estimated value of property lost was £280,000,000, this sum including British property owned in the United Kingdom, and the Colonies, valued at £180,000,000.

As compared with the previous year, 1880, there was an increase

of 859 in the number of wrecks, and an increase of about £100,000,000 in the value of property lost; the last year having been an exceptional one for gales and storms, and for the loss of vessels of large tonnage with cargoes of exceptional value. British-owned sailers and steamers aggregated, 1,048, the number of steamers being 191; foreign steamers 56. Off the coasts of England, Scotland, and Ireland 826 ships were actually lost, British-owned vessels forming three-parts of this total. One hundred of all flags sank through collision; 4,184 persons perished. This includes officers, crews, and passengers in all parts of the world on board ships, and is considerably in excess of the number reported during the previous year. Produce of all kinds, representing the various cargoes, of every description, destroyed or swallowed up by the sea, amounted to nearly 1,000,000 tons, and no less than 192,459 tons of coal were lost. This article of commerce, being mostly obtained from Great Britain, and carried in British "bottoms," is an important item in the year's losses, and the utter destruction of such a necessary article bears a sensible relation to the question of supply and demand.

No small portion of the numerous disasters and heavy losses, thus referred to, are recorded as more especially due to the recurrent, destructive gales of the latter portion of the year—it being well stated, of the month of October in particular, that "the experiences of this month seem to have exhausted all the varieties of maritime horrors;" and, again, that "the storms of October and November will long be remembered as the most violent and protracted that have been met with in the British Isles for many years past, the reports which have reached Lloyd's of the disasters to ships, during those storms, having probably been the most melancholy and numerous on record—the gales of these two months being literally terrific on various parts of the coasts of the United Kingdom, and in the Atlantic blowing for days together with the force of hurricanes."

As to the most disastrous gale of all, that of October 14th, it appears to have set in at N.N.W., and to have travelled round to E.N.E., sweeping through the English Channel, and the North Sea, with resistless violence, and being felt nearly as far north as the Elbe; and the highest readings of the wind force on that forenoon, in the Channel, being 10.8 at Jersey, 9.5 at Hurst Castle, and 9.7 at Cape Grisnez—all these with the wind nearly at S.W.—representing a whole gale of unusual severity. While, of the other gales, a subsequent one, at the latter end of November, proved to be peculiarly destructive through its ravages even on land—increasing in force, as it did, to a perfect hurricane in the Metropolis, hundreds of houses being entirely or partially unroofed, with immense damage to property, and

causing a vast amount of personal injury and distress, almost unprecedented of late years.

But too truly, indeed, have the statements already quoted above been borne out by the facts, gale after gale calling forth in the columns of the Public Press throughout the country, and almost throughout the world, the same sad and oft-repeated tale of mishap upon mishap, resulting from the terrible force and rapacity of winds and waves, despite every effort of human power and civilisation.



WRECKS AND CASUALTIES.



AMONGST the various Maritime Disasters which have recently occurred, in numerous instances involving the total destruction or abandonment of vessels, with, unhappily, much terrible privation and loss of life to crews, &c., the following cases, exemplifying some of the many "Perils of the Sea" to which both Ship and Sailor are at all times so imminently exposed, may be specially recorded:—*

THE "CLAN MACDUFF."—The steamship *Clan Macduff*, 1,500 tons register, was formerly known as the *City of Oxford*, but had been adopted as one of the Clan line of traders, belonging to Messrs. Cayzer, Irvine, and Co., of Glasgow. On Tuesday, the 18th October, 1881, she left Liverpool for Bombay, with a valuable general cargo, a crew of 48, and 19 passengers, or some 62 persons in all. Next day, after passing Holyhead, she encountered a furious wind and sea, which soon occasioned the ship to leak; and the bilge pumps were disabled from working. The water got into the engine-room on Thursday, and the fires were

quenched. The commander, Captain Webster, at one o'clock in the afternoon, saw that the vessel was doomed to founder, and gave the order to get out the six boats. The leeward side were first prepared; the larger life-boat was launched alongside, but was dashed to pieces against the ship. The scene was agonising, the women and children yielding to terror, while the shouts of the officers could barely be heard above the roar of the gale. An effort to launch the gig was safely accomplished, placing in her four able seamen, and the fourth officer, with a passenger and his wife and child, and she drifted out of sight. The next boat launched was the cutter,

* The timely aid and relief to the shipwrecked sufferers, or their suddenly bereaved and distressed dependents, directly or indirectly afforded, almost without exception, in these and similar cases, by the SHIPWRECKED MARINERS' SOCIETY in London, and its local Honorary Agents at Home, Abroad, and in the Colonies, will be found included in the General Statistics of the Society's Work, as given, under the Society's Heading, at the end of each Number of this Magazine.

with the third officer, the second cook, and two seamen, when five passengers, including three ladies, were equipped with life-buoys and jumped from the deck into the water alongside, each one being also secured with a line from the ship, until they were pulled into the boat. Then a little girl, of four years, was thrown to her mother; but a sudden roll severed the ship from the boat, and the little one, falling into the water, was drawn out of sight. In another moment the boat rose to the side of the ship, and instantly the captain threw her second child, a boy, into the arms of the frantic mother, and the boat dropped astern, and was also soon lost to view. There now remained but one boat to take off all the other people on board, the other three boats having been smashed during the gale, and this, the small life-boat, would hold but thirty at the utmost. The second officer and two of the men got into her, and the remainder of the passengers, the chief cook, five stewards, and the stewardess were drawn into the boat in the same way as before. Captain Webster, having seen all the passengers into this boat, placed a life-buoy on himself and jumped, and was hauled on board. The chief engineer and one of the crew followed his example, and the boat, without a rudder, also drifted with the wind, and was lost sight of in the blinding spray. The chief officer then took command of the *Clan Macduff*, and lights, rockets, &c., were prepared for signal purposes, and fired during the night, whilst the vessel lay completely at the mercy of the storm. As morning broke, she began to settle down aft, the water pouring in from the 'tween decks through the saloon. The men betook themselves to baling, the

officers bravely cheering them on; but the water still gained, and, from amidships aft, the deck had sunk, at noon on Friday, just level with the sea. Affairs had reached this desperate pass when a steamer was sighted to leeward. A cheer went up, and once more the crew hurried below to resume the baling, two of the men ascending the main rigging and hoisting sheets and flags to attract attention. They were seen, and in two hours the Cork liner *Upupa*, Captain J. M. Brown, had reached within hailing distance of them and had launched her boat. Twelve men jumped from the *Clan Macduff* into the water, one after the other, and were safely drawn into the boat. Three of them had become so helpless and insensible that they had to be thrown overboard from the *Clan Macduff* by the chief officer. The *Upupa's* boat made a second trip, and took off five other men, who were clinging to a capsized boat, after which the steamer stood by the *Clan Macduff* until she suddenly disappeared in a terrific squall, her deck for some time having been level with and washed by the water. The *Upupa*, with the seventeen rescued men, then bore in for Plymouth, where she arrived on Sunday evening, after weathering a fearful gale on the Saturday night, during which two hundred head of cattle were washed overboard. Of those in the boats which had left the *Clan Macduff*, fourteen were ultimately saved—leaving, in all, a total of some thirty-one persons, including the Captain, as lost through this sad disaster.

THE "CORSIKA."—The steamship *Corsica*, 1,042 tons register, of the Bristol Steam Navigation Company's fleet, sailed from London on

the 7th of October, 1881, bound for Bombay, with a general cargo, no passengers, and a crew of 26 hands, all told. At 8 p.m. on the 11th of October she was off the coast of Portugal. At that time the weather was fine, with bright moonlight, a fresh wind from the northward, and a strong sea from the north-west, the vessel going full speed, under sail and steam, at about 9½ knots an hour, and the course was stated to be S. by W. ¾ W. Land was then in sight, and a bright light visible on the port bow some distance off. At 11.30, when off Cape Roca, the master came on deck and ordered the helm hard-a-starboard, which, it would appear, brought the vessel's head S. ¾ W. At that time the light was about a point on the port bow. At midnight the light was abeam, and said to be distant about a mile. Shortly afterwards the vessel struck heavily on the rock, and went over it into deep water. The master then ordered the helm hard-a-port, which was done. The engines were kept going at full speed for about eight minutes, when they stopped. Water was reported from below, and it was found she was filling rapidly and was sinking by the head. All hands then made for the boats; 17 men had got into the port lifeboat when the vessel sank, dragging the lifeboat and its occupants down with her. By some means the boat became detached and rose to the surface again full of water, with a few of the men clinging to her. Others were subsequently picked up by the men in the boat, and eventually seven men got into the lifeboat, which was quite full of water, the remainder of the crew having been drowned. The survivors waited

about the spot where the vessel went down for about two hours, but none of the crew were seen. With what oars they could get they then tried to reach the shore, which was about a mile off; but a heavy surf was found running, and they kept afloat until daybreak, when they tried to run the surf. In doing so, one man was washed out of the boat and drowned. Eventually the survivors managed to beach their boat near Cane Roca, but one died from the effects of the exposure and the severity of the weather soon after they landed. The five survivors were very kindly treated by the Portuguese, and were taken to Cascaes, where the King of Portugal was at that time. His Majesty had an interview with the five men, and presented them with £8 each, treating them with much hospitality and care as shipwrecked sufferers.*

THE "CYPRIAN."—This steam vessel, 940 tons register, of Liverpool, left that port on Thursday, October 13, 1881, under the command of Captain John Alexander Strachan, with a crew of 27 hands and one stow-away boy, being bound for Genoa and other places in the Mediterranean. The wind was blowing strongly when she started, and early on Friday morning, the 14th October, she encountered the full force of the tremendous gale of that date. After she had been labouring heavily for some hours, and had had her decks swept, at about three in the morning the steering-gear of the fore wheel-house gave way, and the tubes of one of the boilers burst, the water putting out the fire of some of the furnaces. Shortly afterwards the steering gear

* See, also, the interesting letters referring to this disaster, as reprinted from *The Times*, under the Society's Heading, at p. 68 of the current Number of this Magazine.

in the after wheel-house also broke down, and it became impossible to steer the ship, which became unmanageable. At about five o'clock the remaining furnaces were extinguished by the bursting of more of the boiler-tubes; the engines became useless, and the ship began to drift on shore. Every effort was made to keep her out to sea, but without success, and after five hours' struggle, and being dismantled, she struck on a rock about two miles off Nevin. The men looked in vain for assistance from the lifeboat; the sea was so heavy that it was impossible to launch her. Finding that the ship was about to break in two amidships, the crew jumped into the water, when most of them were drowned, including the Captain, only seven seamen and the stowaway boy reaching the shore alive. The stowaway boy came ashore by holding on to a lifebelt, which the captain had given him. The captain was a good swimmer, and when he gave the belt, the last one available, to the boy, he said, "Take this, my lad; I can swim that far" (pointing to the shore)—an act of heroic generosity that has not failed to secure an almost national appreciation. Not one of the crew had rested since the steamer sailed from the Mersey, and most of them anticipated that the vessel would be unable to weather the storm.

THE "ROSINA." — A sad catastrophe is reported to have happened to this Italian vessel, the *Rosina*, bound from Catania for New York. One day at the end of October she was nearly capsized by a sudden squall in the middle of the Atlantic. All hands were summoned instantly to take in sail, and all, together with the captain, were actively engaged,

when an enormous wave swept the deck of every living person, leaving only one of the crew, who happened to be below. On running up on deck this man, named Criscuolo, found not a living soul, not even the ship's dog, and saw himself the sole occupant of a half-wrecked vessel in a tempest in the Atlantic. For eight days he struggled against wind and sea without taking an instant's repose, constantly on the watch for some sail, and had abandoned himself to despair, when the *Marianna*, a Portuguese brigantine, descried the damaged vessel, bore down upon her as she was sinking and rescued Criscuolo, who was taken on to New York. The *Rosina* was built at Castellamare, and Criscuolo is a Sicilian.

THE "SILISTRIA." — The sailing ship *Silistria*, from Quebec for Plymouth, with pine timber, and a crew of 20 hands, left Quebec on October 6, 1881, a fair wind being met with until the 14th, when a gale came on. On the third day the ship became unmanageable, and on the following day the foremast, mainmast, topmast, and mizentopmast had to be cut away, the jibboom also going overboard. The boats were washed away, the poop deck cabin was carried overboard, and all the bulwarks were smashed. This will give an idea of the severity of the storm, which, from the 18th to the 20th of October, blew with unabated fury. All hands were located in the topgallant-forecastle, and to lift the vessel's head, so as to prevent the forecastle from being broken away by the sea, the port anchor with the chain attached was cut away. On the morning of the 21st a sail was perceived at some distance, and the distress signals being observed, a boat put off from the

stranger. The crew of the *Silistria* immediately abandoned their vessel, by that time very low at the stern, and were taken on board the *Melbourne*, barque, from Belfast, in ballast for St. John's. The *Melbourne* herself was in a serious condition, there being a great deal of water in her hold, and her pumps choked. The barque's course was then directed for Fayal, and on the fifth day she arrived there with the rescued men, baling not having ceased for one moment, and the vessel having had to be kept on one tack all the time.

THE "SOLWAY." — This screw steamer, of 700 tons, was bound from Glasgow to Swansea and Bristol, and carried 14 passengers in addition to a crew of 19 men. She called at Belfast in the course of her voyage, and left that port on Tuesday, November 15, 1881. The following morning, about 6 o'clock, she was in a heavy sea about twenty miles from Rockabill Lighthouse, off the Skerries. The motion of the vessel displaced a barrel of naphtha which was stowed on deck, the barrel burst, and the naphtha ran along the fore-deck to the part occupied by the steerage passengers. Here it came into contact with some fire, and, becoming ignited, instantly the whole of the fore part of the ship was in a blaze. Five or six of the passengers, who were in the steerage at the time, were at once enveloped in the flames and perished almost immediately. Several other passengers and some of the crew were also severely burned, the number of dead ultimately amounting to some fourteen. This sudden and appalling catastrophe seems for a time to have paralysed the survivors. The cause of the fire was not immediately ascer-

tained, and as the cargo was known to contain a quantity of inflammable materials, a destructive explosion was expected every moment. In a short time, however, the captain got some of his men to set to work to deal with the fire, which had mastered the fore-part of the ship and threatened to burn it to the water's edge. Buckets were handed about and a hose, attached to one of the donkey-engines, was brought to bear on the flames. These efforts were successful in staying the spread of the conflagration, but could not extinguish it, for the ship continued to burn throughout the day. All this time the weather continued boisterous and the sea ran high, breaking frequently over the ship, which was kept abreast of the wind, in order to prevent the fire being carried towards the stern. A strange steamer was sighted during the day, but either it failed to notice or paid no heed to the signals of distress made by the *Solway*. At last, towards evening, a pilot boat was attracted from the shore by the signals, and the vessel was brought, still smouldering, into Kingstown Harbour about 10 o'clock on the Wednesday night.

THE "URANUS." — The barque *Templar* some little time back arrived at Shelbourne, Nova Scotia, with the crew of the Norwegian barque *Uranus*, abandoned and set on fire at sea. The captain of the *Templar* reports that he sighted the *Uranus* in lat. 44 north, long. 41 west. Seeing her signal of distress, and also one denoting that she had no boats, he at once bore down upon her, when word was passed that the barque was sinking and the crew wished to abandon her. A terrible gale was blowing, but five of the

Templar's crew, including the second mate, stepped forward and volunteered to go to the rescue. A moment later a boat was launched, and the journey to the sinking *Uranus* began. So fierce was the storm that at times nothing could be seen of the wreck. After a full hour's hard work, however, the disabled vessel was reached, and ropes thrown to those on board. The boat could not get near enough for the men to drop in, and singly, with ropes tied securely around them, they jumped into the water and were speedily dragged on board. When half of the number had been taken off in this way, the boat returned with them to the *Templar*, where the same means which were employed to get them from the sinking ship were necessary to land them safely on the other. The second trip of the five gallant fellows was much more dangerous than the first, the gale having increased; but the men never wavered, and at the end of four hours they had the whole crew of the *Uranus* out of their perilous position, and safely deposited on board the *Templar*. The captain and mate of the wrecked barque had been crippled in their hands and feet before the *Templar* was fallen in with, by the exertions they had used in pumping and baling, to keep her from going down. On the morning following, when the gale had moderated somewhat, it was found that the *Uranus* was still in sight. She was boarded, and what stores remained, together with the nautical instruments, clothing, and effects of the seamen, were transferred to the other vessel. The water was found to have risen 2 feet

over the keelson, and the vessel's seams were all open and the sand ballast and oakum washing out. Before being abandoned she was set on fire, and when last seen had burnt almost to the water's edge.

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LIFEBOAT SERVICES AT WRECKS, &c. —The Boats of the Royal National Lifeboat Institution have been recorded, at recent meetings of the Institution, as having been instrumental in saving life, &c., as follows:—

The Hartlepool No. 3 lifeboat put off through a very heavy sea to the brigantine *John Wesley*, of Seaham, which had been driven on Middleton Beach during a southerly gale, and brought the crew of five men safely ashore. The Penzance lifeboat extricated the brigantine *Neilly*, of Bridgewater, from a position of much danger, and took her and her crew of six men into the harbour. The Hasborough lifeboat saved eight of the crew of the steamer *Ludworth*, of London, which had been run aground on Hasborough Beach in a sinking state, during a strong wind from the south-east, a heavy sea running on the beach at the time. The Caister No. 2 lifeboat rendered assistance to the smack *Triton*, of Yarmouth, which had gone on the Barber Sands in a heavy sea, but which, with the help of a steam tug, was got off the sands and taken safely into Yarmouth Harbour. The Tyrella lifeboat rescued thirteen of the crew of the barque *Gertrude*, of Liverpool, which had stranded in Dundrum Bay in a heavy ground swell. The crews of various other lifeboats, also, received special acknowledgments of their arduous and brave services.





MISCELLANEOUS JOTTINGS.



“Here a little, there a little.”



“O Reader! had you in your mind
Such stores as silent thought can bring,
O gentle Reader! you would find
A tale in everything.”

WORDSWORTH.



ELECTRIC LIGHTING.



At a meeting recently held in the theatre of the Society of Arts, a brilliantly illustrated paper on “Electric Lighting at the Paris Electrical Exhibition” was read by Mr. W. H. Preece, F.R.S., Electrician to the Post Office. That Exhibition, the lecturer said, marked an epoch in the history of the many practical applications of electricity, but among these he would then speak of but one—its application to artificial illumination. As to this, it was his purpose to pick out novelties.

Thomson, Sterne, and Co. exhibited a gas-engine, on a new principle, which in lightness, compactness, regularity, and safety excelled all the many others constructed on the “Otto” plan. As an adjunct to the gas-engine, Mr. Dawson’s method of making cheap motor gas, as tested by Professor Ayton, who anticipated thence an hourly consumption for larger engines of but 1·2 lb. of coal per indicated horsepower, as against 6 lb. consumed by the present electric light steam engines, was a great success.

The dynamo machines, for converting motion into electricity through magnetism, plenty of which were exhibited, of all kinds and forms, from Faraday's original apparatus, made with his own hands, to Edison's latest, were next passed in review. All the types were traceable back to the early machine of 1842, made by Elias, of Haarlem, and shown in the Dutch section, or to Pacenotti's of 1861, which was exhibited in the Italian section. M. de Meriteus exhibited both alternate and continuous current dynamo engines, and richly deserved the gold medal awarded to him. Pacenotti's had been greatly improved by Gramme and by Siemens, but had received its greatest development in the Edison machine, which was one of the wonders of the Exhibition. It was larger than any made before, weighing no less than 17 tons, and produced an electric current of nearly 900 *ampères*; whereas the largest Brush machine weighed two tons only, and the current of the most powerful Gramme dynamo was but 98 *ampères*. Further interesting details were given of Edison's machine; and also of a very interesting form of Gramme machine shown, which was maintained at a velocity of 2,400 revolutions per minute, and was said to generate an electromotive force of 2,000 *volts*. It maintained 60 Jamin candles alight. But one of the best and the most compact forms of Gramme was, Mr. Preece said, that shown by the British Electric Light Company.

Lamps were the great display at the Paris Exhibition. In arc lights there were few novelties. A general description of such lamps was given. One differed from another only in the way in which the two carbons were moved forward, as they were used up, so as to equalise the resistance and to steady the light. The steadiest and most brilliant arc light was the Jasper, shown in the Belgian section, but it had the drawback that it wanted a machine all to itself. The *Lampe Soleil*, holding an intermediate position between the arc light and the incandescent, kept incandescent a highly refractory substance, like marble, between the two carbon points.

Coming to carbons and electric candles, Mr. Preece, while allowing to the Jablochhoff candle its great services in the past, thought the Paris Exhibition had sounded its knell, in common with that of all forms of the electric candle. The rising favourite was the incandescent lamp pure and simple. The display made by Mr. Swan at Paris was brilliant and effective, his light being soft, uniform, and yellowish. The incandescent light was wholly free from those bright rays that were so injurious to the complexion, and so irritating to the worker should the light be at all unsteady. It was credited with other merits by the lecturer, who added that the chief lesson taught by the Paris Exhibition was this, that the arc light was suited for out-door illumi-

nation only, and that incandescent lamps were eminently fitted for our homes. Besides Mr. Swan's, other incandescent lamps were shown at Paris, notably those of Maxim and Lane-Fox. But the greatest novelty, and decidedly the most efficient, was Mr. Edison's, with the description and appreciation of which the remainder of the paper was mainly taken up, constant reference being made to a number of Edison lamps with which the hall was brilliantly lighted.



LIFE-LESSONS.—The one lesson of every sickness, every pain, every trouble, every catastrophe, is to learn how to prevent its recurrence. Cure is a good thing, but prevention is a thousand times better. The best possible use of the physician is to keep people well. The lesson of every trouble is to keep out of trouble. The moral of misfortune is to shun whatever can possibly invite it. Every evil we endure is a providential pinch of our flesh, or nudge at our elbow, to compel us to open our eyes to the immutable laws of the universe and the penalties that result inevitably from their violation. In every fire it would seem that Heaven tries to burn a lesson of caution and watchfulness, of safe construction and agencies for extinguishment.

BOOK TRADE IN 1881.—The *Publishers' Circular* gives the customary table of books issued during the past twelve months. It is noteworthy that there is a slight decrease in the number of books, properly so-called, published during the year, these having been about 300 fewer than in 1880, or one for each working day. The diminution is probably to be explained by the great development in the periodical press. The table is divided into 14 classes, in which the numbers of new books and editions

are as follows:—Theology, sermons, biblical, &c., 945; educational, classical, and philological, 682; juvenile works and tales, 500; novels, tales, and other fiction, 674; law, jurisprudence, &c., 133; political and social economy, trade and commerce, 162; arts, sciences, and illustrated works, 452; voyages, travels, geographical research, 291; history, biography, &c., 437; poetry and the drama, 148; year books and serials in volumes, 339; medicine, surgery, &c., 164; belles-lettres, essays, monographs, &c., 247; miscellaneous, including pamphlets, not sermons, 232. This gives a total of 5,406 (5,410 new books and 1,296 new editions), against 5,708 in 1880.

THE TELEPHONE.—Some time since it was recorded that an invalid member of a Scotch Church had the service conveyed to him by means of a telephone line from the pulpit to his bedside. We now hear that in the West Free Church, Dundee, which has just been renovated, a telephone line has been established from the pulpit to the bedside of a bedridden member of the congregation. The telephone has, further, been also introduced on board the screw steamer *Gloucester City*, a vessel of 2,150 tons gross register, which was launched a few weeks ago

at Stockton-on-Tees, and made ready for sea at Hartlepool. The wires extend from the captain's berth to the chart-house, and there is no difficulty in gaining the ear of the officer on watch posted on the bridge. The captain, if in the chart-house, can by the same means communicate with the ship's company. The cost of the apparatus complete is £17 10s. The same appliances were lately provided on board the *Brooklyn City*, a sister ship to the above.

FACTS AND FIGURES OF LONDON JOURNALISM.—A number of interesting facts and figures, concerning the Metropolitan Press, are given in some articles on "Journalistic London" in *Harper's Monthly Magazine*. We select the following: "Thirty years ago the *Times*, which is not given to boasting, stated in a leading article that its gross income was equal to that of the most flourishing of the German principalities. Its returns are now at least £1,086,000 per annum. Touching the profits divided on the other journals, the following figures, although not authoritative, are pretty generally accepted in journalistic circles as approximately correct. *Daily Telegraph* £120,000 a year, *Standard* £60,000, *Daily News* £30,000, *Morning Post* £10,000. The *Daily Telegraph* is printed on 10 Hoe's machines which turn out 120,000 an hour. Its daily circulation averages over 260,000. The weight of paper used each morning is 21 tons, which, laid out in one long line, would reach 260 miles. Stanley's African expedition cost the *Telegraph* £16,000. The *Standard* is printed on eight machines, seven of which run at the rate of 14,000 per hour. The eighth prints and cuts the sheet, places the two halves

together and folds the sheet, which is delivered in shoots ready for the wrapper for the post, running at the rate of 12,500 per hour. The paper used in producing the *Standard* (including both morning and evening editions) last year amounted to 4,277 tons, or nearly 50,000 miles. Altogether the *Standard* has in its service 500 employes, and pays £1,500 a week in salaries alone. The present editor paid £800 for one cable dispatch during the Afghan war. The telegrams from the Transvaal cost 8s. a word. The *Daily Chronicle* was until a few years ago a local city journal. The present proprietor purchased it for £30,000, with a view of converting it into a regular London daily Liberal journal. He calculated that before it became a thorough success at least £170,000, beyond the £30,000, would have to be spent upon it; and he at once ordered £8,000 worth of new printing machinery, which included several improvements not previously introduced. The new offices in Fleet-street cost £40,000, and extensive printing works, in Whitefriars, have just been completed.

RAINFALL AND POPULATION.—A report has been issued in connection with the recent census in the United States, indicating the distribution of rainfall in the States, and that of population relatively to rainfall. It appears that the highest annual rainfall has been 150 inches. This was reached one year in Puget Sound. The average annual fall in the United States, exclusive of Alaska, was, in 1880, 29 inches. This average implies a large area unfit for the purposes of vegetation, which, with the rapid evaporation that occurs, requires much more

moisture. Hence, population is found to centre chiefly on such parts as have from 35 to 50 inches of rain. From a table compiled by Mr. Gannet, it appears that that portion of the country has 68·18 per cent. of the total population, while the classes between 30 and 60 inches comprise 92·3 per cent. The densest settlement is in the class 45 to 50 (the population per square mile being for that area 57·7). That portion of the country also contains the greatest absolute population. It is calculated that the total rainfall in the United States, exclusive of Alaska, in 1880, is an amount about double the water contents of Lake Erie and Lake Ontario combined. It is 1,796,582,642,000,000 gallons, while the surface of evaporation is about three million square miles.



INSECTS AND FLOWERS.—At a recent meeting of the Linnean Society, Sir John Lubbock laid before the members a paper, an abstract of which had already been read at the York meeting of the British Association. It was a continuation of his previous memoirs on the habits of ants, bees, and wasps. He observed that the consideration of the causes which have led to the structure and colouring of flowers is one of the most fascinating parts of natural history. Most botanists are now agreed that insects, and especially bees, have played a very important part in the development of flowers. While in many plants, almost invariably with inconspicuous blossoms, the pollen is carried from flower to flower by the wind, in the case of almost all large and brightly coloured flowers this is effected by the agency of insects. In such flowers

the colours, scent, and honey, serve to attract insects, while the size and form are arranged in such a manner that insects fertilise the flowers, with pollen brought from another plant. This view, of course, presupposes that bees have the power of distinguishing colours, and Sir John Lubbock had shown experimentally that this is the case in former memoirs. In the present paper he commenced by detailing some experiments, made with the view of ascertaining not only whether bees could distinguish one colour from another, but also whether they preferred certain colours to others. Under precisely similar conditions he placed drops of honey on papers of different colours, having accustomed marked bees to come to the spot for food. He then placed these pieces of paper on a lawn. When the bee returned and had sipped the honey for about a quarter of a minute he removed it. She then flew to a second colour; this he took away. Then she went to a third, and so on. In this manner he induced her to visit all the drops successively; and, by recording a large number of observations, he ascertained for which colour the bees showed a preference. The result was that they seemed to like blue much better than the other colours. It may be asked why it is that, if blue is the favourite colour of bees, and if bees have so much to do with the origin of flowers, there should be so few blue ones. He suggests the explanation to be, that all flowers were originally green, and then passed through white or yellow, and generally red, before becoming blue. As regards ants, he recorded a variety of experiments bearing on their recognition of relations, and, with reference to their longevity,

observed that some of his specimens had lived in confinement since 1874, being, therefore, now, at least seven, and probably more than eight years old.

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THE EARTH'S MEAN DENSITY.—

For determining the Earth's mean density, the balance can now be made so sensitive as to be a promising aid in study of problems of gravitation. Two observers, Herr von Jolly, in Munich, and Mr. Poynting, in Manchester, have given some thought to the subject, and within the last few years have described experiments of a tentative nature in regard to it. The former physicist has lately applied the instrument under improved conditions as follows:—He set up a balance in the upper part of a tower, in Munich, that was free on three sides. From each of the scales hung a wire, passing through a zinc tube and having a scale at its lower end. The interval between lower and upper scales was 21,005 mètres, and the lower scales were 1·02 metre from the massive floor of the tower, so as to admit of a ball of lead one metre in diameter being brought under one of them. The *rationale* of the method is this:—A body brought from the upper scale into the lower presents an increase of weight corresponding to the approach to the earth's centre. If the lead ball be brought under the lower scale, a body brought from the upper to the lower has a further increase of weight (corresponding to further increase of acceleration), due to the pull of the ball. The difference of the increments of weight, without and with the ball, indicates the amount of pull of the ball. The

quotient of this pull and that of the earth alone affords a means (with the law of gravitation) of comparing the mean density of the earth with the density of lead, and, that of lead being known, of determining that of the earth. The weights used were glass jars containing mercury, two being at the outset placed in the upper scales, and two empty jars in the lower. After exchange of a full with an empty jar, the difference of weight was made up with pieces of platinum. Disturbing influences were carefully guarded against. The final result of a number of measurements for the earth's mean density was 5·692, and the probable error could not have exceeded + or - 0·068.

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PEARLS.—A very favourite gem, and one perhaps which calls forth more poetry than any other, is the pearl. This lustrous little ball, however, represents a considerable amount of suffering and pain. The composition of a pearl is exactly similar to the inside of the oyster or mussel shell, from which it is obtained. A little animal of a similar nature to the cheese mite irritates the mussel or oyster, and causes its blood to become gouty; to stop the irritation, it throws out around its tiny enemy a portion of the mother-of-pearl with which it lines its shell. The Chinese priests have for many years taken advantage of this fact to deceive the laymen. They introduce into the shell a small leaden figure of their god; in course of time they remove the idol, now nicely coated with the pearly material, and lead their dupes to suppose that the deity had condescended to pay our degraded sphere a visit.





QUIET THOUGHTS FOR QUIET HOURS.



“ Alone with Thee, my God! alone with Thee!
Thus would'st Thou have it still,—thus let it be!—
Alone with Thee, my God! alone with Thee! ”

HYMNS FOR THE CHURCH ON EARTH.



CHRIST THE LORD OF NATURE.*



“ ON His head were many crowns.” Such is the vision of Christ in His return to judgment. We are to seek to set before our minds now one of these many crowns.

CHRIST THE LORD OF NATURE.

And what then is Nature ?

Christ is a Person, a living Person. God grant that none of us may still need to be taught who and what He is ! Nature is a personification : one of those lively figures by which human language sums up under a sort of personal title a vast aggregate of things. Nature is the sum total of those material existences which surround us, and of those agencies which God set going in Creation, and has kept in orderly movement from the first day until now. Nature, in the sense in which we now use it, means the world of matter, and the laws (that is, the habits) of its working.

Now we are to think of Christ to-day as the Lord of this Nature ; the Lord and Master of that world of matter in or amidst which man dwells, and of the laws (that is, the habits) of its working.

If Holy Scripture be listened to, He is so of right. For St. John says that “ all things were made by Him, and without Him was not anything made that was made.” And St. Paul, that “ God created

* From “ Christ the Light of the World,” by the Very Rev. C. J. Vaughan, D.D., Dean of Llandaff, and Master of the Temple. London : Strahan & Co.

all things by Jesus Christ." And again, that "all things were created by Him and for Him, and in Him all things consist;" all things have their coherence and their consistency in the same Person, our Lord Jesus Christ, by whom God made them. And so once more we read in the Epistle to the Hebrews, that "by Him God made the worlds," and that Christ still "upholds all things by the word of His power." There is no lordship like that of creation. He who made, He who upholds all things, is the Lord of all things by the highest, the alone indefeasible title.

Here then is the root and spring of that dominion which we ascribe to Christ in describing Him as the Lord of Nature.

We have two remarkable examples of the sovereignty of Christ over elemental Nature, over winds and storms, over air and sea.

At the close of a long day's teaching, our Lord craved an interval of seclusion and repose. "Let us go over," He said to His disciples, "to the other side of the lake." As they made the transit, there came on a sudden storm. The wind rose, and the waves beat into the ship, till it was now full of water. Through all the tumult and agitation of the scene, Christ, the Lord of Nature, slept calmly. "He was in the hinder part of the ship, asleep on a pillow." At last, reluctantly (it may be) and reverently, the disciples roused Him; not without something of surprise in their tone, that He should so long have left them to suffer. "Carest Thou not," they said, "that we perish?" "Lord, save us: we perish." Then He rose; stilled first the storm of terror within by the majestic remonstrance, "Why are ye fearful, O ye of little faith?" and then rebuked the wind and the raging of the water—as though seeing in their violence a token of that disturbing power of evil which had brought havoc and ruin everywhere into God's handiwork—and restored by that word of reproof the sea to its calm and the wind to its silence. Well might they who witnessed that instant change in the most unruly elements of Nature draw from it the wondering inference, "What manner of man is this, that even the wind and the sea obey Him?"

At a later point in the Gospel history, on the night after the feeding of the five thousand, a yet more marvellous proof was given of the dominion of Christ our Lord over the elements which He created. After that weary day of instruction first, and that of bodily ministrations to the vast multitudes which surrounded Him, He had for once desired to be left alone even by the disciples. His soul craved a protracted season of Divine communion. "When He had sent the multitudes away, He went up into a mountain apart to pray." Doubtless He foreknew also the lesson by which he was about

to discipline His disciples to higher attainments in faith and grace. For the present they were sent without Him across the waters of that same well-known sea. Again they had experience of its liability to sudden tempests, "The ship was in the midst of the sea, tossed with waves." "The wind was contrary." "It was now dark," St. John adds, "and Jesus was not come to them. And the sea arose by reason of a great wind that blew." From His mountain solitude Christ marked them with a considerate eye; marked, and felt for them, but as yet interposed not. He saw here a needful training; a discipline of fear and patience, not for the present joyous but grievous, yet out of which should be perfected afterwards a peaceable fruit of righteousness. "He saw them toiling in rowing;" and yet till the fourth, the latest, watch of the night He came not to their rescue. And when He came, how did he manifest Himself? In a way most unexpected, and most startling. "In the fourth watch of the night Jesus went unto them, walking on the sea." By the power of His own almighty will, He constrained the liquid wavering water to support the footsteps of its Creator. The disciples, seeing Him thus walking on the sea, and apparently (St. Mark adds) purposing to pass by them, thought they saw a spirit, and cried out for fear. But it was His own voice of power and love, which spake and said to them, "Be of good cheer: it is I; be not afraid." And then, passing with characteristic impetuosity from despondency to over-courage, Peter asks that a proof of his Lord's presence may be given in enabling him also to walk safely upon the deep: and He who afterwards gave a doubting Apostle the sign which he demanded of His risen life, though He seemed to chide him for demanding it—and who is pleased sometimes to vouchsafe to doubters, now, a token which they ought not to require of His living grace and love—so, here also, for the more confirmation of the faith, bade Peter come to Him, as he desired, upon the water; and when faith failed, and fear led to sinking, and he who had been so brave to come, yet, seeing the wind boisterous, had to cry out in terror, "Lord save me," still again that prayer too was heard; "Jesus stretched forth His hand, and caught him, and said unto him, O thou of little faith, wherefore didst thou doubt?" What a parable, my friends, for all time!—the sinking of courage through unbelief, and the restoration of safety through reviving faith! "When they were come into the ship, the wind ceased. Then they that were in the ship came and worshipped Him, saying, Of a truth Thou art the Son of God." It was the inference of truth and soberness from the manifestation of the Lordship of Christ over elemental Nature. . . .

Christ the Lord of Nature—do not those few words of themselves tell us how it is that Christian godliness has the promise of the life

that is, as much as of the life to come? Is it not because a Christian can look upwards, through all that he has, to a loving heart and to a loving hand in Heaven?—because a Christian sees, in all that he here possesses, the assurance of a Saviour's love and the foretaste of an eternal inheritance?—because a Christian, being the servant and the friend of a known and trusted Redeemer, can receive in that which is given an intended blessing, and recognise in all that is withholden a no less intended mark of love?

Yes, my friends, "the earth is the Lord's, and all that therein is:" and therefore they only can be at peace on earth, who are at one with its Owner. God give us all grace so to seek Him now, through the Atonement and the Propitiation, that we may know Him also as the Lord of the living and as the life of the dead!

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"PEACE, BE STILL."

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RIERCE raged the tempest o'er the deep,
Watch did Thine anxious servants keep,
But Thou wast wrapp'd in guileless sleep,
Calm and still.

"Save, Lord, we perish," was their cry,
"O save us in our agony!"
Thy Word above the storm rose high,
"Peace, be still."

The wild winds hushed; the angry deep
Sank, like a little child, to sleep;
The sullen billows ceased to leap,
At Thy Will.

So, when our life is clouded o'er,
And storm-winds drift us from the shore,
Say, lest we sink to rise no more,
"Peace, be still."

REV. GODFREY THRING.



THE IDEAL SABBATH.—The ideal Sabbath is the Sabbath at home, when the head of the household—farmer or mechanic, merchant or lawyer, capitalist or operative—enjoys the weekly rest among those

for whom the six days of labour have been spent. Whether the Sabbatic institution was or was not created by the Fourth Commandment, there seems to be in those words, "Thou, nor thy son, nor thy daughter, nor


thy man-servant, nor thy maid-servant," a glimpse of the restful enjoyment which the day of rest, in the primitive conception of it, would bring to the families that keep it. The day of rest, being rest, and not revelry or dissipation, and being therefore a day of home enjoyment, brings with it opportunity for sober thoughts and conference. A Sabbath-keeping people will become a thoughtful people, and such thoughtfulness is manliness. All men, and especially the busy millions in an advanced civilisation like our own, need, for the mind's sake, not less for the sake of wearied nerves and muscles, the seventh day intermission of their ordinary work. A true Sabbath is something far more restful than a day of noisy jollity. In its calm air the mind rests by thought, not thoughtlessness; by quiet musing, by conscious or unconscious retrospection; perhaps by consideration of what might have been, perhaps by thinking what may be yet, perhaps by aspiration and resolve towards something in the future, that shall be better than that which has been in the past. The home, in which the Sabbath is a day of rest and home enjoyment, is hallowed by the Sabbath which it hallows. In the Sabbath-keeping village, life is less frivolous, and at the same time industry is more productive, for the weekly rest. A Sabbath-keeping nation is greater, in peace, and in war, for the character which its tranquil and thoughtful Sabbaths have impressed upon it.—*Rev. Dr. Bacon.*

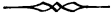
THREE PICTURES.—“I once saw,” says a well-known clergyman and writer, “a representation of a Christian. There were three pictures


put side by side. The first was a picture of a very little boy, and coming out of his mouth were the words, ‘*I learn!*’ The next was the picture of a working man, with a spade in his hand, and there were coming out of his mouth the words, ‘*I work!*’ And the next picture was that of a man in full armour—armed from head to foot, having a sword in his hand—and coming out from his mouth were the words, ‘*I fight!*’ Yes—‘*I learn!*’ ‘*I work!*’ ‘*I fight!*’—those three things make the Christian. If we *learn*, and *work*, and *fight*, as Christian soldiers, we shall be able to keep our promise to ‘renounce the devil’; we shall conquer him.”

“BUTS.”—When conversing on the subject of personal religion, we have been struck by the variety of excuses given for inconsistent lives. People seem to expect they must be inconsistent, and that there is no help for their being so far below the standard of the children of God. St. Paul did not think so. Listen to his reproof of those who were living in this state, so dishonouring to God (1 Cor. vi. 11), “But ye are washed, but ye are sanctified, but ye are justified in the name of the Lord Jesus, and by the Spirit of our God.” There is no power for good in this world to equal that of a Christian who is walking daily with God. If they never spoke a word for Christ, their actions, nay, the very expression of their faces, tell of their constant communion with their Saviour. We are called to be saints, and God never calls us to be or do anything that He does not give us the power needful for obedience. Oh, let us be done with these false “buts,” and let the only one we allow ourselves be that used


by the great Apostle: "*But* this one thing I do, forgetting those things which are behind, and reaching forth unto those things which are before, I press toward the mark for the prize of the high calling of God in Christ Jesus."

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MOTHER'S HAND.—A very good man once said: "I never forgot my mother putting her hand upon my head. It was such a soft hand; and it was such a gentle pressure. When I have been about to do wrong, the thought of my mother's soft hand on my head has often kept me right!"

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LONELINESS.—"Lonely lives," it has been very truly said, are "lonely for want of sympathy; sympathy will cure them. Feel sympathy, think sympathy, cherish sympathy, live sympathy, and you are not alone. It is your own fault if you are lonely. Think of, pray for, minister to, another—he must be a brother, she must be a sister—and your desolation is comforted. 'Rejoice with them that do rejoice; and weep with them that weep.' God, the God of love, is your God; the children of His love meet you, surround you, dwell with you, always. 'Father, I will that they also . . . be with Me; that they all may be one—I in them, and Thou in Me, that they also may be one in us.' Loneliness is swallowed up in love."

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I WILL NEVER LEAVE YOU.—There is only One who can say this. Every human tie is likely to be severed, nor can we assure ourselves of the permanence of any earthly friendship. Those nearest and dearest to us may turn to be our bitterest

foes; and those whose friendship remains unbroken may yet be swept away from our presence and fellowship, and leave us desolate and alone. But He hath said, "I will never leave you nor forsake you." The seal of truth is upon the covenant which He hath made with us. Long as His grace abides; long as His mercy endures; long as His omnipotence rules and omniscience discerns; long as creation is subject to its Maker's sway; long as the stormy wind fulfils His word; long as the thunderbolts sleep within His hand; long as the angels wait to do His will, hearkening to the voice of His command; so long we need not fear; so long we shall not be abandoned—for He hath said, "I will never leave you nor forsake you."

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GONE!—How expressive this word on yonder tombstone! How significant! What a sermon in this single monosyllable! If a man would seriously ponder upon it, how happy might be its influence upon him! *Gone!* So will it be said of the writer, and of the reader, of these lines. In a few brief years we shall have gone the way of all the earth—the way whence we shall not return. We shall have gone from all that we here hold dear; from all our earthly possessions; from all worldly honours and pleasures; from our homes and the friends that we love; from Sabbath blessings and sanctuary privileges, and all the means of grace; from all the things that are seen and temporal. And whither? We shall have gone somewhere; we shall still exist, conscious beings, when we shall have passed away from these earthly scenes. And where it will be depends upon the manner of our living here. If we

shall have wisely improved our day of grace, to make our peace with God, we shall go to be with Christ in heaven, in the enjoyment of its endless, soul-satisfying pleasures. But if we shall unwisely have sinned away our day of grace, then we must go where there is weeping and gnashing of teeth for ever and ever. Oh, that we were wise, that we did understand this, that we did consider our latter end!—*Good Words.*

THE LETTERS "S. S."—A man once wrote "S. S." on a dusty Bible. When asked what he meant, he explained it thus:—"S. S." stands for "*Slothful Servant.*" He who reads not God's Word, cares not to know or to do God's will. "S. S." stands for "*Search the Scriptures.*" Whatever we may have done in the past, henceforth let us obey Christ's command, so to "search," day by day. "S. S." stands for "*Saviour of Sinners.*" The Bible was written to reveal Him to us, and if we but "search" it aright, we shall assuredly find Him.—*Rev. G. Everard.*

KEEP YOUR HEAD ABOVE THE WAVE.—Every cloud has a silver lining, and He who wove it knows when to turn it out. So, after every night, however dark or long, there shall yet come a golden morning. The noblest powers are never developed in prosperity. Any barque may glide in smooth waters, with a

favouring gale; but that is a brave, skilful oarsman, who rows up stream against the current, with adverse winds, with no cheering voice to wish him "God speed!" Then, "Keep your head above the wave." Let neither sullen despair nor weak vacillation keep you under. Dream not of the word "Surrender!" When one frail human reed after another breaks or bends beneath, lean on the Rock of Ages.

REASONABLE SERVICE.—If a sculptor, having chiselled a marble figure, could inspire it with sense and feeling, would it not prostrate itself before its maker and offer all to him? Shall not we, the handiwork of Infinite Wisdom, bow lovingly before our Almighty Maker, who has formed our bodies and fashioned our souls, and give Him ourselves—a reasonable service?—*St. Augustine.*

BE HUMBLE.—If thou art a vessel of gold, and thy brother but of wood, be not high-minded. It is God that maketh thee to differ. The more bounty God shows, the more humility He requires. Those mines that are richest are deepest; those stars that are highest are smallest; the goodliest buildings have the lowest foundations. The more God honoureth men, the more they should humble themselves; the more fruit, the lower the branches bend on which it grows.





SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY.



“The stately ships go on
To their haven under the hill;
But O for the touch of a vanish'd hand,
And the sound of a voice that is still!”

TENNYSON.



THE SOCIETY'S OBJECTS.



HE Shipwrecked Fishermen and Mariners' Royal Benevolent Society was Instituted on the 21st February, 1839, and Incorporated by Act of Parliament, 18th Vict., 1850, having the following, amongst other Objects, in view:—

- 1st.—To board, lodge, clothe, and forward to their homes, or to their nearest Consuls, if foreigners, all Wrecked Fishermen, Seamen, &c., of all Nations, cast destitute upon the Coasts.
- 2nd.—To assist Fishermen, Scamen (whether of the Royal Navy or Merchant Service), Coast-Guardmen, Pilots, Boatmen, and Apprentices, &c., Members of the Society, towards replacing their Clothes and Boats, when lost by Storms or other Accidents of the Sea; and to relieve their Widows and Orphans, or Dependent Aged Parents.
- 3rd.—To give Gold and Silver Medals, and other Honorary or Pecuniary Rewards, for any praiseworthy endeavours to Save Life from Shipwreck on the High Seas, or Coasts of the Colonies.
- 4th.—To give Money-Grants to its old and necessitous Members, in extreme and special cases.

The foregoing Objects are carried out by the Society's Executive in London, and about 1,200 Honorary Agents and Representatives of

the Society, stationed on every part of the Coast of the United Kingdom, as well as Inland, Abroad, and in the Colonies, by whom, on an average, between 13,000 and 14,000 persons are annually relieved.

On all occasions of Shipwreck, immediate relief, with prompt medical aid, is afforded to the sufferers—by taking them up at the place of wreck, supplying them with every necessary, and at once conveying them to their homes, or, if foreigners, to their nearest Consuls. In the performance of this duty the Society acts on the broadest basis of Christian Charity—the foreigner and the native being equally cared for.

In addition to this universal aid to the Shipwrecked and Destitute, and to that given in extreme cases of Disaster and Distress from Storms or other Accidents of the Sea, the Society, with a special view to the encouragement of moral and provident habits amongst our Fishing and Seafaring Men of all classes, extends assistance to Fishermen, Mariners, and all persons occupied on the Sea or Rivers, contributing the regulated small yearly payments to the Society's Funds, as Members, to help them—according to a fixed Scale of Relief—to make good the loss or damage at sea, &c., of their Clothes or Boats, while, in the event of their death, however caused, the necessitous Widows and Orphans, or Dependent Aged Parents, are at once relieved.

The Society, further, specially provides for the annual grant of small sums, on a graduated scale, to Widows of Fishermen and Mariners, having been yearly Members, left in want with young Children—this valued relief, which is wholly additional to that already given at the moment of first bereavement, now embracing all such Widows and Orphans, and including, also, all Widows themselves, above 60 years of age, in needy circumstances.



THE SOCIETY'S PROCEEDINGS.



THE administration by the Society, as the one National Institution existing for the purpose, of the varied and immediate organised aid embraced within the wide scope of its several Objects, necessarily involves a most extensive and very voluminous series of Proceedings, fully to detail which, from time to time, would be entirely beyond the available limits of any periodical record.

Amongst many other similarly noteworthy and interesting references to the Society's operations, however, the subjoined Announce-

ments, and Letters, &c., have appeared in the columns of the Public Press, as shown, since the issue of the last Quarterly Number of this Magazine :—

NATIONAL MUTUAL PENSION FUND.*

—o—o—o—

THE Committee of Management of the Shipwrecked Fishermen and Mariners' Royal National Benevolent Society has lately "duly passed a pension for life, amounting to the sum of £27 per annum, "in addition to other substantial immediate relief, for the disabled "seaman George Henry Kidger, the sole survivor of the shipwrecked "officers and crew of the British barque *Nonantum*, of whose terrible "sufferings, in the depth of winter, on the desolate coast of Newfoundland, the sad tale was recently fully told in the English and Colonial "Press. To the annual grant thus awarded him, on account of his "disablement through the loss of both feet as the result of his intense "privations, the seaman Kidger has happily become entitled as a contributor to the 'National Mutual Pension and Widows' Fund,' "established and worked by the SHIPWRECKED FISHERMEN AND MARINERS' "SOCIETY, with the special view of thus helping our mariners providently "to look forward and help themselves against their common risk of "sudden exposure, at any moment, to just such perils of their "hazardous calling. We may also mention that this is the same case "as that about which Her Majesty the Queen, seeing the account of "Kidger's fearful sufferings, at once directed inquiry to be made, and "was graciously pleased personally to extend most timely assistance ; "and we understand that Her Majesty has now further expressed "much sympathy and gratification at hearing of the unfortunate "man's nomination to the yearly pension and substantial relief "accorded to him, as above, by THE SHIPWRECKED FISHERMEN AND "MARINERS' SOCIETY, of which National Institution Her Majesty is "herself the Patron."

—o—o—o—

THE STORY OF A SHIPWRECK, AND ITS SEQUEL.†

IN reference to the sad letter to his mother, dated 12th October, 1881, from a wrecked sailor boy of fifteen, trained by the Marine Society on board the *Warspite*, and one of the crew of the lost

* From the "Standard," "Illustrated London News," &c.

† From "The Times," October 20, and October 22, 1881.

steamship *Corsica*,* inserted in "*The Times*" of 20th October, 1881† entitled, "The Story of a Shipwreck;" the subjoined peculiarly interesting letter was inserted in "*The Times*," also, on October 22, from the Secretary of the SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY, writing from the Society's Central Office, Hibernia Chambers, London Bridge, S.E., under date of 20th October:—

TO THE EDITOR OF "THE TIMES."

"Sir,—The pathetic tale of the perils of the ocean told in your columns this day, under the heading of 'The Story of a Shipwreck,' from the pen of a British sailor lad of fifteen, will assuredly, at this moment of ever-recurring tidings of storm and loss, have deeply thrilled the great sympathetic heart of this maritime nation. 'One touch of nature makes the whole world kin;' and there is most truly such a 'touch' in the noble impulse which dictated the following words, just anonymously received by me on behalf of this Society, from the pen of a British maiden, also aged fifteen, and forming a fitting sequel, indeed, to the poor sailor lad's tale:—

"'As a consequence of the fearful gale of Thursday and Friday last, there are certain to be many calls upon the funds of your Society, to relieve the distress and suffering caused in scores of the

* See the account of the loss of this vessel, under "Wrecks and Casualties," at p. 48 of the current Number of this Magazine.

† This letter is as follows:—"I am shipwrecked off Cape Roca, in Portugal. We struck on a rock about one-and-a-half mile from the land, then we launched the lifeboat, and seventeen men and myself got into it, all naked out of bed at twelve o'clock midnight. The rest did not have time to get in, as the ship sank in eight minutes after her striking the rock, and not a particle could be seen of her. As the ship was sinking it dragged the boat that we was in under water with it and capized it, throwing the seventeen men and myself into the sea, when six men and myself managed to get into the boat again, and the boat was full up with water, but being the lifeboat and lined with cork it floated; and there we was for seven-and-a-half hours, from twelve o'clock midnight till half-past seven in the morning, in a boat full of water, in the open sea, and every wave passing over us. Then it was daylight, and we made for the land, and as we were close to the breakers making for the land, one man was washed away, leaving five men and myself in the boat. And then we got to the shore, and the boat stuck in the sand, and then another man died from exhaustion, leaving four and myself. And then the five of us, half dead, managed to walk on the sand to the dry land with water to our waists, and we are now under the charge of the British Consul at Lisbon, and shall be sent home on Saturday to London. I will tell you the rest when I comes home. There was twenty-one lives lost and five saved. I am saved, thank God. From your loving son, CHARLES FELLOWS."

“ desolated homes of our mariners and fishermen all along the coasts.*
 “ This far more disastrous storm, following so closely upon that
 “ which wrought so much devastation in the north of Shetland last
 “ July,† appeals to all of us; and it is to be hoped that practical
 “ sympathy, and large-hearted charity, which never faileth, may
 “ bring you ample contributions from those who enjoy so many
 “ blessings, and who feel for the woes of others. A report published
 “ by you last week, in reference to the Shetland Fund,‡ evinces the
 “ deep interest taken by the Queen and the Prince of Wales in your
 “ Society's operations, and their readiness to help, at all times, the
 “ families of those who perish in following their hazardous but
 “ necessary calling. As this is the anniversary of my birth, I desire
 “ to send my parents' Birthday Gift as my first donation to the funds
 “ of the Shipwrecked Fishermen and Mariners' Society—in reverent
 “ memory of Her Royal Highness the late Princess Alice, who, as we
 “ all know, lost her own life in ministering to others.’

“ May I add, Sir, that the otherwise anonymous writer bears the
 “ late Princess's names of ‘Alice Maud,’ and that the amount of
 “ the Birthday Gift, so tenderly devoted, is ‘One Hundred Guineas.’
 “ —Your faithful servant, W. R. BUCK, Secretary.”

AWARDS OF MEDALS FOR SAVING LIFE, AND
 SPECIAL RELIEF, &c. §

THE very lamentable losses of life and property occasioned through the recurring disastrous gales of the present season, with all the consequent suffering and distress, among the maritime population of numerous ports and fishing towns along the coast of the United Kingdom, have lately brought various heroic and praiseworthy efforts to save life at sea, as well as an exceptionally large number of cases of sadly sudden bereavement and most urgent need, to the prominent notice of The Shipwrecked Fishermen and Mariners' Royal National Benevolent Institution. As the result, at the recent meetings of the

* This gale was that of October 14th, as alluded to under “Shipping Losses, and Storms, in 1881,” at p. 45 of the current Number of this Magazine.

† See the account of “The Great Storm in Shetland,” at p. 289 of the Number of this Magazine for October, 1881, in Annual Volume, No. xxviii.

‡ See references to this Fund, at pp. 313-14 of the Number of this Magazine for October 1881, in Annual Volume, No. xxviii.

§ From “*The Times*,” &c., &c., December 10, 1881.

“ Central Board of Management, held at the Society's Head Office, Hibernia Chambers, London Bridge, under the presidency of Captain the Hon. Francis Maude, R.N., several honorary and other rewards,* in recognition of the saving of life, have been specially accorded. Included in these distinctions, the Society's Silver Medal was in four instances awarded to seamen and a young apprentice lad of fishing smacks (the *Reliance* and *Rialto*, of Ramsgate), which had at great risk gallantly stood by, during heavy gales, and eventually succeeded in rescuing the whole of the imminently imperilled crews of two foundering vessels (the steamship *Countess of Durham* and the brigantine *Chilian*), whose own boats had in each case been stove in, necessitating the extremely hazardous taking off of the rescued men, twenty-one in all, in the small and crank boat of the smack itself. Among the many peculiarly distressing cases of great need, substantially relieved at the same recent meetings of the Society's Central Board of Management, were those of several suddenly bereft widows and orphans of fishermen and mariners; and also of numerous fishermen and mariners themselves, pressingly requiring immediate assistance towards replacing lost boats and clothes for the pursuing of their avocations. Such applications had come before the Society chiefly from the many places not embraced within the scope of any special Public Relief Fund, though, in the aggregate, representing an almost equally appalling amount of calamity and sorrow, happily directly alleviated by the Society, in addition to its large pecuniary aid, through its Honorary Agents on the spot, at the actual scenes of the more extensive and notable disasters.”

THE VICE-PRESIDENTS, AND COMMITTEE OF
MANAGEMENT, &c.

DURING the past Quarter, the name of Lieutenant-General the Most Hon. the Marquis Conyngham has, by kind consent, been added to the list of the Society's Vice-Presidents.

Since the last announcement, also, James Hiscutt Crossman, Esq. (late Master of the Worshipful Company of Brewers), and the Right Hon. Lord Ashley (late R.N.), have been duly elected to fill existing

* See full details of these Rewards given in Table III., under “The Society's Work,” at p. 75 of the current Number of this Magazine.

vacancies upon the Society's Central Committee of Management, in London, and have taken their seats at the Board, as new members, accordingly; while the Chairman, and Committee at large, have had to regret the loss of the very constant services and kind personal co-operation (extending over a period of several years, both upon the General Committee of Management and upon the Finance Committee) of William Toller, Esq., who has recently resigned his seat at the Board, through change of residence to a distant part of the country.

THE LOCAL HONORARY AGENTS, &c.

AS many as thirty-two fresh appointments of Local Honorary Agents and Representatives of the Society have, from death, change of residence, or other unavoidable cause, been rendered necessary since the previous reference to such alterations in the last Number of this Magazine—that for the October Quarter, of the past year. In recording their obligations, on behalf of the Society, to all those who had thus—in some instances for very many years—so heartily laboured in furthering the Society's good work, the Committee of Management have specially had to deplore those changes occasioned by the decease of Honorary Agents and Representatives, as follows: Inniscrone—Mr. Thomas Smith; Logie Easter—Rev. Alexander Mackenzie; Newbury—William Lidderdale, Esq.; Ripon—Lieutenant Fletcher, R.N.

THE SOCIETY'S WORK.

UNDER the subjoined Annual Statistical Return, as well as Quarterly General Summary, and following Tables, numbered I, II, III, IV, and V—respectively answering to the several specified Objects* of the Society—will be found the interesting, and, in many respects, touching record of the Society's benevolent operations, on behalf of Mariners and Fishermen, their Widows,

* See the details given under "The Society's Objects," at the commencement of this Heading of "SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY."

Orphans, &c., both during the whole of the past year, 1881, with those preceding it, from the Society's first Institution in 1839, and since the issue of the last Annual or Quarterly Statements :—

ANNUAL STATISTICAL RETURN OF THE
SOCIETY'S OPERATIONS.

From the Institution of the Society in 1839, to 31st December, 1881.

RELIEVED LAST YEAR: 1881.

NUMBER of Shipwrecked Persons, including Fishermen, Mariners, Pilots, Boatmen, &c., for Loss of Clothes or Boats.....	5,510	
Widows and Orphans, or Dependent Aged Parents, of Fishermen, Mariners, &c.	8,725	14,235

RELIEVED IN PREVIOUS YEARS: 1839—1880.

NUMBER of Shipwrecked Persons, including Fishermen, Mariners, Pilots, Boatmen, &c., for Loss of Clothes or Boats.....	177,683	
Widows and Orphans, or Dependent Aged Parents, of Fishermen, Mariners, &c.	133,128	310,811

Total Number Relieved from 1839, to 31st December, 1881 325,046

GENERAL STATISTICS.

NUMBER of Lives Saved for which Honorary or Pecuniary Rewards have been given.....	7,145	
Medals for Saving Life awarded since January, 1851, the year in which the Society commenced giving such Rewards		Gold Medals ... 38
		Silver Medals... 284
Amount of Pecuniary Rewards for Saving Life, irrespective of Framed Testimonials, &c.....	£2,328	

Annual Number of Fishermen, Mariners, &c., Contributing Yearly Payments, as Members* 52,000

* This Number of 52,000 "Members," which is being largely added to from year to year, represents those Fishermen and Mariners, of all grades, embraced within the scope of the Society's wide-spread efforts, as quoted in its published Prospectus, &c., for "Specially helping all the Fishing and Seafaring Classes, providently to look forward and help themselves against the ever-recurring losses and perils of their hazardous calling."

QUARTERLY GENERAL SUMMARY OF RELIEF, &c.

THE total Number of Persons directly succoured by the Society's Executive in London, and by the Honorary Agents in all parts of the United Kingdom, &c., with the total Amount of Relief administered, as referred to in the subjoined Relief Tables for the past Quarter, ending 31st December, 1881, was as follows:—

TOTAL NUMBER OF PERSONS RELIEVED	2,837
TOTAL PECUNIARY AMOUNT OF RELIEF	£6,735

OF the numerous Agencies (appending also the names of the Society's Local Honorary Representatives) from which the more distressing claims embraced within these figures were received, the following, with the Amounts allotted to each, may be specially mentioned, viz.:—Blyth (Mr. John Robinson, Jun.), £99; Buckie (Mr. James Bremner), £99; Eyemouth (Mr. John Doull), £272; Hartlepool (Mr. S. Armstrong), £146; North Shields (Mr. G. French), £94; South Shields (Messrs. Crisp and Hails, and the Rev. C. M. Woosnam), £338; Sunderland (R. M. Hudson, Esq.), £564; Yarmouth (Mr. G. T. Watson), £93; giving a total of £1,205 issued at these Agencies and Seaports, &c., alone.

L—RELIEF TO SHIPWRECKED CREWS.

The Crews of Vessels wrecked on various parts of the Coast, or foundered at Sea, have been boarded, lodged, clothed, and forwarded to their homes by the Society, between the issue of the last Quarterly Statement and the 31st December, 1881, as follows:—

NUMBER OF VESSELS, OF ALL CLASSES, WHOSE SHIPWRECKED CREWS WERE RELIEVED.....	339
NUMBER OF SEAMEN, &c., THUS RELIEVED (MEMBERS OF THE SOCIETY—478, AND NON-MEMBERS—797)	1,275

DURING the three months in question there have been very numerous and heavy claims upon the Society's resources, for the Relief of the Shipwrecked Fisherman and Mariner, as the result of the exceptionally destructive gales of the months of October and November, involving various special calamities, amongst which reference may more particularly be made to those so disastrously affecting the East Coast of Scotland, Eyemouth, &c., with, also, Yarmouth, Ramsgate, and many other ports and fishing-towns in the United Kingdom, as well as Abroad and in the Colonies.

It would be impossible to give any detailed list of all the numerous vessels or places, brought under the Society's notice throughout the past Quarter: but special references to the more recent storms, with accounts of some of the most notable cases of wreck, &c., will be found duly recorded under the Heading of "The Sea and its Perils," in the current Number of this Magazine.

II.—RELIEF TO FISHERMEN AND MARINERS, THEIR WIDOWS, ORPHANS, &c.

Relief was afforded by the Society to Fishermen and Mariners, Members of the Society, to assist to restore their Boats, or Clothes, and to the Widows and Orphans, or Dependent Aged Parents, of the Drowned, &c., between the issue of the last Quarterly Statement and the 31st December, 1881, as follows:—

FISHERMEN, MASTER-MARINERS AND MARINERS, PILOTS, BOATMEN, APPRENTICES, &c., RELIEVED FOR LOSS OF CLOTHES OR BOATS	713
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF SEAFARING MEN, RELIEVED ON THE DEATH OF THEIR HUSBANDS, AND FATHERS, &c.	695

THE respective periods of Membership of the Seafaring Men, themselves relieved, or at whose death their Widows and Orphans, &c., were relieved, as above, may be classified as follows:—Members of the Society from one to ten years, 460; from ten to twenty years, 340; from twenty to thirty years 104; and from thirty to forty years, 56.

Of the Widows, in all 248, many of them suddenly reduced under most heartrending circumstances, to the greatest destitution, 20 were left with three children, 22 with four children, 15 with five children, and 8 with six children, 1 with 7 children, and 1 with 8 children, and upwards, while several of the 427 Orphans, now left fatherless, were already motherless.

The cases of the Dependent Aged Parents, numbering altogether 20, comprised amongst them many instances of great distress and sudden reduction to abject poverty, through the loss of their sole, or almost sole, means of support; these stricken parents, too, being often special objects for compassion and relief by reason of incurable diseases, and the many infirmities incidental to advanced years, &c.

III.—REWARDS FOR SAVING LIFE.

Awards of the Society's Gold and Silver Medals, and of the Society's Framed Testimonial, instituted in recognition of humane and praiseworthy endeavours to Save Life from Shipwreck, on the High Seas, or Coasts of the Colonies, with other Honorary or Pecuniary Rewards, have been made during the Quarter ending 31st December, 1881, as follows:—

AT COMMITTEE MEETING, NOVEMBER 11, 1881:—*

THE Society's Silver Medal was unanimously awarded to each of the two men, MILES EDWARD YELLOP (mate), and STEPHEN BLACKMAN (senior apprentice), of the crew of the smack *Reliance*, of Ramsgate, which

* See the Newspaper Announcement regarding these Rewards, as reprinted under the "Society's Proceedings," at p. 70 of the current Number of this Magazine.

vessel had rescued and landed safely at that port, the master and entire crew of fourteen in all, of the S.S. *Countess of Durham*, when foundering at sea, about forty miles off the mouth of the Texel, during the gale of the 14th October, 1881—these recipients of the Medal being the two members of the smack's crew, who, at much risk, manned the small and crank boat of the smack, which effected the rescue in question.

In regard to the rescue of the chief officer and sixteen men of the crew of the foundering steamship, *Clan Macduff*, by the S.S. *Upupa*, commanded by Captain James Maxwell Brown, during a gale in the Irish sea, on October 21st, and in recognition of which gallant service a Public *Upupa* Testimonial Fund was being influentially raised at Cork, the grant of a sum of Ten Guineas was unanimously awarded as a special contribution from the Society to the Fund named.

AT COMMITTEE MEETING, NOVEMBER 25, 1881:—*

FOR the most praiseworthy rescue, by the smack *Rialto*, of Ramsgate, in the smack's own boat, of the master and the whole crew of five men of the brigantine *Chilian*, of Sunderland, when foundering about four miles off the Cortin Gat Lightship, in a gale, on the morning of the 15th October last—the smack afterwards standing by for about two hours, and subsequently landing the rescued at Ramsgate, on the 16th October—the Society's Silver Medal was unanimously awarded to each of the two men, JAMES TAYLOR (mate), and WALTER JAMES SPAIN (seaman), who manned the smack's boat effecting the rescue; together with a special Pecuniary Award of Ten Guineas for further allotment to the smack's crew, in general recognition of their services on the occasion.

ATTENTION is again particularly requested, likewise, to the provisions of the newly-instituted "EMILE ROBIN LIFE-SAVING REWARDS," for English Seamen, as notified in *The Times*, &c., under date of November 26, 1880, and fully described and explained at page 63 of a previous Number (January, 1881) of this Magazine, in the Annual Volume, No. xxviii.

IV.—RELIEF IN EXTREME AND SPECIAL CASES.

Special Money-Grants, to Old and Necessitous Members of the Society, under exceptional circumstances of Distress and Destitution, have been awarded, during the past Quarter, ending 31st December, 1881, as follows:—

TOTAL NUMBER OF PERSONS RELIEVED 37

THE above figures embrace 19 Old and Necessitous Members themselves—of whom 12 had been Members for thirty years and upwards—with 8 aged wives, and 5 dependent or invalid children, &c., representing, in the

* See Foot-note, p. 75, as to Newspaper Announcement regarding these Rewards.

peculiar needs of their several cases, almost every phase of misfortune, sickness, and poverty.

Of those thus relieved, 11 were in age between 60 and 70; and 8 between 70 and 80; while 7 were suffering from blindness, rupture, rheumatism, paralysis, or other infirmities, and from the effects of accidents or injuries—all these disabilities, mostly permanent, incapacitating the afflicted claimants from pursuing their avocations as seamen.



V.—*Special Additional Relief for Widows and Orphans of Mariners and Fishermen.*



Special Additional Relief, for Widows and Orphans of Mariners and Fishermen, left in want with young children, and for Widows themselves, above sixty years of age, in needy circumstances, was awarded on the last occasion—namely, to those included in the second (or July) list, for the Year 1881—as follows:—

NUMBER OF NECESSITIOUS WIDOWS AND ORPHANS RELIEVED—(WIDOWS—1,489, ORPHANS—1,870)	3,369
PECUNIARY AMOUNT OF RELIEF.....	£4,396.

THE Relief thus awarded is, in every instance, in addition to that already given at the time of the drowned, &c., Husband's and Father's death, and forms what has been found to be a most important and most essential feature of the Society's benevolent work. A similar Amount of Relief, to a like number of other Widows and Orphans, as included in the previous (or January, 1881) list, was also specially awarded within the past twelve months—representing, in the aggregate, a total Annual Amount of more than £8,300, distributed to upwards of 6,400 necessitous Widows and Orphans.

The ages of the 1,489 Widows relieved, as above, on the last occasion may be classified as follows:—From thirty to forty years, 285; from forty to fifty years, 851; from fifty to sixty years, 139; from sixty to seventy years 438; from seventy to eighty years, 173; and over eighty years of age, 34.


The widowed mothers of the 1,870 Orphans relieved, omitting the few Orphans who are left motherless as well as fatherless, may likewise be classified, as to number of young children depending upon them, as follows:—195 with three children; 78 with four children; 32 with five children; and 7 with six children.



PARAGRAPH which appeared in the various London and other Journals, giving an account of this last issue of these eagerly-sought-for Annual Grants, was reprinted at page 315 of a previous Number (October, 1881) of this Magazine, in the Annual Volume, No. xxviii.



SPECIAL CONTRIBUTION LIST.

 COLLECTIONS, DONATIONS, LEGACIES, SERMONS, &c., ON BEHALF OF THE SOCIETY, RECORDED SINCE THE ISSUE OF THE LAST QUARTERLY STATEMENT.

	£	s.	d.		£	s.	d.
L ONDON. — Anonymous (from A. M. L., "in reverent memory of H. R. H. the late Princess Alice, who lost her own life in ministering to others") *.....	105	0	0	The Trinity House, London	10	0	0
"Lloyds' Register of British and Foreign Shipping" ..	105	0	0	The Fishmongers' Company	105	0	0
The Hon. Mrs. Robert Bruce	50	0	0	Charles J. Bevan, Esq.	50	0	0
The Dowager Countess of Shrewsbury	20	0	0	Baron F. de Rothschild	25	0	0
Messrs. Hoare and Co.	21	0	0	A. E. Campbell, Esq.	25	0	0
H. T. Coghlan, Esq.	21	0	0	The Saddlers' Company	10	10	0
J. Henderson, Esq. (annual)	20	0	0	Captain David Mainland (Member of Committee) ..	52	10	0
Offertories at Holy Trinity Church, Eltham (Rev. T. N. Rowsell, M.A., Life Governor), Sunday, Oct. 30th (per Rear-Adml. G. H. Gardner)	21	16	0	The Merchant Taylors' Company	10	10	0
R. Henderson, Esq. (annual)	20	0	0	The Haberdashers' Company	5	5	0
J. G. Barclay, Esq.	25	0	0	Offertories at Thanksgiving Services, St. Michael's, Cornhill, on New Year's Day, after Sermons by the Rev. Wm. Hunt, M.A., Rector (Life Governor) ..	57	1	0
The Right Hon. the Earl of Yarborough	20	0	0	Subscribed at "Constitution" Smoking Room, Churton-street, (per Mr. C. Gibbs)	1	3	0
Mrs. Vincent Budd (per Captain Vincent Budd, Deputy-Chairman of Committee) ..	21	0	0	Readers of 'The Christian' (per Morgan & Scott)	6	0	0
The Dowager Duchess of Northumberland (per Captain the Hon. Francis Maude, R. N., Chairman of Committee)	25	0	0	Collecting Boxes on board the SS. <i>Warwick Castle</i>	4	4	0
The Goldsmiths' Company ..	150	0	0	SS. <i>Eldorado</i>	3	13	11
S. W. (Brighton)	25	0	0	SS. <i>Roma</i>	1	13	0
Miss L. B. Courtenay	20	0	0	B RIGHTLINGSEA. — Concert, promoted by Mr. J. G. Samuel, Life Member (per Mr. C. Collis, Hon. Agent)	6	6	0
Anonymous	20	0	0	Congregational Collection in Independent Chapel, after Sermon by Rev. Mr. Blackburn (per Mr. C. Collis, Hon. Agent)	1	13	0
Heathfield Smith, Esq.	20	0	0	Do. Do. United Methodist Chapel, after Sermon by Rev. J. Irvine (per Mr. C. Collis, Hon. Agent)	1	3	5
E. L. Ames, Esq.	25	0	0				
Mrs. Turner	100	0	0				
The Salters' Company	21	0	0				
The Grocers' Company	100	0	0				

* See the interesting reference to this Special Gift, inserted at p. 68.

	£ s. d.		£ s. d.
BRIGHTLINGSEA (continued). —Congregational Collection in New Jerusalem Chapel, after Sermon by Rev. Joseph Deans (per Mr. C. Collis, Hon. Agent)	2 16 1	RUGBY .—Amateur Concert (per Miss Vicars, Hon. Representative)	16 4 0
CALDICOTT .—Church Offertory (per Rev. E. T. Williams, M.A., Vicar....)	2 0 0	SALCOMBE .—Congregational Collection, after Sermon by Rev. M. Kelly, M.A., Vicar (per Rev. v.F.H. Randolph, M.A., Rural Dean and Rector of Ringmore) ..	5 5 7
CARDIFF .—Collecting Box on board SS. <i>Lady May</i> (per Captain E. S. Barrow)	0 11 0	STAITHES .—By Concert in Board School (per Mr. T. Rodham, Hon. Agent) ..	1 10 0
COBHAM .—Moiety of Offertory Alms, at Harvest Thanksgiving Service, with £1 added by Mrs. Blunt (per Rev. G. Bancks, B.A., Vicar)	13 7 9	STOKE D'ABERNON .—Alms on Christmas Day (per Rev. F. P. Phillips, M.A., Rural Dean)	3 5 0
GREENOCK .—Collecting Box in Mercantile Marine Office (per R. S. W. Macalister, Esq.)	0 7 1	WELLS (NORFOLK) .—Congregational Collection, after Sermon by Rev. J. R. Pilling, M.A. (per Mr. R. H. Rump, Hon. Agent) ..	1 18 2
INVERKEITHING .—By Amateur Concert (per Mr. D. M. Wilson, Hon. Agent)	8 0 0	WHITBY .—Congregational Collection in St. Ninian's Church, after Sermon by Rev. A. P. Loxley, B.A. ..	2 5 0
INCEKILNS . — Congregational Collection, after Sermon by Rev. J. G. Crawford, Life Governor (per Capt. J. Reid, Hon. Agent)	13 13 0	Do. in Sueaton Church, after Sermon by Rev. J. B. Brodrick, M.A., Rector	3 16 9
DOLBUAN .—Part of Collections in Parish Church of Lantsglos - by - Fowey, after Sermon by the Rev. H. Maclean, B.A. (per Mr. Samuel Slade, Hon. Agent)	3 0 0	Do. in Sleights Church, after Harvest Thanksgiving Service (per Rev. Thomas Walker, M.A.)	2 3 1
SAVENGLASS AND GOSFORTH .—Congregational Collection in Muncaster Church (Rev. Henry Bell, B.A., Vicar, and Rural Dean), after Sermon by the Rev. John Wordsworth, Rector of Gosforth (per J. Churchill, Esq., Hon. Agent)	3 2 7	WITHERNSEA . — Offertory, after Sermon by Rev. C. Day, B.A., Vicar	2 8 0
		WARMOUTH .—Collection, Thanksgiving Service, St. John's Church, (per Mr. G. T. Watson, Hon. Agent)	6 4 0
		—◇◇◇—	
		LEGACIES RECEIVED :—	
		Miss E. G. Hollis	150 0 0
		Mrs. Mary Louisa Griffith (Consols)	100 0 0





THE YEAR, AND THE MONTHS.

1882.

OLDEN NUMBER—2: SOLAR CYCLE—15: DOMINICAL LETTER—A: JULIAN PERIOD—6,595: EASTER SUNDAY—APRIL 9: WHIT SUNDAY—MAY 28: ADVENT SUNDAY—DECEMBER 3.

THE SEASONS.

*“ Spring—Showery, flowery, bowery :
Summer—Happy, croppy, poppy :
Autumn—Waxy, snaky, frozy :
Winter—Slippy, drippy, nippy.”*

Lines of French Calendar, 1763.

SPRING, March 20, Sun enters Aries, 5 P.M.

AUTUMN, Sept. 23, Sun enters Libra, 4 A.M.

SUMMER, June 21, Sun enters Cancer, 1 P.M.

WINTER, Dec. 21, Sun enters Capricornus, 10 P.M.

The EQUINOXES—at Spring and Autumn; the SOLSTICES—at Summer and Winter.

January

*“ If January Calends be summerly gay,
’Twill be winterly weather till the Calends of May.”* PROVERB.

SUN.

1st DAY Rises 8h. 8m. Sets 3h. 59m. | 15th DAY Rises 8h. 2m. Sets 4h. 18m.

8th DAY Rises 8h. 6m. Sets 4h. 8m. | 22nd DAY Rises 7h. 54m. Sets 4h. 29m.

MOON.

4th DAY Full Moon 10h. 59m. A.M. | 19th DAY New Moon 4h. 35m. P.M.

12th DAY Last Quarter 3h. 47m. P.M. | 26th DAY First Quarter 7h. 45m. A.M.

IN APOGEE, 8th DAY ... 4 A.M. IN PERIGEE, 20th ... DAY, 1 P.M.

February

“ If it be white, it's the better to like.” PROVERB.

SUN.

1st DAY Rises 7h. 41m. Sets 4h. 47m. | 15th DAY Rises 7h. 16m. Sets 5h. 13m.

8th DAY Rises 7h. 29m. Sets 5h. 0m. | 22nd DAY Rises 7h. 2m. Sets 5h. 25m.

MOON.

3rd DAY Full Moon 5h. 58m. A.M. | 18th DAY New Moon 2h. 50m. A.M.

11th DAY Last Quarter 8h. 34m. A.M. | 24th DAY First Quarter 9h. 31m. P.M.

IN APOGEE, 4th DAY ... 11 A.M. IN PERIGEE, 18th DAY ... 2 A.M.

March

“ A dry March never begs its bread.” PROVERB.

SUN.

1st DAY Rises 6h. 47m. Sets 5h. 78m. | 15th DAY Rises 6h. 16m. Sets 6h. 2m.

8th DAY Rises 6h. 32m. Sets 5h. 50m. | 22nd DAY Rises 6h. 0m. Sets 6h. 14m.

MOON.

5th DAY Full Moon 0h. 40m. A.M. | 19th DAY New Moon 0h. 17m. P.M.

12th DAY Last Quarter 9h. 28m. P.M. | 26th DAY First Quarter 1h. 35m. P.M.

IN APOGEE, 3rd DAY ... 11 A.M. IN PERIGEE, 18th DAY ... 1 P.M.

IN APOGEE, 30th DAY ... 9 P.M.

ILLUSTRATED] *“ The Shipwrecked Mariner.”* [MAGAZINE.

JANUARY 1882.



FRONTISPIECE.—“The Shipwrecked Mariner.”—APRIL, 1882.



“IN PERILS OF WATERS.”



Published under the Auspices of the "Shipwrecked Mariners' Society."

IN PERILS OF WATERS.*



OR nearly six months the *Richard* worked her way from port to port, carrying coal or limestone backwards and forwards up and down the eastern coast. Then she sailed south of England, until the end of July, at which time she rounded the Lizard, and was making across to the coast of Ireland.

All that time of course there had been varieties of weather. Sometimes the wind blew a strong breeze, and the *Richard* and her captain, William Cook, had enough to do to take care of themselves; at other times there was a contrary wind, perhaps for days together; but in all these weeks' experience there was nothing remarkable till the night of the 2nd of August, when, about sunset, the wind rose almost without warning, and blew a fearful gale. The *Richard*, instead of being able to continue her voyage, was obliged to try to get shelter in the Bristol Channel, as the gale did not show any signs of abating in violence. Before she could reach the entrance of the Channel the waves were

* From "Sunlight through Shadows." A Book of Striking and Suggestive Sketches. By F.M.S. and L.E.O.R. (London: Seeley, Jackson, and Halliday.)

running as high as the topmast, stirring the mighty waters into sheets of feathery foam.

On the southern shore of Pembrokeshire there is an outlying island about three miles from the coast, and between this island and the mainland there is comparative shelter from the south-east wind ; so Captain Cook, who knew the geography of the coast, used every effort to gain these roads, which he did about three in the morning of the 3rd of August ; and then, amidst howling winds and roaring waves, with a sky as black as thunder, and the perpendicular limestone cliffs of the coast just visible in the murky atmosphere, he cast anchor, hoping to ride out the storm, and, like those ancient mariners of eighteen hundred years ago, "wished for the day." Before very long, however, the ill-fated *Richard* broke from her moorings, her strong chain cable parting at its junction with the anchor, and she was immediately blown by the hurricane straight on to a sandbank between the island and the shore, where she lay beating about for two hours in the darkness, till the flowing tide lifted her off without her rudder. As soon as the vessel was again afloat, her anxious crew found she had sprung a leak. The pumps were got out and laboriously worked ; some sail was set, as soon as the faintest streak of light appeared, in order that the wind might carry them towards Tenby harbour.

Every signal of distress was made, and although it was seen by the look-out on shore, it was impossible to do anything to help them, as the tempest raged more and more fiercely, and no lifeboat was then kept on those shores.

The morning dawned slowly, retarded by dark and stormy clouds, and every hour seemed to increase the rage of the storm.

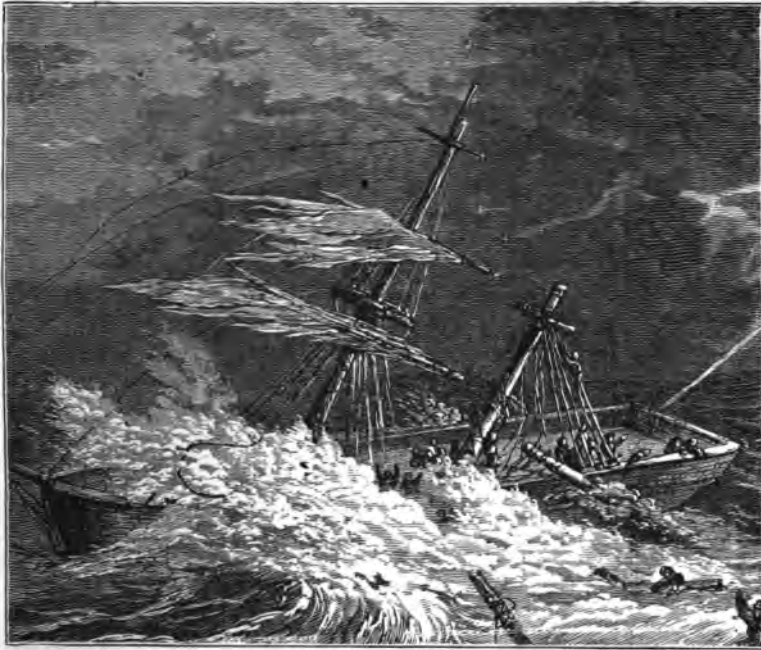
For some time the rudderless vessel drifted about in terrible helplessness. At one time the seven poor fellows on deck were gladdened by the fact of her being blown straight for the harbour, only to have their hopes of being saved dashed down again by the gale driving them right out to sea, almost beyond sight of land.

Ever since the dawning light rendered anything visible, a crowd had begun slowly to gather on the cliffs, watching the drifting vessel.

At five o'clock the *Richard* again seemed as if she would gain the harbour, and the watchers began to rejoice in her approaching safety, not knowing her crippled condition ; but a dark scud of rain, mingling with the wild hissing spray, hid her from sight for a few moments,

and when she was again visible, a thrill of horror passed through the spectators, as they saw her coming blindly, recklessly on, straight for the little reef of rocks just below the steep cliffs where they were watching.

Ah, what a terrible sight it was! Those who witnessed it will never forget it to their dying day. The wind was howling with such violence, that it was impossible to hear anyone speak. Tiles and slates were being blown about the streets, chimneys were falling, and everything exposed to the fury of the storm was in danger.



"ON, AND ON, SHE CAME."

But if the land view was terrible, what was the desolation out at sea! Sky and water seemed mingled in wild and awful confusion, in which it was impossible anything with life should continue to exist; while out of this chaos, rushing straight on to destruction, came the brig *Richard*, her masts bending and swaying like a hazel switch, her canvas flying ragged in the wind, her decks swept with tons of raging water, and her seven living human beings holding on to the frail timbers, that were alone between them and eternity, with the clutch of despair.

On, and on, she came, the multitude watching in awful suspense.

At last she struck, and with such violence, that both the captain and mate were thrown down the companion stairs, into the cabin, which was full of water. The mate never rose again, but was drowned where he fell, but the captain struggled up, bruised and bleeding. The scene was very terrible and heart-rending. The crew tried to lighten their vessel by throwing everything overboard, but to no purpose. They made frantic appeals to those on shore, and a man with a rope tied round him tried to go down the cliffs, but in vain; he was only hauled up again, half drowned. The men on board the brig now began to climb into the rigging, where they seemed within arm's length, almost, of those who were trying every means to help them, but in vain. That was the awful part of the catastrophe—so near, so *very* near salvation, and yet utterly beyond any aid.

Those on shore were in an agony of helplessness. Women sobbing as if their hearts were broken; good men kneeling on the slippery rocks, pouring out their souls to Him who holds the storm in His hands, whom the winds and waves obey; stalwart seamen, to whom anything was better than inaction, getting together such things as could be of no possible service.

It seemed like child's play to see a man trying to throw a rope with any hope of its being of use to those perishing before their eyes; and yet it seemed *impossible* that they could indeed be drowned within arm's length of so many sympathising spectators.

Between the lulls of the tempest the timbers of the *Richard* could be heard cracking; and presently her mainmast fell with a tremendous crash, which seemed for a tiny moment to hush the very violence of the storm. Anxious eyes watched the fast breaking-up vessel, to see if her crew still lived. They had taken advantage of a favourable moment, and left the rigging before the mast fell, and were discovered standing on the deck.

* * * * *

The last one who stood on board the wrecked vessel was a boy of sixteen, and he still remained by the windlass, which now was only a fragment of the once strong, shapely *Richard*.

For a fearful while there he remained, alone amid the roaring storm. His courage and endurance were something astounding. He watched the monster waves coming on, and on, in their relentless fury.

bowing down his head and clasping the windlass with both his arms to meet their violence, raising himself again, and shaking the water off him after each immersion.

Piece by piece, the fragment on which he stood was borne away from under him; moment by moment, his strength went from him. Would he ever see the friendly rope hanging within *his* reach? Would he ever join his two comrades on the top of the rock? The boy's heart must have quailed within him at the awfulness of his position,



ROCKET APPARATUS IN USE.

unless indeed the immediate importance of his holding firmly on, and meeting every wave, so far concentrated every sense, that in that supreme moment he had no power for thought. . . .

Once more the lighted match is safely conveyed to the powder, in the mortar apparatus. Once more the echo of the report is heard amidst the tempest. Every eye watched again, and for the last time, the ball, with a rope attached, fly through the air with its message of hope to the brave boy. The rope falls exactly in the right direction, but for a time it hangs too high, having again been caught in the

rigging. For a moment despair seems to numb every heart. Not so the boy. He looks up, and seeing the state of the case waits for a moment, bowing his head, and clinging to his hold, as the waters sweep over him. Then, shaking himself, he stretches upwards as the rope sinks a few inches lower.

Again the wave advances, this time a monster rushing upon him like a wall of dark green water. Surely it *must* dash him from his frail hold. No, there he is still; the wave seeming to fling itself in maddened fury against the hard surface of the rocks beyond him, sending up its feather-like foam to the very feet of the watchers. Again the



THE DAY AFTER THE WRECK.

boy stretches upwards, and with a spring catches the rope, and manages to fasten it round him just as the piece of deck on which he stood seemed literally to dissolve in the waters. One plunge into the breakers, one minute of breathless silence, and then a cheer that rends the very heavens, as the senseless, but living form of the youth is received at the summit of the rocks, and borne to a place of safety.

In a few minutes more the crowd have all dispersed. Women, wiping their tearful faces in their aprons, hurry home to their children and breakfasts; men remember their tobacco and pipes, as they roll along to shelter and peace; and the remains of the *Richard* are left to strew to-morrow's shore with the tale of woe. . . .





GREAT GALES.*

(BY A FELLOW OF THE METEOROLOGICAL SOCIETY.)



II.

(Continued from page 8.)



N attempting to draw up the history of storms in chronological order, some difficulty has presented itself as to the period at which we should start; for it is evident that very early records are somewhat misleading, being meagre in detail, of doubtful accuracy, and mixed up with fanciful notions.

Natural phenomena generally were misinterpreted when the light of true science had not yet dawned upon mankind; and, therefore, we ought not, perhaps, to be surprised to find that the old chroniclers drew largely upon the superstitious and the marvellous in their perceptions.

Their credulity too often led them astray, and to find a relation in

* The title "Great Gales" has been adopted as a convenient expression, embracing the phenomena intended to be chronicled in these Articles; but it should be understood that all the stormy winds about which mention shall be made, are regarded as *cyclones*, or whirling winds, which, however, vary in force.

The word *cyclone* comes from the Greek, *κύκλος*, which simply means a *ring*, or *circle*; it was used also for an *orbit* of the heavenly bodies, for a *revolution* of the seasons, or for any *circular motion*—in which last sense it most strictly applies to stormy winds. The motion is not perfectly circular, but spiral, or drawing in towards the centre; this centre not being stationary, but moving or ward—in this part of the world, generally, from West to East.

"We have in every cyclone two sets of forces independent of that of the wind, acting on a ship; the one carrying her bodily onward in the track, and the other drifting her round the periphery of that part of the cyclone circle, in which she may be." (*The Sailor's Horn-book, by Piddington.*)

events which had no natural connection; such as an eclipse of the moon and an earthquake—the two being linked together as if the one were consequent on the other. Every unusual appearance was looked upon as portentous—mostly a presage of evil to mankind.

We find striking proofs of this in the "History," by Ordericus Vitalis,* who writes thus:—

"In the year of our Lord 1098, the sixth indiction, the Almighty Creator of all things displayed most extraordinary signs in the heavens to terrify mankind, and by such unusual appearances predict fearful events. On the fifth of the calends of October (27th September), the sky appeared to be on fire the whole night.† Afterwards, in the seventh indiction, on a Saturday on which the feast of our Lord's nativity happened to fall, the sun was eclipsed. After these signs, there were changes among the rulers of the world, and terrible disasters and tumults, with severe calamities troubled mankind."

William of Malmesbury gives a graphic description of a storm felt off Dover, in 705 A.D. We might suppose that he intended to describe a cyclone, for he says, "*Procella surgit, turbo sevit.*" *Turbo* signifies anything which turns round in a circle; hence also a whirlwind. He likewise spoke of the clouds obscuring the daylight.‡

But associated with this is a very curious tale. Aldhelm visited

* A translation of this History is to be found in Bohn's Series. Ordericus Vitalis, an old Norman-English chronicler, was the son of a Frenchman, who came to England with William the Conqueror, and was born in England, but sent, at the age of ten years, to be educated in Normandy, where he subsequently gave himself up to a life of study, and only visited his native country once. In 1107 he was ordained a priest. His work, which is entitled "The Ecclesiastical History of England and Normandy," commences with the birth of Christ, and is brought down to the year 1141. The first two books are of little value; but of the third, in which he treats of the lives of the first Norman kings of England, M. Guizot says, "No work contains so much and such valuable information on the history of the 11th and 12th centuries; on the political state, both civil and religious, of society in the west of Europe; and on the manners of the times, whether feudal, monastic, or popular."

† This appears to have been a meteoric shower. The writer had recorded what must have been an auroral display in the June previous: "One night a blazing light was seen hanging in the heavens." Antioch was at that time besieged. The Turks were filled with alarm. "To the Christians it afforded comfort and joy; and both the people took it for a sign from heaven."

‡ "Chronicles and Memorials of Great Britain and Ireland during the Middle Ages." Published under direction of the Master of the Rolls. (London: Longmans.) The text specially referred to is this (in lib. v. p. 377): "*Procella surgit, turbo sevit. Densetur nubes, subducitur dies, pelagi caligo aerisque horror noctem,*

Dover at that time (705 A.D.); he had been created Bishop of Sherborne; he went to Canterbury to be consecrated by Archbishop Berhtwald; during his stay he took a trip to the seaside; there he met with some sailors from France, who had possession of a copy of the Old and New Testaments. Aldhelm offered a certain price for the book; the sailors refused to make a bargain, and put out to sea. A storm came on, which threatened destruction to the ship; in their distress they implored Aldhelm to save them; the storm was assuaged, and Aldhelm purchased the book at his own price.



SHOWER OF METEORS AT SEA.

On another occasion, a fisherman of the Isle of Wight was struck blind, during a storm at sea, and remained so for three years; but eventually was warned in a dream to seek the aid of Aldhelm; the fisherman recovered his sight, and for this miracle the bishop received great respect from the Normans.

inducit. Congeminant terrorem ventorum furor, rudentum stridor. Antempora sevitiã tempestatis non patitur; latus navis hinc inde tudentibus fluctibus quatatur."

Having made these remarks, we shall give the records of storms as we find them in the old chronicles. The reader will make allowance for the fiction—which, however, is not without its use, for it tends to show something of the terrors, dangers, and disasters which distressed our ancient sailors.

55 B.C. But for the first account of gales occurring in this country we are indebted to Cæsar's "Commentaries." The Roman invasion took place in August, 55 B.C.; as Cæsar says that there was a full moon on the same night as his fleet was shattered by the storm, Dr. Halley has calculated it was on 30th August—that was four days after his arrival; a fleet of eighteen vessels was bringing the cavalry from the coast of Gaul—part of these were driven back and others dispersed westward. Cæsar had a great many ships totally wrecked ("compluribus navibus fractis")—he does not tell us how many—and others disabled. In the following year, 54 B.C., he met a similar disaster, when he lost forty ships outright ("amissis circiter quadraginta navibus"), and many more damaged.

793 A.D. In this year dire forewarnings came over the land of the Northumbrians, and miserably terrified the people: these were excessive whirlwinds and lightnings, and fiery dragons (shooting stars?) were seen flying in the air. A great famine followed these tokens."*

794 A.D. "And the heathens ravaged among the Northumbrians, and plundered Ecgferth's Monastery at Dunemouth (Wearmouth); and there one of their leaders was slain, and also some of their ships were wrecked by a tempest, and many of them (the heathens) were there drowned, and some came to shore alive, and they were forthwith slain at the mouth of the river." (Ang.-Sax. Chron.)

944 A.D. A gale throughout the whole of England.† In London alone it unroofed and destroyed over 1,500 houses. From 800 to 900 valleys and villages are said to have been swallowed up by the changes caused by storms on the coasts of Brittany.

1039 A.D. "In this year was the great wind." We have no details,

* "The Anglo-Saxon Chronicle." Published under the direction of the Master of the Rolls. (London: Longmans, 1861.)

† Lowe's Chronology of the Seasons: London, 1870. Quoted from "*Preston Herald*."

though it is called *the great wind*. (Ang.-Sax. Chron.) The winter of 1037, when Emma, the widow of Cnut, was driven from this country, is described as *the stormy winter*.

1053 A.D. "In this year was the great wind on Thomas' mass-night (December 21st); and also all the mid-winter there was much wind." (Ang.-Sax. Chron.)



"A STORMY WINTER."

1090 A.D. "In London 600 houses were blown down." (Lowe.)

1091 A.D. "Gale over most of England. In London 500 houses were destroyed; many churches also." (Holinshed, quoted by Lowe.)

In this year William II. went against Malcolm of Scotland. The Ang.-Sax. Chron. says: "He ordered a great force to be called out, both a ship-force and a land-force; the ship-force, ere he could come

to Scotland, almost all perished miserably." John Speed gives the date as 1092, and says, "His fleet was torne by tempest."

1097 A.D. Anselm, Archbishop of Canterbury, having disputed with William II., prepared to leave for Rome, but was detained at Dover fifteen days by stress of weather. After sailing, he was overtaken by a storm, and was in fear of being driven back to England. He implores the aid of Heaven, and the tempest ceases. (William of Malmesbury.)

1099 A.D. The Goodwin Sands were formed by an inundation of the sea, and no doubt the wind was stormy at that time. "In this year, also, on St. Martin's mass-day (November 11th), the sea flood sprang up to that degree, and did so much harm, as no man remembered that it ever before did; and it was the same day a new moon." (Ang.-Sax. Chron.)

1103 A.D. "This was a very calamitous year in the land, through manifold imposts, and through murrain of cattle, and perishing of fruits, both in corn and also in tree fruits. Also in the morning, on the mass-day of St. Laurence (August 10th), the wind did so great harm here in this country to all fruits, as no man remembers it ever did before." (Ang.-Sax. Chron.)

1114 A.D. "In this year, were very great winds in the month of October; but it was excessively great in the night of the octave of St. Martin (November 18th), and that was everywhere manifest, in woods and in towns." (Ang.-Sax. Chron.)

1118 A.D. "Also in this year, on St. Thomas' mass (December 21st), there was so very violent a wind that no man who then lived remembered any greater; and that was everywhere seen, both in houses and also in trees." (Ang.-Sax. Chron.)

1121 A.D. "And in the night of the vigil Natalis Domini was a very violent wind over all this land; and that was in many things manifestly seen." (Ang.-Sax. Chron.)

1122 A.D. "On the Tuesday after Palm Sunday, was a very violent wind on the day the XIth of the Kal. of April (March 22nd); after which came many tokens all over England, and many spectres were seen and heard." In July a great earthquake was felt over Somersetshire and Gloucestershire. "Afterwards, on the day the VIth of the Ides of September, that was on St. Mary's mass-day (September 8th), there was a very great wind from the third hour (9 a.m.) of the day to

the swart night." ["During this summer the heat was so excessive, that both men and cattle were struck dead."]

We quote the above as proof that excesses generally follow each other in quick succession.

1125 A.D. This year is described as very stormy, and although we have no direct mention of wind force, we cannot but infer that gales in the main caused the floods. The last sentence, in the chronicles of William



BARBICAN AND MOAT, CANTERBURY CASTLE.

of Malmesbury, records this as a year of storms, and says that there were grievous lightnings and thunders, and an almost incessant down-pour of rain during nearly all the year; even the summer months were gloomy and rainy.

“In this same year was so great a flood on St. Laurence’s mass-day (August 10th), that many towns and men were drowned, and bridges

shattered, and corn and meadows totally destroyed, and famine and disease among men and cattle ; and for all fruits there was so bad a season as there had not been for many years before." (Ang.-Sax. Chron.)

Floods, &c., are, however, but the effects of certain disturbances ; the causes themselves often lay beyond the ken of these old annalists.

S. H. M.

—◆◆◆—
THE TEMPEST.
—◆◆◆—



WHEN comes the father of the tempest forth,
Wrapt in black glooms. First joyless rains obscure
Drive through the mingling skiea with vapour foul ;
Dash on the mountain's brow, and shake the woods,
That grumbling wave below. The unsightly plain
Lies a brown deluge, as the low-bent clouds
Pour flood on flood, yet unexhausted still
Combine, and deepening into night, shut up
The day's fair face. The wanderers of Heaven,
Each to his home retire ; save those that love
To take their pastime in the troubled air,
Or skimming flutter round the dimply pool.

* * * * *

Wide o'er the brim, with many a torrent swell'd,
And the mix'd ruin of its banks o'erspread,
At last the roused-up river pours along :
Resistless, roaring, dreadful, down it comes,
From the rude mountain and the mossy wild,
Tumbling through rocks abrupt, and sounding far ;
Then o'er the sanded valley floating spreads,
Calm sluggish, silent ; till again, constrain'd
Between two meeting hills, it bursts away,
Where rocks and woods o'erhang the turbid stream ;
There, gathering triple force, rapid and deep,
It boils, and wheels, and foams, and thunders through.

THOMSON.





THE ELEPHANT SEAL.*



WE give, below, an interesting description, by Professor W. H. Flower, of an important addition which has lately been made to the Museum of the Royal College of Surgeons. It is a skeleton of the great sea elephant (*Macrorhinus leoninus* Linn.), the largest of the seal tribe. The animal derives its name, not only from its huge size, but also from the possession in the male of a short proboscis-like prolongation of the nose. The skeleton in question came from the Falkland Islands, and Professor Flower gives an interesting account of how it came into the possession of the Royal College of Surgeons. It is placed near, and can be well compared with its congeners, the walrus, sea lion, and fur seal; fine skeletons of the two latter, also from the Falkland Islands, have recently been added to the collection, through the kind assistance of Mr. F. Coleman, Secretary to the Falkland Islands Company. The extreme length of the skeleton is 16 ft. 6 in., and it is quite easy to imagine how such a creature, swimming rapidly through a calm sea, with its head raised and with a long wake behind it, caused by the action of its paddles placed at the posterior extremity of the body, like the screw of a steamer, may have been the foundation of some of the stories told of the great sea serpent, as was indeed suggested some years ago by Professor Owen in a letter published in *The Times*.

The relative size to that of other known skulls of animals of the

* From "*Land and Water.*"

same species may be estimated by the following figures, giving the length from the fore end of the premaxillaries to the occipital condyles, in millimètres:—Skull presented by Mr. Mansel, 564; skull in the Museum of Cambridge, Mass., U.S.A., 510; skull in the Museum of Natural History, Paris, 508; skull in the Berlin Museum, obtained by the German Transit of Venus Expedition, 490 millimètres.

Professor Flower, who is the well-known Conservator of the Museum, thus writes, as referred to above:—

“The Museum of the Royal College of Surgeons has lately added to its fine series of skeletons of whales and seals one which has been long a desideratum, and which at present is the only one of its kind to be seen in any museum in England. It is that of the elephant seal, or sea elephant as it is called by the sealers, the largest and in some respects the most interesting of all the many different species of the *Pinnipedit*, or seal tribe. By old writers, like Dampier and Anson, this is generally called ‘Sea Lion,’ whence the scientific name bestowed upon it by Linnæus of *Phoca leonina* (now changed, by the breaking up of the old genus *Phoca* into many subdivisions, to *Macrorhinus leoninus*.) It is, however, more appropriately called sea elephant, on account not only of its great size, but also of the elongated snout, like a short proboscis, which distinguishes the adult males, and which, though generally hanging in a flaccid manner, can be inflated into air when the animal is excited, and then it becomes a conspicuous appendage to the face.

The animal was formerly very abundant, and widely distributed over the coasts of the principal lands and islands of the Southern Seas, including Australia, the Kerguelens, Crozets, Heard Island, Tristan d’Acunha, Juan Fernandez, the Falklands, &c. The fullest account of its habits will be found in Péron’s ‘Voyage aux Terres Australes’ (1815), in which its numbers in the islands of Bass’s Straits are stated to be prodigious. A very similar, if not identical, species is found in one part of the northern hemisphere, viz., the coast of California, as described in Captain Scammon’s ‘Marine Mammalia of the Pacific Coast of America;’ a curiously isolated colony, separated from the headquarters of the family by the torrid zone, which, as far as we know at present, they do not cross.

The quantity of oil which these huge animals yield, and the value of their hide, have subjected them to a severe persecution by the

whalers and sealers cruising in the Southern Seas, and now many a strand on which they used to bask in almost incredible numbers knows them no more. From the Falkland Islands they were supposed to be quite extirpated, until the accidental visit of the one, which has happily been reserved for a nobler fate than the oil-barrel and the tan-pit, recalled memories of old days to the inhabitants, as will be read in the following letter, from Mr. Herbert Mansel, relating to its capture :

‘ I cannot give you the exact date when the elephant was killed, but it was some time in 1879. The particulars of the capture are



SEALS.

these. I was riding one afternoon along the south coast of the East Island, about forty-five miles west of Stanley, the principal settlement, when I perceived what I took to be a long boat turned upside down upon the beach. On approaching nearer, I discovered it was an enormous seal, asleep. I thought at first it was dead ; but while watching I saw it half open one eye. I then threw a stone at it ; and when struck, it suddenly reared itself upon its flippers to the height, I should think, of eight or ten feet, opening its enormous mouth to its widest extent. After this I kept at a respectful distance, pelting him

until he thought he had enough of it, and he made slowly for the water, making as much fuss as a large steamer. On going back to the house I mentioned what I had seen to one of my men (an old inhabitant), who said it must have been an elephant. He had never seen one, but stated that he had heard old sealers say they killed them by finding them asleep, giving them a poke in the side, and, on their rearing up in the manner described, firing into their mouth. He went out the next morning with his gun, and found the animal in the same place, and despatched him in the manner I have mentioned. I have been living in the Falkland Islands upwards of five years, and during that time never saw or heard of one being seen. I may safely say that one has not been seen in the islands for the last ten or twelve years. They were never, I believe, plentiful, and are now extremely rare, as they were much sought after by the sealers on account of the quantity of oil they produced, and the value of it, as it brought a much higher price than the oil procured from other seals. The elephant in question measured a little over twenty-one feet, and must have weighed several tons.'

In response to further inquiries, Mr. Mansel added, 'I did not notice the proboscis while the animal was asleep, but when roused it was inflated and very distinct, about a foot in length. The colour was the same as that of most *Phocidæ*, a dirty blue-black.'

The skull alone was brought to England, and presented to the Museum of the College, in September, 1879, at the kind suggestion of Mr. F. Coleman, Secretary of the Falkland Islands Company, who has made such excellent use of his opportunities, in connection with these islands, to advance our knowledge of their zoology. Upon my inquiring as to what had become of the rest of the body, I found that it had been left near the spot where the animal was killed; and having written, at Mr. Mansel's suggestion, to Captain R. C. Packe, of Stanley, that gentleman was good enough to take the trouble to secure the bones, from which the skeleton has been articulated, only a few having been lost during the long time in which they had been exposed to wind and weather on the beach.

It will be observed that the attitude assumed by the animal when disturbed, described by Mr. Mansel, corresponds very much with that of the original figure of the so-called 'Sea Lyon,' of Juan Fernandez, in Lord Anson's 'Voyage round the World' (1748), which was a seal of

this species, and the jaws and teeth of which, for many years part of a stuffed skin in the British Museum, were in the early part of this century transferred to their present locality in the Museum under my care. The habit of raising the head and fore part of the body, and widely opening the mouth, is also noticed by Pernetty, in his 'Histoire d'un Voyage aux Iles Malouines (Falklands), fait en 1763 et 1764.' A still older observer, W. Funnell, mate to the famous Dampier, says, 'If they are pursued, they will turn about and raise their body up with their fore fins, and face you, standing, with their mouth wide



ELEPHANT SEALS.

open, upon their guard, so that when we wanted to kill one, to make oil, we used commonly to clap a pistol just to his mouth, as it stood open, and fire it down his throat.' I forbear to continue the quotation, as he proceeds, in the most naïve way, to tell of the barbarous treatment the poor creatures were subjected to when it was not oil, but 'sport,' of which his rough sailors were in quest. It may be remarked that the accuracy of Anson's figures, as regards the attitude assumed by the animal when attacked, though ridiculed by Péron, is fully vindicated by Professor Mosely, one of the most

capable and observing of naturalists who have come in contact with sea elephants in their native haunts. All seem to agree that, beyond this ferocious-looking demonstration, chiefly consisting in showing their tremendous canine teeth, these animals are inoffensive creatures, never pursuing an assailant, who, consequently, has no difficulty in keeping out of danger in encounters with them. They are, in fact, very helpless on land, being true seals, and in no way nearly related to the 'sea lions,' whose activity in climbing rocks, and running upon the ground, can be daily witnessed in the Zoological Gardens or the Brighton Aquarium, and with which they were formerly confounded. The skeleton shows how admirably the creature is adapted for aquatic life; the two hind feet, turned backwards and with the toes spread out, exactly imitating in appearance, as in use, a fish's tail.

An important point, hitherto rather uncertain, appears to be set at rest by this skeleton—the size to which these animals commonly attain. Everything that is big of its kind, whether a whale or a giant, always gets exaggerated, and it would be very strange if the sea elephants had escaped from this natural tendency of the human mind. Most of the older books speak of it as from twenty to twenty-five feet long, and sometimes as much as thirty. This specimen, every allowance being made for the soft parts, could not have measured more than seventeen feet, in a straight line, from nose to end of hind toes. Of course measurements along the curves of the body would give something more, but this is a very unsatisfactory way of estimating size. The animal is nearly, if not quite, full grown. Its skull is con-



SKELETON OF SEAL.

siderably larger than any other, of the kind, of which I have been able to obtain evidence in any museum in Europe and America, and of which I have given the dimensions in the Proceedings of the Zoological Society for January 4, 1881. It is also larger than that of a large male from Heard Island, selected as one of the largest of hundreds which lay on the beach, at the time of the *Challenger's* visit, in February, 1874. Upon these data, I should consider that sixteen or seventeen feet is the full length of the adult male sea elephant; and, without denying the probability of certain individuals attaining to a larger size, would wait for better evidence than we have at present before feeling sure that it ever is so. That, even after so great a reduction upon the usual statements, it is a huge creature, compared with all other seals, may be seen in the large series of the skeletons of these animals now placed side by side in the Museum."

THE SAILOR BOY.



HE rose at dawn and, fired with hope,
 Shot o'er the seething harbour-bar,
 And reach'd the ship and caught the rope,
 And whistled to the morning star.
 And while he whistled long and loud
 He heard a fierce mermaiden cry,
 'O boy, tho' thou art young and proud,
 I see the place where thou wilt lie.
 'The sands and yeasty surges mix
 In caves about the dreary bay,
 And on thy ribs the limpet sticks,
 And in thy heart the scrawl shall play.'
 'Fool,' he answer'd, 'death is sure
 To those that stay and those that roam,
 But I will nevermore endure
 To sit with empty hands at home.
 'My mother clings about my neck,
 My sisters crying, "Stay for shame;"
 My father raves of death and wreck,
 They are all to blame, they are all to blame.
 'God help me! save I take my part
 Of danger on the roaring sea,
 A devil rises in my heart,
 Far worse than any death to me.'

TENNYSON.



CAPTAIN COOK.



(Continued from p. 23.)

XII.—THIRD VOYAGE. THE SHIPS LEAVE WATEEOO—DIFFICULTIES IN OBTAINING FRESH WATER AND PROVENDER—VARIOUS ISLETS SEARCHED—ARRIVAL AT THE FRIENDLY ISLANDS—INTERCOURSE WITH THE CHIEFS AND PEOPLE THERE.



WHILE it is interesting to review the records of our early voyagers—which seem to take us back to a period when the world was new, and every islet of the sea was invested with novelty and freshness—there is an ever-recurring impression that those who opened up the world to us endured much of fatigue, anxiety, and danger.

The stories of voyages and travels present us with a panoramic view of distant seas and lands, and if, as we gaze at it for our own gratification, we are forgetful of what toil and endurance were necessary in the production of the picture, or sit in our cheerful homes the while, and say, with the poet—

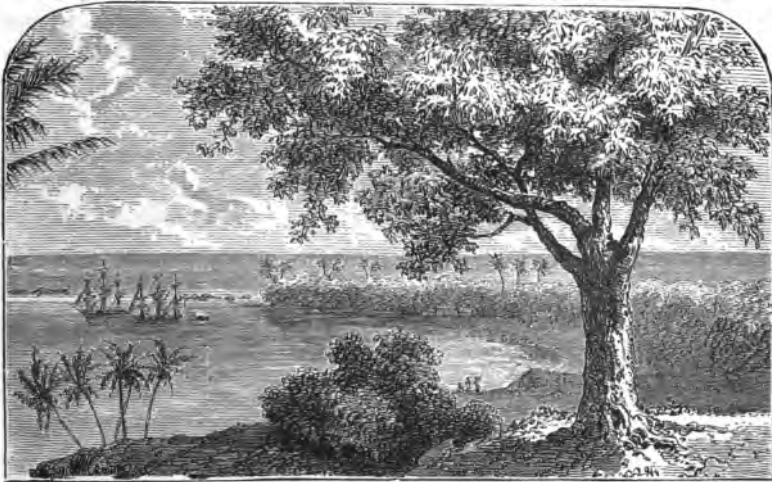
“’Tis pleasant through the loopholes of retreat
To peep at such a world;”

we do but little to develop lovingkindness in our own hearts, or to advance our appreciation of the devotedness of the great toilers of the world. And, as we have said before, we do not in these chapters purpose to give a mere log of Captain Cook's voyages, but we aim at touching some of the finer heartstrings of our readers, and enlisting their sympathies towards the seafarer in general.

The procuring of one of the first necessities of life, fresh water, often caused Cook, as it has many a poor sailor since his time, the greatest

anxiety and distress. During March, 1777, the voyagers had been baffled by contrary winds; they touched at Wateoo, as described in the last chapter, but could not procure either water or provender. The natives, however, though descended from the same stock which had accidentally peopled many isles of the south, held their land in high esteem, calling it "Wenooa no te Eatooa," that is, a land of gods, who, one might think, quenched their thirst with the juice of fruits.

Leaving Wateoo, Cook touched at a small island called Otakootaia, where about 200 cocoa-nuts were obtained, and these afforded some refreshment for the men. Some grass was cut for the cattle; a quantity of leaves and branches of the young cocoa-trees, and of a tree



LANDING FOR SUPPLIES.

called *pandanus* in India: "The latter being of a soft, spongy, juicy nature, the cattle ate it very well, when cut into small pieces; so that it might be said, without any deviation from truth, that we fed them upon billet wood." This place was entirely destitute of water; and there were no inhabitants.

The ships set sail for Hervey's Island, discovered by Cook in 1773, and it was sighted on the 6th April. Many natives went off to the ships, at which Cook was surprised, for he had not seen any on the former voyage. They could understand Omai's language, and bartered some fish for nails; but their behaviour was boisterous and clamorous.

Cook, thinking that to effect a landing would be hazardous, as a conflict might ensue between his people and the natives, determined to bear away for the Friendly Islands, where he expected to procure an abundance of everything he wanted. The ship's course was west by south, under a fine easterly breeze, and the intended destination Middleburgh, which, with a favourable wind, might be reached before the provisions were exhausted. By noon, however, the wind died away, and it was found necessary to haul more to the north, in order to get into the latitude of Palmerston's and Savage Islands, discovered in 1774. The water supply was the great tantalising problem; Cook had now only one resource, which tended to exhaust the stock of fuel. He says: "This day, in order to save our water, I ordered the still to be kept at work, from 6 o'clock a.m. to 4 p.m., during which time we procured from thirteen to sixteen gallons of fresh water. There has been lately made some improvement, as they please to call it, of this machine, which, in my opinion, is much for the worse."

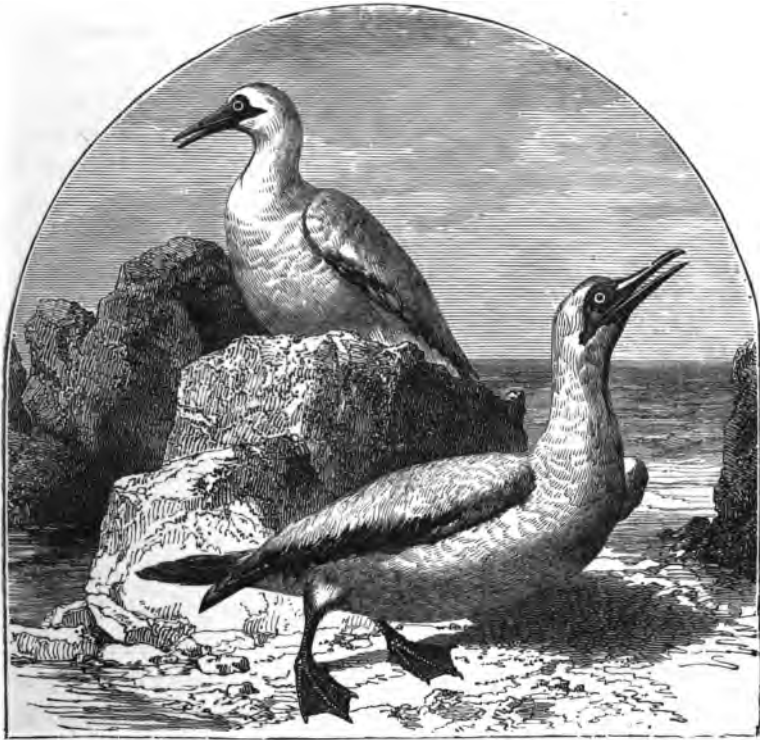
Light breezes continued till the 10th April, when the ships were in lat. $18^{\circ} 38' S.$, long. $198^{\circ} E.$; a thunder-storm came on, and heavy rain, which afforded enough water to fill five puncheons. After that, the wind fixed at N.W. or N.N.W., and Palmerston Island was reached on the 13th. The next day, four boats were sent to search for a landing place: "For now we were under an absolute necessity of procuring from this island some food for the cattle, otherwise we must have lost them."

By noon, one of the boats returned to the ship laden with scurvy grass and young cocoa-nut trees, which "was a feast for the cattle." Captains Cook and Clerke went on shore, and found everybody hard at work, some collecting cocoa-nuts, others taking birds or catching fish. Omai comes in for a share of praise: "For he not only caught the fish, but dressed these, and the birds we had killed, in an oven with heated stones, after the fashion of his own country, with a dexterity and good-humour that did him great credit." The birds were abundant, and were those called "men of war," and "tropic" birds, and two sorts of "boobies." Cook was quite elated with this good fortune, as he says, "we fared sumptuously."

The 15th was spent in this work of procuring food, the boats going to the ships with two freights each, and the next morning, having got off another cargo, the ships sailed to the westward, towards Annamooka. Variable winds prevailed, accompanied with frequent

thunder-storms and heavy rains, which yielded a considerable supply of water ; in fact, more water could be got in this way in one hour, than the process of distillation would yield in one month.

For about a month the weather was very hot, which was more disagreeable when the wet came on, threatening to become noxious ; yet Cook was able to show a clean bill of health. His report runs thus : “ It is remarkable enough that, though the only refreshment we had



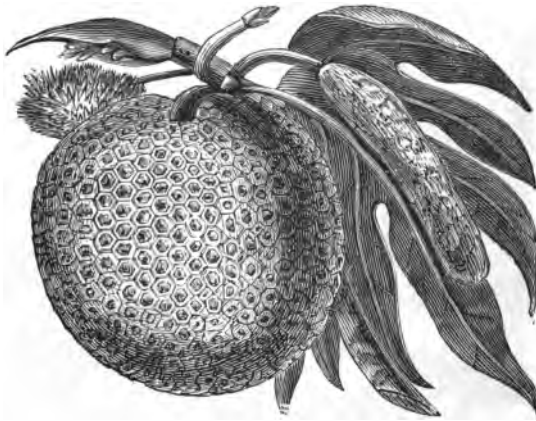
BOOBIES.

received, since leaving the Cape of Good Hope, was that at New Zealand, there was not, as yet, a single person on board sick from the constant use of salt food, or vicissitude of climate.”

The Savage Islands were passed during the night of the 24th, and Annamooka sighted on the 28th, but the weather being squally, the ships anchored at night, two leagues from Komango. The intercourse with the natives which then followed shows that the term “ Friendly

Islands" was not a misnomer. Before nightfall, two canoes paddled off to the ships, carrying cocoa-nuts, bread-fruit, plantains, and sugar-cane, which were exchanged for nails. At daylight, next morning, several canoes from different islets carried off fruits and roots, two pigs, wood, pigeons, rails, and violet-coloured coots; all these were bartered for beads, nails, and hatchets.

Lieutenant King had gone on shore to obtain "refreshments," and by noon he returned with seven hogs, some fowl and fruits, also grass for the cattle, and was accompanied by the chief Tooboulangee, who took with him a hog as a present for Cook. The boats being hoisted on board, the ships stood for Annamooka, but on account of variable winds they plied to little purpose; this gave the natives of the isles opportunity



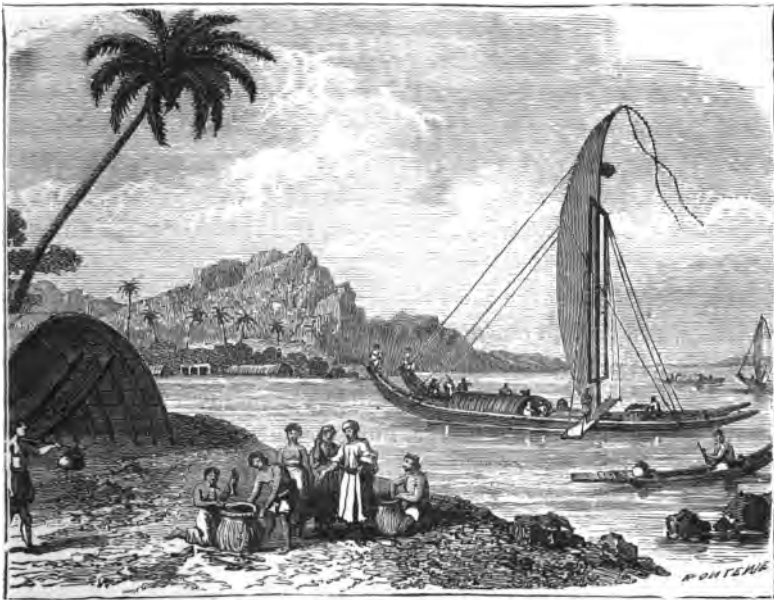
THE BREAD-FRUIT.

to offer further supplies. The chief of Komango kept the promise he had made and took off more hogs, and other natives took off as much fruit as the ships' companies could manage; it was remarkable that the natives would hardly barter with anyone but Cook himself. In this

manner he spent May-day. The ships were got under sail early next day, but their progress was considerably retarded by the number of canoes which crowded round them. Amongst these canoes there were some double ones, with a large sail, and carrying forty or fifty men: "These sailed round us apparently with the same ease as if we had been at anchor." At last the ships were anchored, at the very same station as Cook occupied three years before, and perhaps this was the same, too, at which Tasman anchored when he discovered these islands in 1643.

The next day preparations were made for watering, and for fixing the observatories on shore. Captains Cook and Clerke landed, and

Toobou, the chief, conducted them and Omai to his house. This residence occupied a pleasant spot in a plantation ; it was surrounded by a fine grass plot, intended for the purpose of cleaning the feet before entering. Cook says : " I had not before observed such an instance of attention to cleanliness at any of the places I had visited in this ocean, but afterwards found that it was very common at the Friendly Islands. The floor of Toobou's house was covered with mats ; and no carpet in the most elegant English drawing-room could be kept better." During this interview the ships were crowded by the natives, none of



NATIVE DOUBLE CANOE.

whom went empty-handed, so that every necessary refreshment was had in the greatest plenty. In the afternoon Captain Cook landed with a party of marines ; and the horses and cattle in a weak state were sent on shore. One Taipa, a great man in those isles, was most affable, and did many friendly offices, having a house, too, set up near our encampment, which was under Lieutenant King's command. In the evening, before the natives retired, Taipa made a long harangue to them : the purport was only guessed at by our people, but the effect seems to have been a bountiful supply of provisions next day.

On the 6th May, the greatest chief of all made his appearance ; he was named Feenou, and was introduced by Taipa as king of all the Friendly Islands ; his residence was at Tongataboo. On his arrival, all the natives of Annamooka were summoned to meet him, and they made obeisance by bowing their heads as low as his feet, and touching the soles of them with the palm and back of their hands.

He sent two fish to Cook, who, as soon as he landed, was approached by the chief. The appearance of this "king" was agreeable ; he seemed about thirty years old, tall and thin, with more of the European features than any whom Cook had seen in the southern islands. The usual salutation over, Feenou and his attendants went on board the *Resolution*, and received such presents as Cook thought suitable. On the 7th, the king, Taipa, and other chiefs dined with Cook on board his ship, and on this occasion the captain put Feenou's power to the test. It appears that a native stole a large axe, on the arrival at Annamooka, and Cook applied to Feenou to have it restored ; and we learn that " so implicitly was he obeyed, that it was brought on board while we were at dinner."

It is curious that even the Friendly Islanders could not keep from pilfering, and though one of them received a dozen lashes, the punishment did not prove effectual. If any of the servants were caught in the act, their masters advised our commanders to kill them ; but this would be un-English. Captain Clerke, however, hit upon a novel remedy. When any native was caught thieving he was immediately put under the hands of the barber, who shaved all the hair off the culprit's head, and then set him free to be ridiculed by his countrymen ; no fellow was known to undergo this operation twice.

Feenou maintained the most friendly terms with our voyagers ; dining on board the *Resolution* every day, though sometimes having his food, prepared in his own way, brought on board for him—fish stewed in the liquor of cocoa-nuts.

Native supplies grew short, and Cook prepared to start again, but Feenou importuned him not to go to Tongataboo, though the reason for his objecting to the visit never transpired. The chief, however, pointed out another island which would afford supplies, and offered to go thither himself ; and on the morning of the 16th May preparations were made for sailing from Annamooka.

S. H. M.



“ OUT ON THE ROARING SEA.”*



THE sun has died in a wild eclipse,
And the storm winds laugh with glee ;
Oh, what a night for the hapless ships
Out on the roaring sea !

The angry waves make a furious din,
And tumult fierce, as the rage of sin.
Let us lowly bend the knee
And pray for the mariner tossed, forlorn,
In his shattered ship, with its white sails torn,
Out on the roaring sea !

Ragged and jagged our ruthless coast,
And the rocks as iron be,
And the waves are marching, an angry host,
Up from the roaring sea !
In long and vengeful ranks they come,
As foemen march to the rolling drum,
With banners flaunting free ;
For, far and wide, their crests of snow
Gleam through the gloom, while fierce winds blow,
Out on the roaring sea !

* From “*Hand and Heart*,” a Family, Social, and Temperance Journal.
(London : *Home Words* Publishing Offices, 1, Paternoster-Buildings.)

"OUT ON THE ROARING SEA."

Hark! a sound, as the crack of doom,
 Comes like a sudden knell;
 'Tis the signal gun, with its hollow boom—
 Ah, sadly the tale to tell!
 For see! a ship, all wildly tossed,
 Comes on, careering, to the coast;
 The billows round her swell;
 And the snaky waters dart their way,
 In venom'd floods, to their noble prey,
 Whose end the storm shall knell!

Shrieks from the ship! ah, woe the day!
 It is a mother's cry:
 For loving hearts, from far away,
 Are on her decks to die!
 Away in the land of gold and flowers,
 Of balmy nights and gladsome hours,
 They heaved the exile's sigh;
 And came o'er countless leagues of foam
 To see again the long-loved home—
 And came, alas, to die!

'Tis past—the dismal storm no more
 Its revel rude is keeping;
 The stars are shining on the shore;
 The dawn's sad dews are weeping;
 The golden day is on the hill,
 And in its light the waves are still
 As cherub-childhood sleeping;
 In sweetest flow they come and go—
 And the loved ones gently rest below—
 And broken hearts are weeping!





MARITIME NOTES.



“The Sea! the Sea! the open Sea!
The blue, the fresh, the ever free!”

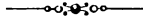
PROCTER.

“Thou glorious mirror, where the Almighty's form
Glasses itself in tempests!”

BYRON.



LIFE IN THE DEEP SEA.



ON the evening of the 14th February last, Dr. W. B. Carpenter, C.B., F.R.S., gave an illustrated lecture, by the aid of the oxy-hydrogen light, at the Westbourne Park Institute, upon the most interesting subject of “Life in the Deep Sea.”

Dr. Carpenter began by giving a sketch of the earlier investigations into marine zoology, from the time when it was thought the oceans were unfathomable, and that no life existed beneath a depth of 300 or 400 fathoms. Referring to the methods of deep-sea soundings, he said they can now be taken with great accuracy. One way was by fixing a hollow quill, like a pen-holder, at the end of a line, which, if sent down to an oozy bottom, would bring up some of the sediment; but, in order to sink it to great depths, some 3 cwt. of iron was attached to it, this being cast off before the line was drawn up. In some cases as much as 1,000 lb. weight was thus employed to sink the rope. It used to be thought that iron would not sink in the sea beyond a certain depth; but the real explanation of it becoming stationary, in such cases, was

that the weight was not heavy enough to overcome the friction of the rope with the water. The Americans have introduced pianoforte wire to minimise the friction.

The lecturer then proceeded to speak of the form of the bottom of the great ocean areas. The great ocean beds were not so much basins as large submerged areas or plains, and the present coast lines were not necessarily their boundaries. The British Isles occupied a shallow submerged platform, one hundred fathoms down, which stretched some distance beyond Ireland before the steep western edge of the true ocean depression really began.

Recurring to the zoology of the subject, the lecturer traced the gradual abolition of the notion, held some thirty years ago by his fellow student Edward Forbes, and others, that life could not exist below a depth of 800 fathoms. The discoveries to the contrary of Sir Wyville Thomson and Professor Sars, &c., were mentioned. One of the first signs of the continuity of ancient life, from the geologic ages to the present day, was the discovery by Sars of a dwarf "crinoid" or sea-lily, off Lofoden, which was like the fossil specimens found in the Welsh mountains. The species had been "going to the bad" for millions of years, perhaps through getting down to a greater ocean depth and a lower temperature less favourable to them. The discovery made a great sensation; it was the forerunner of many others which showed the continuity of ancient life under slightly altered conditions.

The expeditions of the *Lightning* and the *Porcupine* were then described, and the discovery of life at a depth of 2,434 fathoms, south-west of Cork. At this depth, animals were living under a pressure of three tons to the square inch, at a low temperature of 35 degrees. They were small, and of the invertebrate class. How could they live under this enormous pressure? Simply because the pressure was equal all round, within as well as about. Of course if you put any of these little creatures between a couple of Bramah boards at this pressure, they would be crushed to nothing. But, under the conditions described, no animal consisting simply of liquids and solids could be prevented from performing any one of its functions. In the *Challenger* expedition, the soundings went to a depth at which the pressure was more than five tons to the square inch. No air-breathing animal could bear that pressure; the air would be pressed out. No human beings could live under more than 40 fathoms of water, or a pressure of eight atmospheres. Yet we are all living under very heavy pressure. The pressure on his, the lecturer's, body was somewhere near twenty tons or 15 lbs. to the square inch; and there was no inconvenience from this, because, as explained, of the equality of pressure. But in fishes brought up from 600 fathoms, off the coast of Portugal, the

bladders were all burst open, by the sudden expansion, on being brought up to the surface.

He came now to the question of the food of animals at so great a depth, where light does not reach and plants cannot grow. Light ceases at 200 fathoms, as was shown by a seven hours' exposure of photographic paper at that depth. But there was a microscopic vegetation at the surface of the sea, which sank to the bottom as food. Professor Frankland's collections of sea water, and other observations, had shown that the water of the ocean was really a very dilute broth; the supply coming partly from great ocean meadows of sea-weed, but chiefly from the microscopic forms of animal life. Where this broth was somewhat thicker, as off the Faroe Islands, the place was haunted by large numbers of cod. The very deep sea had a very uniform fauna, and a temperature of 32 to 35 degrees. This low temperature accounted for the dwarfing of the "crinoids," or sea-lilies, &c., which, ages ago, doubtless lived in shallow waters, but had gradually drifted down to lower levels.

The lecturer then proceeded to illustrate upon the screen the various forms of life obtained from great depths—such as the rhizopods, globigerinæ, radiolaria, various species of sponges, anemones, encrinites, and corals, most of them of beautiful and interesting forms; and he concluded by referring to the beauty and peculiar marking of some of the objects exhibited, in his opinion not explicable by the process of natural selection.



THE PHOSPHORESCENCE OF THE SEA.



IN connection with the very interesting subject of "The Phosphorescence of the Sea," recently touched upon in these pages,* Commander James Liddell, R.N., writes, from Bodmin, Cornwall, as follows:—

"An account of the phenomenon of Ocean Phosphorescence, given in 'THE SHIPWRECKED MARINER,' has reminded me of a far more astonishing display that I witnessed, on a voyage from Madras, in the ship *Wellington*, which I commanded during many years.

We were passing through the N.E. trades, on the 18th April, 1831, in lat. 14 N., long. 32 W., when, at 11 p.m., the second officer ran down to my cabin, in great alarm, to say that the sea seemed all on fire, and that we must be on a shoal. I jumped on deck, and beheld

* See pp. 273—74 of the Number of this Magazine for October, 1881, under Article entitled "At Sea," in Annual Volume, No. xxviii.

the most brilliant sight upon which my eye had ever gazed. On all sides, as far as the eye could reach, the sea seemed indeed a liquid fire. The masts and sails were brightly illuminated, and the light was sufficient for reading the smallest print. Within a few minutes, the crew, and the numerous passengers, both ladies and gentlemen, were on deck, gazing, too, and trembling, at the marvellous sight before them.

The surpassing magnificence of the scene was enhanced by the presence of the ship *Cunning*, one of the splendid old Indiamen, which was within a mile of our weather beam. Her hull and sails were as dazzlingly illuminated as our own, and the spectacle was truly a wonderful one.

Throughout the whole of that night of the 18th April, the brilliant phosphorescence continued, as well as during the following night of the 19th, and it was midnight of the 20th before we had passed out of the fiery waters.

During all the time in question the sea had a strong fishy smell; and having frequently taken up buckets of the water for examination with a microscope, we found that it contained myriads of minute animalculæ, carrying a phosphorescent light; but this light was only visible when the bucket was shaken. As the result, there was no doubt left in my mind that during those fifty hours we had passed through a phosphoric sea of at least 400 miles!

The *Cunning* was in company with us all the time; and before we left her astern, we had sailed together fourteen days, and a distance of 1,870 miles.

During my long sea service, which included fifteen voyages to India, I only witnessed one other instance of many miles of phosphoric sea; and this was, also, in the N.E. trades, in lat. 14 N., and long. 93 W., on the 16th and 17th May, 1833. The brilliancy then manifested, however, did not equal that of the previous occasion, though it extended over 190 miles."



EXTRAORDINARY SAILING.

—The iron ship *Macmillan*, 1,451 tons, Captain C. Grey, then recently arrived at San Diego, California, was lately reported to have performed some extraordinary sailing on her voyage from Flushing to that port. Instead of going by the usual course, round the Horn, when the ship arrived in

southern latitude the Captain found the weather very severe, with a continuance of heavy westerly gales, and he decided to take the route by Australia, passing through Bass's Straits; which course, although 1,500 miles longer than by the Horn, Captain Grey estimated would be run in as little time as would be occupied in beating against the heavy gales, and

he would besides save his sails and gear from the effects of such severe weather. He accordingly shaped his course eastwards, and passed through Bass's Straits, opposite Melbourne, on the 74th day from the Lizard Point and 77th from Flushing. He crossed the Equator in longitude 154 W., 96 days from the Lizard, and 72 after having passed the line in 27°40 W. From the Equator in the Atlantic to the Equator in the Pacific, the *Macmillan* sailed a distance of 14,424 miles, her average daily speed being over 200 miles. San Diego was made in 128 days from Flushing, the total distance run having been 21,988 miles, the average being over 171 miles per day, and this without the loss of a sail or spar. The *Macmillan* had 2,500 tons deadweight of railway iron and material on board. She is the largest carrying iron-sailing-ship ever built.

LIVERPOOL SHIPPING ENTRIES, 1881.—It is reported by the Liverpool Port Sanitary Authority that the number of vessels, steam and sailing, which entered Liverpool, during the past year, was 20,199, of which 14,748 were in the coasting and 5,451 in the foreign trade; 5,077 were inspected, of which 1,900 were steam and 8,177 were sailing. The nationalities were 3,788 British and 1,294 foreign, including 217 American, 200 German, 273 Spanish, 865 Swedish and Norwegian, 13 Austrian, 86 Danish, 14 Dutch, 50 French, 40 Italian, 8 Belgian, 18 Russian, 4 Portuguese, and 6 Brazilian. With respect to the sanitary state of the craft, it has been found that the coasters are in much better condition than formerly. The French, Spanish, Italian, and Russian ships are crowded and lumbered up. The

German, Danish, and Norwegian and Swedish are the best kept of foreign vessels; whilst the American, as a general rule, are the cleanest afloat.

AMERICAN LAKE FISHERIES.—A statistical report of considerable value has been issued by the Census Bureau of the United States, with regard to the fisheries belonging to those States washed by the waters of the great lakes, these States being Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania, and New York. Of the lakes themselves, Michigan and Erie are the most important, contributing more men, boats, and value of fish caught, to the grand total than either Lakes Superior, Huron, and St. Clair, or Ontario. Altogether, the numbers of fishermen employed in this branch of industry are 5,050, of vessels, boats, and steam tugs 1,656, the value of the apparatus and accessories being estimated at \$1,845,975. The apparatus is classified into pounds, gill-nets, seines, fykes, and pile drivers. The total quantity of fish caught during the census-taking year was 68,742,000 lb., of the value of £1,652,900. Broadly described, the fish consist of whitefish, trout, herring, sturgeon, hard, soft, rough, coarse, and mixed fish. Great difficulties, however, were encountered in arranging the different kinds of fish under the proper heads, on account of the peculiar and conflicting systems of classification employed by the fishermen. The same species of fish is classed under different heads in different regions, or even in a single locality, when in different states of preparation. For instance, under "hard fish" are included wall-eyed bass, black bass, lake pike, muskallonge, and skinned catfish,

with such amounts of whitefish and trout as could not be separated from the general sum. Under "soft fish" are placed saugers, white bass, suckers, and lake shad. The "rough fish" of Lake Erie are principally catfish, but at Toledo all kinds of fish undressed are termed "rough." The rough fish of Green Bay, Lake Michigan, include the same kind as the coarse fish of Lake Ontario—namely, all species except whitefish and trout. The quantities of fish sold in a fresh condition were 48,122,270 lb., valued at \$1,102,950; of salted fish, 16,798,540 lb., valued at \$402,670; of frozen fish, 2,821,650 lb., of the value of \$126,100; of smoked fish, 1,721,770 lb., valued at \$109,970; of caviare, isinglass, and oil, \$42,860. All the caviare and isinglass, and a considerable proportion of the oil, come from the sturgeon.

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NOVEL LIFE-SAVING DRESS.—The Rev. W. C. Brown, of Sheffield, has recently patented a life-saving dress, which promises to be both successful and efficient. Mr. Brown has called chemistry to his aid in inflating his safety dress, which he calls the "Nautilus." The principle of it is a bag made of very fine waterproof material, containing a powder which, on coming in contact with the water, generates sufficient carbonic acid gas to inflate it completely. The arrangements by which the water is admitted to the powder, on a person falling overboard, whilst it is at the same time thoroughly protected from rain, and the gas prevented from escaping, is very ingenious and simple. Of course, the bags may be of any size, and may be either sewn into the lining of a coat or dress, one on each side of the chest, and one between the

shoulders, or they may be attached to a light webbing, and worn in those positions under the coat or dress, so as not to cause the least inconvenience, or be seen until the wearer is in the water. The rapidity with which the gas is generated, and the floating power of the belt thereby developed, is very striking, and shows it would bring a person to the surface long before any ill effects could occur from the immersion. Mr. Brown's clever and ingenious invention is capable of being used to give buoyancy to any articles of moderate weight, such as mail bags, &c., and he has adapted it to a very ingenious collar for swimmers, capable of being inflated at will, when occasion arises for its use, through fatigue, an attack of cramp, &c. The "Nautilus" can be obtained of Messrs. Cow, Hill, and Co., Cheapside, at a comparatively small cost, and after being used, only requires drying and re-charging by a simple and inexpensive process to make it ready again.

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SAVED BY AN ALBATROSS.—The following is from the columns of a late number of the "*Sydney Daily Telegraph*:"—A singular story has been related to us by the master of the barque *Gladstone*, just arrived from London. While the vessel was in latitude 42 deg. south, and longitude 90 deg. east, a seaman fell overboard from the starboard gangway. The barque was scudding along with a rough sea and moderate wind, but on the alarm of "man overboard" being given, she was rounded to, and the starboard lifeboat was lowered, manned by the chief officer and four men. A search for the unfortunate man was made, but, owing to the roughness of the sea, he could not be

discovered, but the boat steered to the spot where he was last seen. Here they found him floating, but exhausted, clinging for bare life to the legs and wings of a huge albatross. The bird had swooped down on the man, while the latter was struggling with the waves, and attempted to peck him with his powerful beak. Twice the bird attacked his prey unsuccessfully, being beaten off by the desperate sailor, battling with two enemies—the water and the albatross—both greedy and insatiable. For the third time the huge white form of the bird hovered over the seaman preparatory to a final swoop. The bird, eager for its meal, fanned its victim with its widespread wings. Suddenly, a thought occurred to him that the huge form, so close to his face, might become his involuntary rescuer. Quick as thought he reached up and seized the bird, which he proceeded to strangle with all his might. The huge creature struggled with wings and paddles to free itself. In the contest the sailor was beaten black and blue, and cruelly lacerated, but he held his own, and slowly the bird quivered and died. The carcass floated lightly on the waves, its feathers forming a comfortable support for the exhausted man, who had so narrowly escaped a lingering death. But another danger awaited him. He was not much of a swimmer, and the excitement of the extraordinary conflict began to tell upon him. He was faint and grew giddy. But with one arm round the albatross's body, under the wings, and a hand clutching the bird's feet, the sailor awaited his chance of rescue. Presently he heard his comrades shout from the boat, and in a few minutes more was safe on board the barque, though a good deal shaken and exhausted.

NEW LIFE-BELT, AND AIDS TO SWIMMING.—A newly patented "Apparatus for Saving Life in case of Shipwreck," invented and brought out by Mr. John Overton, of Percy-street, Coventry, was lately tried with much success in that City, in the presence of the Mayor and other local authorities. The Apparatus, named by the inventor "Triton-Shoes," was put on by an expert swimmer, who entered the water and exhibited its powers. It is partly described as "a webbed foot," and, in the inventor's words, "is composed of a broad band of leather secured round the ankle; round the bottom edge, which is cut by a dividing press, being suspended a number of double ribs of metal, curved and bent outward at top, to secure elasticity, and also to provide a stop. Sewn, or otherwise secured to the leather strap, is a broad band of any suitable textile fabric, leather, parchment, India-rubber, &c. The bottom ends of the ribs are secured to this material, which forms and serves the purpose of the web. It is entirely automatic, as it expands in the act of swimming by pressure against the water, and closes of itself when that pressure is withdrawn, and only offers resistance one way. The single difference between this and the fish's fin is that this is a mechanical action, and the fish's fin acts by an involuntary muscular one. There is also a similar article for the wrists, but the whole does not interfere with the free individual action, either in walking or rowing, for instance, and may be weighed by ounces. In addition to this, there is, further, a 'Life-Belt,' for the use of non-swimmers, which will support the head and shoulders out of water when the individual chooses to rest

perfectly passive; and the whole can be adjusted to the person in a very short time—about one minute altogether. It all packs into a small portmanteau, 15 in. by 12 in., and 7 in. broad; so that it will occupy but small room in the berth of a ship, and can be kept ready in case of emergency." During the experimental trial in question, the Apparatus was fixed on a boy casually present, who could not swim, when its value was at once perceptible, the little fellow being able to swim, and keep himself afloat, as well as any of those who were masters of the art of swimming. Such, in fact, is the feeling of safety claimed to be produced by the combination of the "Triton-Shoes" and "Life-Belt" that, after a few minutes' immersion, the wearer is, it is said, almost persuaded that the water is his native element; and the Apparatus is specially recommended by the inventor to the attention of fishermen on our coasts, as, by relieving the mind of all anxiety on account of their own safety, it would enable them to concentrate all their thought and energy on the saving of their boats and tackle during a storm.

INJURY TO BUOYS.—From a Notice which has been issued by the Corporation of the Trinity House, it appears that the spirit of "Sir Ralph the Rover," still exists in the flesh. In the notification to which we allude, a reward of £20 is offered for the discovery of the person or persons who wilfully damaged, with rifle bullets, the West Rocks Iron Buoy, off Walton-on-the-Naze. One bullet, it appears, was found inside the buoy; and the perforation made by it, and others, caused the buoy to become waterlogged, and thus made in-

efficient as a warning mark for navigation. The perpetrators of the outrage are described, in the customary legal phraseology, as being maliciously disposed; but common charity leads us to hope that incipient insanity or idiocy were more prominent characteristics of persons doing such wanton mischief. It is to be hoped that, when discovered, they will not only suffer the pecuniary fine of paying for the cost of the repair of the buoy, and the expense of placing another in its position, but also the penalty of £50, wisely leviable, under the Merchant Shipping Act, on such offenders.

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**SELF-LIGHTING ELECTRIC BUOYS,
 AND SELF-ACTING FOGHORNS.**

A novel application of the motive power supplied by the waves of the sea has been designed by an American inventor, Mr. Bigler, of Newbury, in the utilisation of the movements of the water for the purpose of illuminating an electric lamp, attached to buoys placed to mark sunken rocks or other dangers to navigation. Experiments recently made at New York seem to prove the practicability of the scheme. A small dynamo-electric machine is fixed to the buoy, connected with a mechanical contrivance so arranged that the movements of the buoy, as it is tossed about by the waves, set it in motion, and so generate a current of electricity, which is conveyed to an Edison incandescent lamp fixed outside the buoy. The intermittent action of the waves conveys a corresponding intermittent action to the machine, and causes a similar alternate illumination and extinction of the little lamp. Consequently, when the sea is rough, the lamp is instantaneously lighted and remains alight during the passage of

one wave over the side of the buoy, and then remains extinguished till the next wave sets the machinery in action. This ingenious contrivance is an adaptation of an existing method of causing buoys to become self-acting foghorns. The buoy is fitted with an apparatus, so placed that the pressure of a wave confines a certain amount of air in a receiver, from which it can only escape through a whistle or horn. By this means a warning sound is emitted at short intervals, more or less intense, and of longer or shorter duration, according as the sea is rough or smooth. During a calm, when the buoy is easily seen or avoided, the foghorn and warning light are not in action; but they both come into activity when the violence of the sea increases the necessity for the signals which they afford.

ATTEMPTED RESCUES FROM DROWNING.—The local papers of Yarmouth, and Holyhead, have recorded, during the past year, two cases of courageous efforts of men, in the service of the Corporation of the Trinity House, to save life from drowning. The first occurred in July, off Lowestoft Harbour, when W. H. Dawson, belonging to the crew of the Trinity steamer, *Beacon*, fell overboard from a boat, and one of his comrades, Edward Cain, jumped into the sea, and in a most praiseworthy manner endeavoured to save him, but very unfortunately

without success. The other case happened in October, at the highly picturesque island, or rock, on which the South Stack Light House stands. A child of one of the keepers was playing at an opening in the wall surrounding the establishment, and fell from a considerable height into the sea below. On the alarm being given, William S. Wilder, one of the light keepers, managed, with assistance, to descend the precipitous rock, jumped into the water, and succeeded in recovering the body of the child, though unhappily not before life was extinct. It is gratifying to learn that the Elder Brethren of the Trinity House have presented watches, with suitable inscriptions, to each of these men, in recognition of their courageous and meritorious efforts to save life.

DEPTHS OF THE PACIFIC OCEAN.—Captain Belknap, commanding the United States steamer *Alaska*, has reported, from Callao, details of soundings in a run of 112 miles off shore. At a distance of 102 miles he found a depth of 8,868 fathoms, or nearly four statute miles, the deepest water yet found in the South Pacific, or in the eastern margins of both the North and South Pacific. He stood ten miles further to the eastward, but only found 8,168 fathoms. In both casts, the cylinder brought up clay and greenish sand, and the bottom temperature of the very deepest was 34·2 deg. Fahrenheit.





THE SEA AND ITS PERILS.



'Oh, many a bark, to that breast grappled fast,
Has gone down to the fearful and fathomless grave ;
Again, crash'd together the keel and the mast,
To be seen tost aloft in the glee of the wave !'

SCHILLER.



WRECKS AND CASUALTIES.



AMONGST the various Maritime Disasters which have recently occurred, in numerous instances involving the total destruction or abandonment of vessels, with, unhappily, much terrible privation and loss of life to crews, &c., the following cases, exemplifying some of the many "Perils of the Sea" to which both Ship and Sailor are at all times so imminently exposed, may be specially recorded :—*

THE "ADEPT."—The barque *Adept*, of Glasgow, a vessel of 1,100 tons register, commanded by Captain Marrison, left St. John, New Brunswick, at the close of October, with deals consigned to London. A fearfully heavy sea was

encountered in the Atlantic and the ship became waterlogged. An attempt was made to throw the deck load over, when one of the hands was washed overboard, but being thrown on board again by a wave he was saved. The pumps were kept going, and for forty-eight

* The timely aid and relief to the shipwrecked sufferers, or the suddenly bereaved and distressed dependents, directly or indirectly afforded, almost without exception, in these and similar cases, by the SHIPWRECKED MARINERS' SOCIETY in London, and its local Honorary Agents at Home, Abroad, and in the Colonies, will be found included in the General Statistics of the Society's Work, as given, under the Society's Heading, at the end of each Number of this Magazine.

hours the men had no water or bread. One-third of the deck cargo had been flung over, when a tremendous sea broke on to the vessel and swept the remainder away. A great crash took place, and the bulwarks, the cabin house forward, four large tanks of water, the boats, mizzen-topmast and maintopgallant, and pumps, were carried away. A fearful scene of confusion ensued, men being jammed among the timber, under the surface of the water. At this time, twelve men, including the chief and second officers, and the captain's son, out of the crew of twenty-two, were actually carried away from the vessel and drowned. The captain himself was fearfully crushed, in among the timber, and men who had been in the cabin, at the time the vessel was swept, went to him, at great risk, and eventually extricated him. The unfortunate crew remained with the vessel all night, and next morning their signals were seen by the *Memel*, of Memel, from Miramichi, which took them on board. The *Memel* then came on to Cardiff, where she landed the survivors, excepting the captain, whose injuries prevented him from being brought on shore, one of his eyes being subsequently extracted, and it being feared that he would lose the sight of the other.

THE "BRITISH NAVY."—This large iron sailing vessel was lost, by collision in the Downs with another large iron sailing vessel, in which twenty-two lives perished. On a dark, tempestuous night, the *British Navy* broke her chain cable and drifted broadside on the stem of the other, sinking almost immediately. She had left London at the end of November, bound for Sydney, and ultimately brought up in the Downs. Her port

anchor was let go with 60 fathoms of cable; and the weather becoming very rough the cable was increased to 90 fathoms, but at 11 o'clock at night the cable parted, the starboard anchor being then let go. The gale still increasing, more spare cable was got up, but it took the crew an hour to get so much as 15 fathoms on deck. About half-past 12 the second cable parted. The fore and maintopmast staysails and jib were set, but the vessel would not pay off on account of her dragging a considerable length of cable, which prevented her from coming round. The fore and maintopmast staysails were hauled down, and the foreyard ordered to be braced back. While the crew were in the act of carrying out that order the vessel drifted across the bows of another vessel, which afterwards proved to be the *Larnaca*. One of the officers and five of the hands, six in all, of the *British Navy* jumped on board the *Larnaca*. The *British Navy* was, by the force of the collision, cut down far below the water's edge, and immediately began to fill, till, drifting past the *Larnaca*, she sank. The majority of the crew took to the rigging. On taking the ground the *British Navy* swung round stern to sea; when, some time afterwards, a tremendous wave swept off the whole of the men in the rigging (with the exception of three in the fore rigging) and they were drowned. The three men left in the rigging were able to hang on until daybreak, and were then rescued by a tug. At the moment of the collision, the anchors of the *Larnaca*, too, started, and she also commenced to drift. She drifted past the *British Navy*, then sinking, those on board hearing the cries from the *British Navy's* crew for help; but owing to the violence of the gale,

and the terrific sea running, they were unable to render assistance. While drifting, another anchor had been got ready, and was successfully let go just as the *Larnaca* was within a short distance of the Brake Sand, when she was found to be very seriously injured. Immediately after the collision the crew of the *Larnaca* were mustered, and one seaman found to be missing, and it was assumed that he jumped into the *British Navy*, when the collision occurred, and went down with her.

THE "CITY OF BATH." — The steamer *City of Bath*, 1,222 tons, of Bristol, sailed from that port on the 10th of November last, with a general cargo, for New York. She was commanded by Captain Ivy, of Truro, and had a crew of twenty-six and a stowaway. About a week after leaving Bristol she encountered heavy gales, two of the boats were disabled, and a leak was discovered in the stern. In a hurricane which succeeded, the steamer lost her foremast and the leaking increased. About the 26th of November she met with another hurricane. The seas broke over her, and carried away a quantity of gearing stowed in the wheelhouse. The leak continued to gain on the crew, and on the 29th of November, in order to lighten the vessel, the captain had 1,100 boxes of tin thrown overboard. The crew being unable to overcome the leak, and the rudder having being carried away, a signal of distress was displayed. At this time the steamer was in the Atlantic, in latitude 46 N., longitude 45 W. The signal of distress was seen by the Cunard mail steamer, *Marathon*, Captain Garrett, who went to her. The captain of the *City of Bath* wished him to tow

his vessel to St. John's, Newfoundland, but the captain of the *Marathon* said he had not sufficient coals on board for the purpose. On the morning of the 3rd of December, it blew another heavy gale. All the crew were kept at the pumps, but the leak obliged them to take to the boats, at about 9 o'clock. The steamer was then off the banks of Newfoundland. There were only a lifeboat and small jolly-boat available. The captain and eighteen of the crew got into the lifeboat, the chief officer, and seven others, going in the jolly-boat. About an hour and a half after they had abandoned it, the steamer went down stern first, the forward part blowing up as she sank in the water. The crew in the boats were able to secure only a small quantity of bread and water, and some preserved meats, from the steamer. In the afternoon of the day the vessel was abandoned, a heavy sea capsized the jolly-boat, and four of the crew were drowned, the other four being rescued by the lifeboat. The sea was so high that the jolly-boat could not be baled out, the oars were lost, and the men had to take to the captain's boat. The cold was intense, and that night the cook died from exposure. On the next day the donkey engine-man also perished from exposure. There were heavy gales of snow and sleet the same night, and the crew of the boat endeavoured to make a sea anchor, out of spars and boat sails, for their protection, and by that means they rode out a heavy gale. Next day (December 5), two other men, both firemen, perished from the cold. On the morning of the 6th December the boat was picked up by the barque *M. J. Foley*, and the occupants received the kindest treat-

ment at the hands of the officers and the crew of the ship. On the 9th, Captain Ivy died on board the barque, having been insensible almost from the first night in the boat; on the 11th, the engineer died also. On the arrival of the *M. J. Foley* in the Mersey, the survivors of the *City of Bath*, except the chief officer, who was conveyed to his own home, were taken to the Liverpool Northern Hospital, in a terrible condition, and had to be conveyed on stretchers, &c., their feet and hands frightfully frostbitten, and the toes of some of them dropping off. The stowaway was in the worst condition, and not likely to survive; while two others were expected to lose their feet.

THE "ELLA."—A tale of terrible suffering at sea has been told by Captain William Otter, and the crew of this North American brigantine, the *Ella*, 808 tons, which was abandoned in long. 24 12 W., lat. 46 N. The crew, consisting of eight men, brought ashore at Bembridge, Isle of Wight, were in a very emaciated condition when rescued from their vessel, which was waterlogged, and on which they had been almost entirely without food for sixteen days. The *Ella* sailed from Buctouche, North America, in November, for Liverpool. They encountered a severe storm, which carried away all the sails that were set. The vessel also began to leak, and became completely waterlogged, the cabin being gutted, and nearly every particle of food destroyed. For sixteen days the crew lived on grease caught floating on the water, candles, and pieces of pork fished out of the cabin. The ship was kept from foundering by its cargo of deal wood, but day and night the crew remained on the deck, which had been cleared

of its top cargo, the remainder of the vessel being under water. A few days' fair weather having set in, they managed to rig up a little canvas, and worked the ship with about half the hands, the rest being disabled from sickness and exhaustion. The vessel was then struck by another gale, which carried away the main-sail, the steering apparatus, and the boats, and rendered her totally unmanageable, till at length she was sighted by the Norwegian barque *Sarpen*, Captain Jacobs. The eight men were transferred to the *Sarpen*, the captain and crew of which showed the men every possible kindness, and they were taken from the *Sarpen* about three miles off Shanklin, and conveyed to Bembridge by the *Hornet*, pilot cutter, of that place. The *Ella*, which had to be abandoned to her fate, belonged to Halifax, Nova Scotia.

THE "GANNET."—The *Gannet* was a steam vessel of 1,184 tons gross, of Leith, and valued at £80,000. She left Calcutta on December 27, 1881, with a general cargo worth £50,000, and crew of thirty-three hands. On the 18th of February she was off the Caskets, when a course E. $\frac{1}{2}$ N. was set. At midnight the Captain went on deck, and remained on the bridge until 1 o'clock, when he went into the chart-room, leaving orders that he should be called at 2 o'clock. On returning to the deck at 2 o'clock, the engines, which had previously been going at full speed, were put at half-speed. Shortly afterwards, a green light was seen, and a bright light, which the Captain considered to be the lights of a vessel proceeding in the same direction as the *Gannet*. Almost directly the loom of the land was visible. The

helm was put hard-a-port, and the engines stopped and reversed full speed astern; but before the vessel had lost her way she took the ground in Seaford Bay, close upon the beach, and exactly opposite the old cinque-ports town of Seaford itself. It was then discovered that the lights seen were the lights of Newhaven Harbour, one a fixed light, and the other a tidal light. All the efforts to get the vessel off proved unavailing; but the crew were rescued by the rocket apparatus, and two-thirds of the cargo subsequently saved.

THE "HELENSLEA." — The iron barque *Helenslea*, Captain Barry, which sank, with a loss of nine lives, after being in collision with the Cunard steamer *Catalonia*, off Cork Harbour, on the evening of Christmas Day last, was quite a new vessel, having made only one voyage. She belonged to Dundee, was of 1,197 tons register, and had on board 1,700 tons of wheat from San Francisco. Her crew consisted of twenty-six men, and at the time of the collision she had on board a pilot, making twenty-seven, all told. The *Catalonia*, also a new vessel, had been only recently added to the Cunard line. She received considerable damage; the fore-topmast was carried away, the stem was started, and a hole was made in the plates at the bow. The hole was above the water-mark, but some of the plates below the water-mark were started, and one of her compartments filled. The collision took place about ten minutes after 5 o'clock, the *Catalonia* having left her moorings at a little before 5 o'clock, and the collision occurring at the entrance to the harbour between Roche's Point and Fennel's Head, on the opposite side. It was just dusk and a little hazy, but

both vessels appeared to have seen each other for a short time before they struck. The harbour is approached by two channels, between which intervenes the Harbour rock, which is carefully marked by four buoys. The *Catalonia* was going out by the eastern passage, and the *Helenslea* was coming in by the western; but when the latter was sighted by the Cunard steamer she was some distance outside Roche's Point, and apparently in the direct route of the *Catalonia*. Some bungling appears to have occurred as the vessels approached. The *Catalonia* was on her port helm when the disaster occurred. The *Helenslea* was struck abaft the foremast and cut down to the water's edge. The vessels were locked together for a short time, and when they separated the barque went down. There was no time for the crew to launch a boat. All hands were on deck, and they were taken down with the ship. Despite the confusion that naturally succeeded the occurrence, the utmost order was preserved on board the Cunard steamer. The captain ordered the boats to be lowered, the order was promptly obeyed, and in a short time eighteen persons were picked up alive. Buoys and ropes had been thrown, and three men, including the captain, were holding on to a rope which had been thrown from the bows of the *Catalonia*. Others were supported by buoys, some by wreckage, and one of the survivors owes his life to the captain's dog, a large water spaniel, which assisted him in keeping afloat. The dog was also picked up. The last man taken out of the water was the pilot, who had been taken on board the *Helenslea* off Ballycotton. He owed his preservation to the fact that he was a good swimmer, and he was in a very

exhausted state when rescued. The steward had some of his ribs broken, and when rescued was very weak. The four boats of the *Catalonia* remained about the place for some time; and in the meanwhile, the captain of the *Catalonia* had directed a survey to be made, and finding that his own steamer was in a damaged condition, with her bow stove in, and her fore compartment full of water, returned to the harbour, where the vessel was obliged to remain.

THE "LIVADIA."—A terrible shipwreck in connection with this vessel, a steamer, of Newcastle, and bound from Shields, for Alexandria, with coals, occurred on the Cross Sand, opposite Yarmouth, on Tuesday night, the 28th February. During strong wind and rain she struck on the Cross Sand about 10 o'clock and parted amidships before her position could be made known. Heavy seas were continually breaking over the vessel, and during the night twenty-two of the crew were washed away and drowned, leaving two on board clinging to the wreckage. At daylight the *Livadia* was seen from the stations at and near Yarmouth, but no one could be distinguished on board. The Yarmouth and Caistor men did not go out, but the Gorleston Volunteer Lifeboat proceeded to the wreck. As they approached it, one of the two remaining men was washed away; but they succeeded in rescuing the last, a Yarmouth man, named Sewell, the boatswain, with whom they returned to harbour in safety.

THE "MALMECHUS."—This Swedish mail steamer, which was lost on her trial trip, in January last, as re-

ported by Lloyd's agent at Calmar, sank between the lighthouse of Damman and the island of Jungfrum, with fifteen persons on board, including Captain Bürling, the proposed master of the steamer; Captain Norlin, from Oscarshamn, in command during the trial trip, with his son; and Mr. Fletcher, engineer of the Mechanical Manufactory at Oscarshamn, &c. The vessel, which was a paddle-steamer of 50-horse power, was built at Oscarshamn, for the Scandinavian Coast Navigation Company, and started upon her fatal trip on the 12th January, having on board various officials and other persons, numbering twenty-five, all told. According to the report of the survivors, the course was set outward in Calmar Sound for the Damman Light, and the vessel proceeded for about an hour and a half, making over ten knots an hour, and showing herself a good sea boat, although the wind was blowing hard from south-east, with a high sea. At the Damman Light the vessel's course was changed, and after proceeding in this direction for three-quarters of an hour, she was ordered to stop, to back, and to swing, in which way the engines were tested for an hour, after which she proceeded on again at full speed. It was then noticed that the fore part of the steamer seemed raised, while the after-part appeared to be sinking. Captain Donner, one of the party on board, suspecting that something was amiss below deck, hastened to the saloon door on the upper deck, but found it was fastened. As soon as he had burst open the door, and so got down the companion-ladder leading to the saloon below the main deck, he found that the water in the after-part of the vessel had already risen nearly even with the main deck,

and that the vessel was in a sinking state. It was at once seen that there was no probability of saving the vessel, and the only boat on board was immediately launched, into which the ten survivors got. The sea and the vessel's way separated her from the boat, and in the short time of two or three minutes the steamer sank, stern first, so that as she disappeared her bows were almost perpendicular. Just at this moment, the fifteen persons on board rushed to the forepart of the vessel and disappeared with her into the waves. It was a moment of horror more easy to imagine than to describe. The cause of the disaster appears to have been a want of vigilance before starting. The windows, twelve in number, in the under-deck saloon, which had probably been opened by the painters, were not screwed fast afterwards—a circumstance which no one had noticed, as from the outside the windows appeared to be closed, and the saloons were not accessible, the keys not being on board. During the high sea, the water probably washed in through the windows, so that the vessel's stern sank more and more, until the windows all at once got under water; whereupon the stern was suddenly depressed, causing the water to rush over the deck into the engine-room, which was otherwise protected by a water-tight bulkhead between it and the saloons. The small boat containing the survivors was so overloaded that it was with great difficulty it could be kept afloat till it was eventually brought to land at Wallö.

THE "TERRA NOVA."—The brigantine *Terra Nova*, of Bristol, left Harbour Grace on the 27th January, and, an hour after being left by the

steam-tug, she was struck by the ice and became unmanageable. She drifted till next morning, when she was anchored about a mile from the shore. Here she remained till a hurricane set in, and she was jammed in the ice. The crew got ashore in a boat with much difficulty, the mate and steward being so very weak that they had to be hauled by ropes over the cliffs. On getting further up, the captain ascended a tree and saw his vessel about 80 yards off the rocks. Climbing another tree, some little time after, the *Terra Nova* had disappeared from view. The men had saved no effects, and marched foot-sore into the forest. Their hands were covered with mittens, but the cold penetrated these, and the fingers of all were frostbitten. There was no habitation in sight, and the forest was trackless, all pathways being covered with the snow. A terrific storm of sleet and snow blew against the suffering sailors, till, on arriving at a spot which afforded a little shelter, the men halted, the mate having become thoroughly exhausted. Three men then started off to look for help, and at 2 o'clock next morning came across the dwelling of a settler named Butt, whose two sons brought the other men to their house, in turn carrying the mate for a considerable distance. The settler and his sons gave up their beds to the sufferers, and the men were afterwards taken to Cripple Cove, and thence to St. John's, where some were in such a condition that they had to remain in hospital.

THE "TRY."—A melancholy accident occurred in the early hours of Sunday morning, the 18th February last, off Saltfleet, on the Lincolnshire coast, in connection with this coast-

ing schooner, of Goole, owned by its captain, John Adams and his father. On Saturday morning, the 17th February, the *Try* made for Saltfleet Haven, having on board a cargo of coals, and manned by Captain Adams and his brother Robert, a youth of 17, who were accompanied by the captain's wife and three children, aged four, three, and one, respectively. A boat conveyed a pilot and five other men from the shore to assist in bringing the vessel up the haven. They were only able to get a very little way up by that tide, so that they anchored until the next. As soon as the tide reached the vessel, it was found that a hole had been stove in the bottom, and that she leaked badly. Arrangements were thereupon made to leave the vessel, but as the water could be kept under, it was determined to continue the efforts to get the vessel up the haven. The sea being heavy, the chain cable snapped, and the vessel then became unmanageable and drifted out of the haven southwards. As the sea began to break over the vessel, the children were fetched on to the deck and held in the arms of the men. The hatches of the vessel were soon stove in, and she became waterlogged. One after another, the children died of exposure to the cold and wet, and one was found afterwards on the deck terribly mutilated, the main boom having fallen across its face. The captain and his wife, when discovered by the coast-guard crew, were insensible; the former recovered, but the latter died.

stitution, as having been instrumental in saving life, &c., as follows:—

The Douglas lifeboat was successful in saving the crew of six men from the schooner *Reine de Cœur*, of Nantes, which was wrecked on the Canister Rock. The Bridlington lifeboat landed two men from the distressed sloop *New Eagle*, of Grimsby. The Caister lifeboat rescued the crew of six men from the brigantine *Menodora*, of Hartlepool, which was wrecked on the Barber Sand. The Rye lifeboat, with much difficulty and danger, saved seven men from the wrecked lugger *St. Anne*. The Harwich lifeboat helped to save the distressed smack *Olive Branch*, of that port, and her crew of three men; and the Hayle lifeboat saved ten men from the wrecked schooner *Constance*, of Swansea. Also, the Winterton lifeboat saved six persons from a boat belonging to the brig *Louisa*, of Stettin, which vessel had sunk on the Hasborough Sands, during a strong west-south-west wind and a heavy sea. The Cresswell lifeboat saved the brig *Swift*, of Krageroe, Norway, and her crew of eight men, that vessel having stranded off Cresswell during a south-south-east wind and hazy weather. And the Fleetwood lifeboat had proceeded out to the stranded barque *Venus*, of Helsingborg, during a gale of wind from the west and a very heavy sea, and, with some difficulty, rescued the captain's wife, servant girl, a little boy, and nine of the crew. The Ayr lifeboat was launched to the help of the brigantine *Mary Wood*, of Belfast, which had stranded on the Barton Rocks, near Ayr Harbour, during a gale from the west-north-west; the boat eventually returning to its station, bringing ashore the captain's wife.

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LIFEBOAT SERVICES AT WRECKS, &c.
—The Boats of the Royal National Lifeboat Institution have been recorded, at recent meetings of the In-



MISCELLANEOUS JOTTINGS.



“Here a little, there a little.”



“O Reader! had you in your mind
Such stores as silent thought can bring,
O gentle Reader! you would find
A tale in everything.”

WORDSWORTH.



THE UNIFORMITY OF NATURE.*



N a recent review of the life of Sir Charles Lyell, reference was made to the fact that he was the great expounder and apostle of the doctrine that, throughout all geological time, Nature has been uniform in her action, and that the causes which are at work at present are the same which have been at work in the past to produce the various phenomena which it is the province of geology to investigate. At the same time, it is admitted that an immense period of time must have been requisite to enable the comparatively feeble and slow causes at work to produce the stupendous results which we see around us. It is also known that the length of time demanded by geologists is not conceded by physicists, who maintain that, from the time the earth was a gaseous or molten body shot forth from the central fire, a much shorter time has elapsed than the period demanded by geologists.

One line of physical investigation has been in connection with tidal phenomena; not only the tides of the ocean, but the tides produced in

* From “*The Times*.”

the earth as an elastic body, both when in a universally molten condition, and in its interior since that has been covered by a cooling crust. The names of Helmholtz and Thomson are intimately associated with these investigations; but more recently Mr. G. H. Darwin has been making the phenomena of tides a special study, and some of his results are very remarkable. Mathematics is generally regarded as a dry science, without very much practical outcome; but it has been by means of mathematics that Mr. Darwin has reached the results which Professor Ball, Astronomer Royal for Ireland, has just applied in a way that is quite startling, and that is likely to raise no end of controversy among geologists.

Professor Ball has embodied the conclusions he has reached in two papers, of great eloquence, which have lately appeared in *Nature*. We can only refer to them with great brevity. Professor Ball shows that in the remote past, when the earth gave birth to the moon, they must for ages have revolved round each other, almost touching; gradually the moon receded, and the period of her revolution on her axis lengthened until it attained its present distance and time. Long, however, after the earth cooled, the moon was much nearer to her mother than now. Professor Ball takes as an example the time when the earliest stratified rocks were being laid down, and shows that the moon may then have been only 40,000 miles away from the earth, or six times nearer than it is now. Its action on the waters of the earth must have been greater in proportion; it was, in fact, a geological engine of transcendent power. "On the primitive oceans the moon raised tides as it does at present; but the 40,000-mile moon was a far more efficient tide-producer than our 240,000 mile moon. The nearer the moon, the greater the tide. To express the relation accurately, we say that the efficiency of the moon in producing tides varies inversely as the cube of its distance. Here, then, we have the means of calculating the tidal efficiency for any moon distance. The 40,000-mile moon, being at a distance of only one-sixth of our present moon's distance, its tidal efficiency would be increased $6 \times 6 \times 6$ fold. In other words, when our moon was only 40,000 miles away, it was 216 times as good a tide-producer as it is at present."

Professor Ball shows that this means that the tides of that ancient time must have risen to a height of 648 feet, the average tide of the present day being, say, 3 feet, and that twice a day. "These mighty tides are the gift which astronomers have now made to the working machinery of the geologist. We give them an engine of terrific power to aid in the great work of geology. I allude, of course, to the work of grinding down the primitive rocks into sand and mud, which is then deposited at the bottom of the sea to form the stratified rocks.

What would the puny efforts of water in other ways accomplish, when compared with these magnetic tides and the great currents they produce? In the great primæval tides will probably be found the explanation of what has long been a reproach to geology. The early palæozoic rocks form a stupendous mass of ocean-made beds, which, according to Professor Williamson, are 20 miles thick up to the top of the silurian beds. It has long been a difficulty to conceive how such a gigantic quantity of material could have been ground up and deposited at the bottom of the sea. The geologists said, 'The rivers and other agents of the present day will do it, if you give them time enough.' But, unfortunately, the mathematicians and the natural philosophers would not give them time enough, and they ordered the geologists to 'hurry up their phenomena.' The mathematicians had other reasons for believing that the earth could not have been so old as the geologists demanded. Now, however, the mathematicians have discovered the new and stupendous tidal grinding-engine. With this powerful aid the geologists can get through their work. The colossal palæozoic strata can now be accounted for in a reasonable period of time, and the geologists and the mathematicians may be reconciled."

Space does not admit of our giving any farther details of Professor Ball's eloquent papers. We may say, however, that they bring no consolation to orthodox chronologists.



WASTE IN COMBUSTION.



LECTURE on this special subject was delivered lately by Professor W. Chandler Roberts, F.R.S., at the Smoke Abatement Exhibition, South Kensington. The lecturer pointed out that the work the Committee of the Exhibition were endeavouring to carry out was a continuation of that which occupied the attention of Parliament, in 1819-20, when a Select Committee was appointed to consider the effect of factory furnaces on public health; and, in 1843, when another Committee inquired into the "Means and expediency of preventing the nuisance of smoke," and a valuable report was issued containing the evidence of Faraday, who expressed his belief that the reduction of smoke from coal fires in private houses could "be effected in a very large degree." As Professor in the School of Mines, Mr. Roberts felt great pleasure in being able to assist in the effort now being made for the abatement of smoke. The School had been associated with this work, Sir H. de la Beche, its

founder, and Dr. Lyon Playfair, its first Professor of Chemistry, having, in 1846, made a valuable report to Lord Canning, in which they said that, "It cannot for a moment be questioned that the continued emission of smoke is an unnecessary consequence of the combustion of fuel," and that, "as an abstract statement, it can be dispensed with." Alluding to early efforts in this direction, Professor Roberts mentioned that the "Transactions of the Royal Society," for 1681, contained the description of a grate that consumed its own smoke, and in which the draught was so perfect that "incense made no smell when burned in it, neither did red herrings broiled thereon." Probably the first attempt to combat the smoke nuisance was made by James Watt, in 1795.

Passing to the more immediate subject of his lecture, Professor Roberts gave at length both the chemical and physical reasons for the fact that incomplete combustion was wasteful, and furnished numerous illustrations. He pointed out that the combustion of a complex fuel, such as the coal generally used for household purposes, was complicated by the evolution of compounds of carbon and hydrogen. These compounds became split up, in the presence of air, into others, which, while being more stable, contained less carbon. Hence carbon became separated in the flocculent, sooty condition that constituted smoke. This finely-divided carbon could alone be burnt by admitting a supply of air at a sufficiently high temperature. After all, the quantity of carbon lost in soot was comparatively small, when compared with the volume of air through which it was disseminated, as every cubic foot of the densest smoke that could be produced only contained one grain-weight of carbon. But, small as the amount was, its injurious effects had been abundantly proved.

The lecturer referred at length to the work of Dr. Siemens, and expressed his belief that, for domestic purposes, we should ultimately adopt Dr. Siemens' plan of converting our fuel into gas, and burning it in a furnace quite separate from that in which the gas was produced. Count Rumford had said, early in the century, that he never visited London without wishing to be able to compute the immense amount of coal in the black cloud that hung over the City. We had now *data* that were not available to Count Rumford, and, estimating the amount of coal burnt in domestic fireplaces, during the past year, at 5,000,000 tons, Professor Roberts considered that the soot in the pall that might hang over London, in a single day, would be equivalent to at least 50 tons of coal; while there was good reason to fear that the carbon in the half-burnt form of carbonic oxide gas was at least five times as much. He insisted on the fact that soot was always an indication of imperfect combustion, and therefore of waste.

TELEGRAPHIC PROGRESS.—Lecturing on "Electricity and the Electric Telegraph," at Kensington, Mr. R. W. Johnston, Postmaster of the Eastern Central, or "City," district, quoted some of the statistics of the Postal Telegraph system, which are interesting and instructive at the present moment. He showed that whereas the earliest telegraph of which we have any account required a separate wire for each letter of the alphabet, and that in the first really practical telegraph two wires were necessary for the transmission of a single message, as many as four messages can now be sent on a single wire at the same time; that the 6,000,000 of telegrams forwarded by all the companies in their palmiest days had increased to more than 31,000,000 forwarded by the Post Office last year; and that, whereas it might be remembered when the charge for a message from Edinburgh to London was something like 12s. 6d., it was now possible to telegraph from Scilly to Shetland, or from Jersey to John o'Groat's, for 1s. Fifty thousand miles of wire in 1870 had increased to considerably more than 100,000 in 1882; 2,200 instruments worked by all the companies had increased to nearly 9,000 worked by the Post Office; and 2,500 telegraph offices under the old *régime* had increased to more than 5,500 under the new. Four thousand persons of all classes employed by the companies had increased to nearly 12,000 employed by the Post Office, and of these about 1,600 were women, of whom 600 are employed in the Central Telegraph Office alone. As to the transmission of news for the Press, the Post Office had converted into an attractive

monopoly what used to be rather a repulsive combination on the part of the old telegraph companies, and on one occasion quite recently as many as 700,000 words, equal to 350 average columns, had been transmitted from the Central Office alone.

MUSCULAR FORCE OF A CROCODILE'S JAW.—A strange kind of experiment has been lately made in Paris by Drs. Regnard and Blanchard, viz., measurement of the power exerted by the masseter muscle in a crocodile (a muscle passing from the cheekbone to the lower jaw). Ten live crocodiles of the species *C. galeatus* or *siamensis*, that had been sent in large cases from Saigon to M. Paul Bert, afforded the opportunity for such experiments. Some of these animals were as much as 10 ft. in length, and weighed about 154 lb. The difficulty of managing such creatures in the laboratory was, of course, considerable. The crocodile was fixed with ropes on a heavy table; the lower jaw kept in contact with the table by a cord, while the upper was raised by means of a cord attached at the extremity and passing up to a beam overhead. A dynamometer was inserted in this cord, and was affected when the animal was stimulated with an electric current. In this way a crocodile of about 120 lb. weight gave an indication of about 308 lb. (140 kilogrammes). The application of the cord at the end of the snout was necessary but unfavourable, seeing the application of the force is thus at the end of a long lever, and there is at least five times more space between this point and the insertion of the masseter muscle, than between the latter and the joint of the jaw—the fulcrum. Hence the masseter

really produces a force five times that indicated by the dynamometer, or about 1,540 lb. (703 kilogrammes). This extraordinary force, it should be remembered, was that of an animal somewhat weakened and at a low temperature. The force (of about 308 lb.) is really applied at the end of four large teeth that project beyond all the others, and, considering the surface here represented, the authors estimate the pressure, while the bite is executed by the extremity of those teeth, at nearly 400 atmospheres. Making similar experiments with an ordinary sporting dog, they obtained in the dynamometer a pressure of about 72 lb.; while the effect at the insertion of the masseter was about 360 lb. The pressure at the point of the canine teeth would be about 100 atmospheres. It is calculated that the crocodile is about one-third stronger than a dog of the same weight would be.

THE ZODIACAL LIGHT.—The nature of the faint cone of light sometimes seen on the western horizon after sunset, or on the eastern before sunrise, and known as the Zodiacal Light, has been much disputed. The Light is most commonly thought to be from an extra-terrestrial source, some lense-shaped object surrounding the sun. An opposite view is taken by Herr Gronemann, who has lately in the *Archives Neerlandaises* discussed at length the observations hitherto published, together with some made by himself. The drift of his contention is as follows:—There are valid observations against two items in the support of the old theory—namely, the affirmed connection of the evening and morning cones seen on the same night (if the corresponding sides be prolonged), and the parti-

icipation of the cones in the daily motion of the heavens. The Zodiacal Light is sometimes seen when daylight has not yet disappeared; and, on the other hand, it sometimes fails to appear, though there is complete darkness. There would seem to be a real lengthening and shortening. It has been observed by Schioparelli that the Light is much more difficult to make out when it passes through the meridian than when it is only 30 deg. above the horizon, and is less easily seen when the air is clearest than when a sort of mist is present. Indeed, the bright parts of the Milky Way may be seen to be weakened by mist, while the Zodiacal Light at the same height is unaffected. The Zodiacal Light has temporary variations of light intensity, and it shows from time to time remarkable changes of form and position, so sudden and short as to be hard to explain on the planetary hypothesis. The elongations of the cones show a half-yearly period, which is independent of the transparency of the air. The cone follows the observer northwards or southwards, so that there is no parallax action; and this peculiarity (so adverse to the extra-terrestrial hypothesis) cannot be explained by reflection or absorption of light. As to spectroscopic observations, the author finds (1) that the Zodiacal Light consists partly of proper light; (2) that its connection with polar light is but secondary, temporary, and accidental; (3) that the cause of the second phenomenon is such that it may strengthen the Zodiacal Light and modify its spectrum; and (4) that the results of spectrum analysis rank with other arguments tending to find the source of the Zodiacal

Light in the neighbourhood of the earth (like the polar light). Herr Gronemann, then, thinks the Zodiacal Light a terrestrial phenomenon, though he will not say that it cannot be influenced by cosmic action. He throws out the suggestion that the cone may be a kind of optical illusion, arising from some fine matter—gas or dust—being more accumulated near the observer in one direction than another. The apparent length of the cone might be conditioned by the conical shadow of the earth, and the changes of length be due to cosmic and electric influences. In any case, there is need of a more scientific theory than the old one.

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INSTRUMENTS IN THE OLD OBSERVATORY, PEKIN. — When the missionaries of the Society of Jesus made their way in the seventeenth century to Pekin, and startled the wise men of the Celestial Empire by their superior knowledge, they found in the eastern part of the city, on the rampart or wall surrounding it, an astronomical observatory, furnished with several old instruments. Father Verbiest so gained the confidence of the Emperor, by repeatedly calculating beforehand the exact length of the shadow which a gnomon would throw at noon, that he was authorised to have six new large instruments made. An account of these he published in 1687. To the old instruments, which had to be removed to make room for his own, he seems to have paid little attention. These instruments, as well as those erected by Verbiest, are, however, even still in existence, and are described in an interesting paper by Mr. J. L. E. Dreyer, in a recent number of the "Proceedings of the Royal Irish

Academy." A friend of Mr. Dreyer's, residing in China, Mr. S. M. Russell, had taken a series of photographs of these interesting scientific relics. Verbiest's instruments, sextant, quadrant, azimuth circle, zodiacal armillary sphere, &c., were copies of the astronomical instruments devised and constructed by Tycho Brahe, but besides these were the two large and imposing-looking instruments which had been removed from the observatory by Verbiest; these, according to Mr. Wylie, were made during the Yuen dynasty, and he quotes a Chinese description of Pekin, in which the observatory and four large instruments (two of which, can from the description be identified as the two still extant) are said to have been constructed A.D. 1279. In this year Koblai Khan, the great Mongol monarch, finished the conquest of China, and moved his residence to the new city Taydo, now Pekin. This monarch favoured the arts and sciences, and he supported and protected the astronomer, Ko Show-King. It will be observed that there are thus here two remarkable instances of how the Chinese often came into the possession of great inventions many centuries before the Westerns enjoyed them; for there are found thus in the thirteenth century the equatorial armillæ of Tycho Brahe, and, more remarkable still, an equatorial instrument quite like those with which Tycho observed the comet of 1585. These instruments of Ko Show-King were examined in one of the first years of the seventeenth century by the Jesuit Matteo Ricci; and in Colonel Yule's translation of "The Book of Ser Marco Polo" they are described at length. By them it is proved that the Chinese astronomers anticipated some of the ideas of the

great Danish astronomer some three centuries before his time.

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HEALTH IN MIDDLE AGE.—At the age of thirty-five, says a medical writer, mankind, according to some eminent authorities, is said to have reached the meridian of life, while others name forty as the number of years of our earthly existence. But be this as it may, no one who has taken the ordinary means to preserve his health in youth and early manhood should feel other than young at the age of forty-five, from which period until that of sixty, if life be spared to us, we shall do well to consider ourselves middle-aged, and to adopt greater precautions for the preservation of health, and consequent happiness, than might have been deemed necessary when youth was on our side. And if this is done, the period of middle-age should be one of the greatest activity, of both body and mind. What though the hairs are turning grey? That but shows one has suffered sorrow and survived it, or that, sorrow apart, he is a man who thinks. And what though the limbs be not quite so nimble? Calm enjoyments foster thought and generate habits of that true temperance which conduces to long life and contentment, more than anything else in this world; and whatever some may say to the contrary, the desire to live long is inherent in every healthy sane man or woman. To die of old age is the only natural death, and if death may ever be said to be pleasant, the only pleasant one. In almost every case the aged are found more resigned to the inevitable than those less advanced in years; for a well-spent life is like a well-spent day—at its close there is a wish for rest.

THE SLEEP OF FISH.—An American contemporary informs us that a very interesting conclusion has been arrived at by prolonged observation of the fish in the Berlin Aquarium. Do fishes sleep? is the question that it has been sought to answer, and that answer is now given in the affirmative. One section of the Aquarium, we are told, contains about a dozen carp, and it has been observed that during the winter time, beginning with October, they have assumed positions and have demeaned themselves in a manner undoubtedly indicative of a somnolent state. Ordinarily, carp bury themselves in the mud during the colder half of the year; but in the artificial life of an aquarium some modification of the habit might, no doubt, reasonably be looked for, and the way in which the Berlin fishes have taken to making themselves comfortable is shown, in the publication alluded to, by an engraving which gives rather a ludicrous idea of a number of fish playing at going to bed. About October, it is said, they were noticed to be assuming crooked positions, and they would remain in such positions for hours, unless some tempting little piece of food were thrown in to them, when they would seize it, and immediately resume their former attitude. Some would rest upon the gravel, with their bodies bent, and just the head and tail touching the ground. Others, after a very careful examination of the rocks and stones, would slowly turn over on the right or left side in some convenient place, and remain quite still. One carp preferred to take his rest standing on his head, maintaining his balance perpendicularly with the utmost precision. Most of the sleepers could be readily awakened, but some could not very

easily be disturbed, and had to be struck or shaken repeatedly. The fish, having no eyelids, cannot very well close its eyes when it goes to sleep, and this fact, no doubt, has occasioned much of the scepticism as to the fact of fish sleeping like other members of the animal creation. The peculiar conduct of these twelve carp was supposed by some to be a symptom of sickness; but it is said that it was continued for six months, during which time they fed regularly and in every other way appeared to be in excellent health.

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ENGLISH COINAGE.—At a meeting of the Institute of Bankers, held at the London Institution, Mr. John Evans, D.C.L., F.R.S., has read an interesting paper on "L. S. D." The lecture was an account of the origin and history of the English pounds, shillings, and pence, and was illustrated with enlarged drawings of the earlier coinage of these three units of our commerce, which derived their designation from the initials of the Latin coins, *Libræ*, *Solidi*, and *Denarii*. Illustrations of the degradation of the value of the Latin coins were seen in France in the "£" representing in the last century the franc, the "s" the sou, and the "d" the denier, or about the twelfth of a sou, and in the fact that, at the beginning of the seventeenth century, the Scotch "pound" was only 20 pence. The penny was first mentioned as an English coin in the laws of Ina,

King of the West Saxons, who reigned A.D. 688, and its name was regarded as a diminutive of *pana*, or "little pledge," or token. In Saxon times the penny meant a silver coin of 24 grains (a dwt., or "penny-weight"), 30 of which in the time of Ethelred would purchase an ox and 12 a sheep. The silver was "sterling," a term thought to be derived from the Easterlings, or men from the East, who had the English coinage under their charge. Though pennies in copper were so late, half-pennies had preceded them by 120 years, and tokens of farthing, half-penny, and penny were issued by traders. Of the shilling, the lecturer said that the word "scill," or scilling, appeared in the Anglo-Saxon laws as early as the seventh century; but the term was only used in accounts, for there was no coin to represent the sum until Henry VII. struck the shilling in silver and the pound in gold. Before that time the shilling used to be made up of three "groats," introduced by Edward I. The creation of the "noble" (of the value of 6s. 8d.), afterwards raised to the "rial," or "rose noble," of 10s. value, and of other gold coins, was described. The "noble" had a short life, but it had left its mark in the lawyer's fee. The birth of the sovereign was due to an order in the fifth year of Henry VII., that 22½ "sovereigns" should be coined out of the "pound" weight tower, and to have course in receipts and payments for 20s.





QUIET THOUGHTS FOR QUIET HOURS.



“ Alone with Thee, my God! alone with Thee!
Thus would'st Thou have it still,—thus let it be!—
Alone with Thee, my God! alone with Thee!”

HYMNS FOR THE CHURCH ON EARTH.



AN ANSWER TO PRAYER AT SEA.

[KNOWN TO BE TRUE.]



“ And it shall come to pass, that before they call, I will answer; and while they are yet speaking, I will hear.”—ISA. lxv. 24.



ANY years ago, when I was a young man, I commanded a brig, sailing out of Calcutta. She was laden with rice, and bound for the Straits of Malacca, was deep, and sailed very badly.

I got down pretty well as far as the Seyer Islands; here the south-west monsoon had set in very strongly, with a heavy sea (it was about the latter end of May), and I found I could not weather the western point of the island, as the wind was blowing right on shore. We were beating about here for some days, trying to get off the land, but every day getting nearer to it. We could make no offing, generally standing to the north-west during the night, and tacking or wearing to the southward in the morning.

There is no watch in country ships, as in the British merchant service, but all hands on deck day and night. The squalls were so frequent and severe, accompanied with heavy rain, that we had to take in all sail, and lower the topsails on the cap to each of them.

The crew were in this way completely fagged out, in making and shortening sail, with wet clothes on, day and night; for, as soon as

the clothes were dried on their backs, another squall would come, and drench them again. Consequently, they had no sleep, night or day, except the little they might catch whilst lying on the wet deck between the squalls.

After knocking about in this manner for some days, gradually getting nearer and nearer to the shore and the rocks, and finding I was not able to beat off, the vessel making much lee-way, and the crew being now almost worn out, I thought I would give them a whole night's rest. In the evening, therefore, shortly after sunset, I ordered all sail to be taken in and furled, and the anchor let go. We were then probably six or seven miles off the rocks, in twenty fathoms of water. I veered out a good scope of chain cable, and made everything, as I thought, snug and safe for the night, putting the deep-sea lead over the side, to ascertain that she was holding on. In the morning, I was astonished to find we were still nearer to the rocks than we had been the evening before, although at anchor all night. I ordered the anchor to be hove up, put sail on the vessel, and laid her head off to the north-west. To my great surprise, when the anchor came up, I found the fluke that had been in the ground perfectly *bright*—something like polished steel—a thing I had never before seen, although I had been many years at sea.

It appears the sookanies (steersmen), who had to keep the anchor watch at night, must have gone to sleep, and the vessel had, no doubt, dragged her anchor, in the squalls, through sand and gravel, a great part of the night, and this had polished the fluke. From the nature of the ground it was evident I could not trust to the anchor.

There appeared to be no chance of escaping wreck, unless by a change of wind to take us off the shore, which, at this time of the year, was the most improbable thing to occur, and there was not the least appearance of it. I called the chief mate, and desired him to look out a little while, as I was going below. I went down to my cabin, and there, on my knees, I prayed more fervently, I think, than I had ever before done in my life, begging of God the Father, through our Lord Jesus Christ—if it should please Him—to give us a change of wind that might enable us to get off the shore.

Whilst I was still on my knees, the chief mate called out down the hatchway, "Here's a fair wind, sir! The wind is blowing right off the land!"

My feelings at that moment may be imagined, but cannot be expressed. And this is not the only answer to prayer I have had in my long journey through this life. I could name several others, and one at least equally wonderful, and of not less importance.

I know not what infidels may say to this; but sure I am that there

is a God who heareth prayer, at all times, and in all places—when put up from the inmost recesses of the heart—and answers when He thinks it right and proper Himself to do so.

G. F. G.



CASTING ANCHORS.



THE night is dark : but God, my God,
 Is here and in command ;
 And sure am I, when morning breaks,
 I shall be " at the land."
 And, since I know that darkness is
 To Him as sunniest day,
 I'll cast my anchor " Patience " out,
 And wish, but wait for day.

Fierce drives the storm ; but winds and waves
 Within His hand are held,
 And, trusting in Omnipotence,
 My fears are sweetly quelled.
 If wrecked, I'm in His faithful grasp,
 I'll trust Him though He slay ;
 So, letting go the anchor " Faith,"
 I'll wish, but wait for day.


Still seem the moments dreary, long,
 I rest upon the Lord ;
 I muse on His " eternal years,"
 And feast upon His Word.
 His promises, so rich, so great,
 Are my support and stay ;
 I'll drop the anchor " Hope " ahead,
 And wish, but wait for day.

O Wisdom infinite ! O Light
 And Love supreme, divine !
 How can I feel one fluttering doubt,
 In hands so dear as Thine !
 I'll lean on Thee, my best Beloved,
 My heart on Thy heart lay,
 And, casting out the anchor " Love,"
 I'll wish, but wait for day.



OUR WORRIES.

"Be not therefore anxious for the morrow; for the morrow will be anxious for itself" (Matt. vi. 34, Revised Version).

E may be sure that our blessed Lord knew what was in man when He gave so much space in His sermon on the Mount to this one tormenting sin, and repeated, six times over, His entreaties to avoid it. Worry is not only a sin against God, it is a sin against ourselves. It sometimes amounts to a slow suicide. Thousands have shortened their lives by it, and millions have made their lives bitter by dropping this gall into their souls every day. Honest work very seldom hurts us; it is worry that kills. I have a perfect right to ask God for strength equal to the day, but I have no right to ask Him for one extra ounce of strength for to-morrow's burden. When to-morrow comes, grace will come with it, and sufficient for the tasks, the trials, or the troubles. God never has built a Christian strong enough to stand the strain of present duties, and all the tons of to-morrow's duties and sufferings piled up on the top of them. St. Paul himself would have broken down.

There is only one practical remedy for this deadly sin of anxiety, and that is to *take short views*. Faith is content to live "from hand to mouth"—enjoying each blessing from God as it comes. This perverse spirit of worry runs off and gathers some anticipated troubles, and throws them into the cup of mercies, and turns them to vinegar. A bereaved parent sits down by the new-made grave of a beloved child, and sorrowfully says to herself, "Well, I have only one more left, and one of these days he may go off to live in a home of his own, or he may be taken away; and, *if* he dies, my house will be desolate and my heart utterly broken." Now who gave that weeping mother permission to use that word "if"? Is not her trial sore enough, now, without overloading it with an imaginary trial? And, if her strength breaks down, it will be simply because she is not satisfied with letting God afflict her; she tortures herself with imaginary afflictions of her own. If she would but take a short view, she would see a living child yet spared to her, to be loved, and enjoyed, and lived for. Then, instead of having two sorrows, she would have one great possession to set over against a great loss; her duty to the living would be not only a relief to her anguish, but the best tribute she could pay to the departed.

That is a short view which only takes in immediate duty to be done, the immediate temptation to be met, and the immediate sorrow to be carried. My friend, if you have money enough to-day for your daily wants, and something for God's treasury, don't torment yourself with the idea that you or yours may yet get into an almshouse. If your

children cluster around your table, enjoy them, train them, trust them to God, without racking yourself with a dread that the little ones may some time be carried off by the scarlet fever, or the older ones may yet be ill married, or may fall into disgrace. Faith carries present loads, and meets present assault, and feeds on present promises, and commits the future to a faithful God. Its song is

Keep Thou my feet; I do not ask to see
The distant scene; one step's enough for me.

We will always take that one step more wisely, and firmly, and successfully, if we keep our eye on that only. The man who is climbing the Alps must not look too far ahead, or it will tire him; he must not look back, or he gets dizzy; he has but to follow his guide, and set his foot on the right spot before him. This is the way you and I must let Christ lead, and have Him so close to us, also, that it will be but a short view to behold Him. Sometimes young Christians say to me, "I am afraid to make a public confession of Christ, I may not hold out." They have nothing to do with holding *out*; it is simply their duty to hold *on*. When future trials and perils come, their Master will give them help for the hour, if they only make sure that they *are His*. The short view they need to take is a close, clear view of their own spiritual wants, and a distinct view of Jesus as ever at hand to meet those wants. If the fishermen of Galilee had worried themselves over the hardships they were to encounter, they might have been frightened out of their apostleships and their eternal crowns.

To-morrow belongs to our Heavenly Father; I would not know its secrets if I could. It is far better to know whom we trust, and that He is able to keep all we commit to Him until the last great day.

REV. THEODORE L. CUYLER.



A GOLDEN YEAR.—The Year 1882 begins and ends with a Sunday. A Year, girded by a Golden Belt of *fifty-three* Sabbaths, should stand out in our lives worthy of remembrance.

OUR STRENGTH AND WEAKNESS.—It is perhaps not unworthy of observation that, in sacred history, we invariably find that the recorded defects of the people of God are on the

side of their most conspicuous grace. Thus the recorded sin of the "father of the faithful" was want of faith—of the meek and gentle Moses, that he spake unadvisedly with his lips—of the man after God's own heart, that he was sensual—of the tender-hearted John, that he was vindictive—of the lion-hearted Peter, that he was cowardly. The Spirit of God has recorded these failures of the best of men to convince us, if we are capable of conviction, that man, even in his

best estate, is "deceitful upon the weights, altogether lighter than vanity itself;" and that, if tried by his own merits in the balance of the sanctuary, he would, under the most favourable circumstances, infallibly be found wanting.

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BLESSED.—The man is not blessed who can *forget* his sins, who can *blind himself* to them, or who can temporarily *escape* their consequences. Blessed is he, and only he, whose transgressions are *forgiven*.

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IDEAL OF THE CHRISTIAN WORKER.
 It is a terrible thing to throw up the ideal which God has given us, and to treat it as merely a magnificent dream; for this is to despise the revelation of God. But it is, if possible, still more dangerous for our souls to neglect the commonplace things by which God is training and educating us, and making us fit for the future which He set before us in our childhood. How often do we lose multitudes of opportunities of doing little kindnesses, and making others happy, and glorifying our Lord, by feverishly straining after something which would have been quite right if it had been given to us by God, but which is being turned into an occasion of stumbling by the devil, who will always, if he can, take a truth and turn it into a snare! No life is really "commonplace"; and the miserable distinction sometimes made between the so-called "religious" life, and the "secular" life, is simply one of the snares of the devil. A father, a mother, a son, a daughter, doing the work which God has given, is living a "religious life" in the best sense of the word; although it may bring peculiar blessings,

when God sets us free from every earthly care, to lead an entirely "dedicated" life. Let us study the teaching of God in the life of Christ and in the lives of the saints as recorded in the Bible, and let us learn patience. Hold to your ideal. Die with it, crying, "I know whom I have believed, and I am persuaded that He will reveal it to me and enable me to realise it more perfectly hereafter." But hold it fast in God's way, not feverishly and impatiently, but patiently and trustfully.—*Rev. Canon G. H. Wilkinson.*

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CHRIST KNOCKING.—Lord, at whose door dost thou stand knocking? Is it at the rich man's door, or at the righteous man's door, or at the humble man's door, or at the weary and heavy laden man's door, or at the mourner's door, or at the qualified or prepared man's door? No, says Christ, it is at none of these doors. At whose, then, O blessed Lord? At the lukewarm Laodicean's door, at their door who are neither hot nor cold, that are "wretched, and miserable, and poor, and blind, and naked." These, says Christ, are the worst of the worst; and yet if any of these, even these, will open the door, "I will come in and sup with them, and they with Me."

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WHAT DEATH IS TO THE CHRISTIAN.—Let dissolution come when it will, it can do the Christian no harm, for it will be but a passage out of a prison into a palace; out of a sea of trouble into a haven of rest; out of a crowd of enemies to an innumerable company of true, loving, and faithful friends; out of shame, reproach, and contempt, into exceeding great and eternal glory.—*John Bunyan.*

THE LESSONS OF AFFLICTION AND PROSPERITY. — I have learnt more of God and myself in one week's affliction, than all my life's prosperity had taught me before.—
Bishop Hall.

STRENGTH FOR THE TIME OF NEED. — "Who shall separate us"—even us poor pigmies of Christians—"from the love of God which is in Christ Jesus our Lord?" "Oh," says one, "I do not think I could suffer martyrdom." You are not yet called to do so, my brother; and God has not given you the strength to do it before the need arises; but you will have strength enough if ever it comes to your lot to die for Jesus. Did you never hear of the martyr who, the night before he was to be burnt, sat opposite the fire, and, taking his shoe off, he held his foot close to the flame till he began to feel the burning of it? He drew it back, and said, "I see God does not give me power to bear such suffering as I put upon myself; but I make none the less doubt," said he, "that I shall very well stand the stake to-morrow morning, and burn quick to the death for Christ without starting back." And so he did; for he was noticed never to stir at all while the flames were consuming him. There is a great deal of differ-

ence between your strength to-day, and what your strength would be if you were called to some tremendous work or suffering.

THE FURNACE OF SUFFERING.—I think I look to-night into a great furnace. It is so fierce that I cannot bear to gaze into its terrible blaze. For fear my eyeballs should utterly fail me and lose the power of sight through the glare of that tremendous flame, I turn aside, for the fury of its flame overpowers me. But, when I am strengthened to look again, I see ingots of silver refining in the white heat; and I note that the heat is tempered to the last degree of nicety. I watch the process to the end; and I say, as I behold those ingots brought out all clear and pure, refined from all dross, and ready for the heavenly treasury, "Behold, a greater than Solomon was in that furnace work!" So you will find it, O sufferer. Infinite wisdom is in your lot. Come, poor child, do not begin to interfere with your Saviour's better judgment; but let *it* order all things. Do not let your little "Know" ever rise up against the great knowledge of your dear Redeemer. Think of this when you wade in deep waters, and comfortably whisper to yourself, "A greater than Solomon is here!"—*Rev. C. H. Spurgeon.*





SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY.



“The stately ships go on
To their haven under the hill;
But O for the touch of a vanish'd hand,
And the sound of a voice that is still!”

TENNYSON.



THE SOCIETY'S OBJECTS.



THE Shipwrecked Fishermen and Mariners' Royal Benevolent Society was Instituted on the 21st. February, 1839, and Incorporated by Act of Parliament, 18th Vict., 1850, having the following, amongst other Objects, in view:—

- 1st.—To board, lodge, clothe, and forward to their homes, or to their nearest Consuls, if foreigners, all Wrecked Fishermen, Seamen, &c., of all Nations, cast Destitute upon the Coasts.
- 2nd.—To assist Fishermen, Seamen (whether of the Royal Navy or Merchant Service), Coast-Guardmen, Pilots, Boatmen, and Apprentices, &c., Members of the Society, towards replacing their Boats or Clothes, when lost by Storms or other Accidents of the Sea; and to relieve their Widows and Orphans, or Dependent Aged Parents.
- 3rd.—To give Gold and Silver Medals, and other Honorary or Pecuniary Rewards, for any praiseworthy endeavours to Save Life from Shipwreck on the High Seas, or Coasts of the Colonies.
- 4th.—To give Money-Grants to Old and Necessitous Members of the Society in Extreme and Special Cases.

The foregoing Objects are carried out by the Society's Executive in London, and about 1,200 Honorary Agents and Representatives of

the Society, stationed on every part of the Coast of the United Kingdom, as well as Inland, Abroad, and in the Colonies, by whom, on an average, 14,000 persons are annually relieved.*

On all occasions of Shipwreck, immediate relief, with prompt medical aid, is afforded to the sufferers—by taking them up at the place of wreck, supplying them with every necessary, and at once conveying them to their homes, or, if foreigners, to their nearest Consuls. In the performance of this duty the Society acts on the broadest basis of Christian Charity—the foreigner and the native being equally cared for.

In addition to this universal aid to the Shipwrecked and Destitute and to that given in extreme cases of Disaster and Distress from Storms or other Accidents of the Sea, the Society, with a special view to the encouragement of moral and provident habits amongst our Fishing and Seafaring Men of all Classes, extends assistance to Fishermen, Mariners, and all persons occupied on the Sea or Rivers, contributing the regulated small yearly payments to the Society's Funds, as Members, to help them—according to a fixed Scale of Relief—to make good the Loss or Damage at Sea, &c., of their Boats or Clothes, while, in the event of their Death, however caused, the necessitous Widows and Orphans, or Dependent Aged Parents, are at once relieved.

The Society, further, specially provides for the annual grant of small sums, on a graduated scale, to Widows of Fishermen and Mariners, having been yearly Members, left in want with young Children, and including, also, Widows themselves, above sixty years of age, in needy circumstances—this valued relief being wholly additional to that already given at the moment of first bereavement.



THE SOCIETY'S PROCEEDINGS.



THE administration by the Society, as the one National Institution existing for the purpose, of the varied and immediate organised aid embraced within the wide scope of its several Objects, necessarily involves a most extensive and very voluminous series of Proceedings, fully to detail which, from time to time, would be entirely beyond the available limits of any periodical record.

Amongst many other similarly noteworthy and interesting refer-

* See the "Annual Statistical Return of the Society's Operations," as given at the commencement of "The Society's Work," under this Heading of "SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY."

ences to the Society's operations, however, the subjoined Letters and Announcements, &c., have appeared in the columns of the Public Press, as shown, since the issue of the last Quarterly Number of this Magazine:—

DISASTERS AT SEA, OR ON RIVERS.

THE following Letters, headed as above, in connection with the operations of the Shipwrecked Fishermen and Mariners' Royal Benevolent Society, on behalf of the Fishing and Seafaring Classes at the numerous Ports and smaller Fishing Towns, &c., throughout Ireland generally, have appeared in the various Dublin and other Irish Journals:—

“TO THE EDITOR OF ‘THE IRISH TIMES,’ &c.

“Office of Irish Fisheries,

“The Castle, Dublin,

“4th January, 1882.

“SIR,—It is not at all so generally known as it should be that there exists, in London, a Benevolent Society, patronised by Her Most Gracious Majesty the Queen, through which, on payment of a very small sum annually (only three shillings), any person engaged in a seafaring life, or on rivers, may be recouped for any loss or damage arising to himself or his boat, or, in case of his death, his widow and children might receive as much money as would perhaps enable them to make provision for themselves. Annual grants are also made to widows in certain cases.

“I refer to the SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY, which has just sent me the handsome contribution of £50 towards the fund for the relief of the fishermen on the West Coast of Ireland, who have been such sufferers by the late gales, and an additional sum of £10 for the families of the two poor fellows who were drowned while hauling their nets, in Mayo, on that disastrous night.

“Had the hundreds of fishermen, who have been such sufferers, been provident enough to have been members of this Society, there would to-day have been little, or, perhaps, no necessity for appealing to the public for charity for them; and it is with the view of giving publicity to the very important beneficial advantages that the poor fishermen, and their widows and orphans, would derive from becoming members of the Society that I address you, and venture to ask you to be kind enough to give a place in your columns for the

“insertion of the following letter which I have received from the
“Secretary of the Society this morning.

“I will be happy to give every information respecting the Society to
“any inquiring friends who may communicate with me. It is but
“right to say that it is only within the last few days I heard of its
“importance.

“Yours, &c.,
“(Signed) THOMAS F. BRADY,
“Inspector of Irish Fisheries.

[ENCLOSURE : LETTER FROM THE SECRETARY OF THE SHIPWRECKED
FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY.]

“Central Office of the Society,
“Hibernia Chambers, London Bridge, S.E.
“2nd January, 1882.

“MY DEAR SIR,—Referring to previous correspondence, I have the
“gratification, by desire of the Committee of Management of this
“Society, of herewith transmitting to you a cheque for the sum of £50,
“on behalf of the fund, being so very benevolently raised by you, in
“mitigation of the sad destruction of fishing boats, &c., on the West
“Coast of Ireland, and to the due and satisfactory disbursement of
“which you have most kindly undertaken to see personally.

“I have likewise the pleasure of enclosing a further cheque for the
“sum of £10, for disbursement similarly, on behalf of the two families,
“*Doherty* and *Toole*, being £5 for each, who have been such sufferers
“through the melancholy loss of husband and son, respectively,
“by drowning in Portacloy Bay, Co. Mayo, the Committee in these
“special cases much appreciating the kind motives prompting your
“appeal.

“With regard to the good offices which you have so willingly pro-
“mised to afford towards the extension of this Society's operations,
“very much needed amongst the fishing population of Ireland gene-
“rally, I am particularly charged to express to you the warm acknow-
“ledgments of the Committee, and to assure you of the value which
“they cannot but attach to the beneficial efforts and co-operation thus
“undertaken by you.

“The Committee feel that no moment could be better cal-
“culated than the present for duly enforcing the very special
“advantages offered to all those engaged upon the sea or rivers by this
“Royal Benevolent Society—whose benefits might have been fully
“open to those concerned in the recent disasters (now being contri-
“buted to, as above, from the Society's general funds) had those
“unfortunately involved been individually qualified, as they each one

“ought in their own best interests to have been, to receive personal relief and assistance by virtue of personal membership.

“I remain, my dear Sir, very faithfully yours,

“(Signed)

W. R. BUCK, Secretary of the
“Shipwrecked Fishermen and Mariners’
“Royal Benevolent Society.

“To Thomas F. Brady, Esq.,

“H.M. Inspector of Irish Fisheries,
“The Castle, Dublin.”

AID FOR DISTRESSED FISHERMEN.

THE subjoined Leading Article, with special reference to the foregoing Letters, headed “Disasters at Sea, or on Rivers,” appeared in “*The Derry Journal*” of Monday, January 9, 1882 :—

“The two communications which appear in another column this morning, one from Mr. Thos. F. Brady, Inspector of Irish Fisheries, and the second from the Secretary of the Shipwrecked Fishermen and Mariners’ Royal Benevolent Society, deserve pressing and practical attention. The system of saving, which the letters bring so prominently forward, is one not only highly commendable and useful in itself, but assumes a specially important character in presence of the great disasters recently caused by storms round the West Coast of Ireland. No doubt, the poor hard-working toilers on the deep, whose income is so precarious, could not afford to spare large amounts from their little earnings ; but, if they only once became imbued with a due appreciation of the vast benefits derivable from connection with such an Institution as that which Mr. Brady mentions, we have no doubt they would struggle successfully to contribute even a small sum regularly to its funds, and thus be certain of assistance in case of calamity of any kind overtaking them. In their case a thrifty forethought seems indispensable to enable them to carry on their business, for they are exposed to such dangers, and their profits are so uncertain, that unless they can draw on savings they must appeal to public charity in the event of any distressful catastrophe, such as that which befell them on the night of the 21st of November last. But even in misfortune there is a consolation felt, a feeling of independence enjoyed, when the sufferer realises that he is supported by his past industry and economy, and that he is not a burden on his neighbours or on the philanthropist abroad or at home. It is, therefore, to be trusted that the system advo-

“cated by Mr. Brady will meet many patrons among the hardy fishermen along our coasts and rivers. They would not only then be storing up directly for themselves in case of accident, but they would be making provision for their wives and families should anything prematurely occur to themselves. . . .”

ANNUAL GRANTS TO WIDOWS AND ORPHANS, AND
GENERAL OPERATIONS, &c.*

AT a recent meeting of the Central Board of Management of the SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY, held at the Central Office of this Royal National Benevolent Institution, Hibernia Chambers, London Bridge—when, amongst others, there were present Captain the Hon. FRANCIS MAUDE, R.N., in the chair, Captain Vincent Budd, Lord Ashley, Admiral Sir Claude Buckle, K.C.B., Captain E. S. Adeane, R.N., C.M.G., Captain J. J. Holdsworth, Captain D. Mainland, Captain T. L. Porteous, J. Holt Skinner, Esq., Captain R. Orme Webb, R.N., and John Kemp Welch, Esq., &c.—the sum of £4,250 was specially awarded from the Society's funds for distribution in Annual Grants of additional relief to the necessitous Widows and Orphans of seafaring men of all classes. The recipients of this much valued timely aid, to the number of 3,164 in all, on the present occasion comprised, as usual, about one half of the needy applicants borne upon the Society's list; the remaining half of the upwards of 6,500 Widows and Orphans thus annually relieved by the issue of this extra charitable help receiving their grants, in a similar way, in the month of July each year—making a total amount of more than £8,600, altogether, so distributed yearly in the carrying out of this one portion alone of the Society's varied objects. With regard to its general work and operations, both at Home, Abroad, and in the Colonies, it appears from the statistical records of the Society, now just completed for 1881, that, owing to the exceptionally destructive gales which prevailed from time to time throughout the year, with such disastrous results, the urgent claims for immediate succour to shipwrecked fishermen and mariners themselves, or to the suddenly bereaved dependents of those lost at sea, have proved to be almost without a parallel during the whole of the forty-three years which have elapsed since the Society's first institution; whilst, too, the necessities and

* From “*The Times*,” “*The Morning Post*,” &c., Feb. 25, 1882.

“the aid afforded in the cases of the special calamities by which various fishing and maritime communities were well-nigh overwhelmed, within the year, have been equally without precedent in the Society’s annals. As the combined result of these several causes, the returns of its operations for the year show the numbers substantially relieved, through the Society’s direct medium, to have been no fewer than 14,285, or a total of upwards of 325,000 since the commencement of the Society’s benevolent labours in 1839.”

THE ATTEMPT UPON THE LIFE OF HER MAJESTY
THE QUEEN.*

AT a large and influentially-attended Meeting of the General Committee of Management of the Shipwrecked Fishermen and Mariners’ Royal Benevolent Society, held on Friday, the 10th March, at the Central Office of the Institution, Hibernia Chambers, London Bridge, a special congratulatory vote of thankfulness, on the occasion of the happy escape of Her Majesty The Queen (the Patron of the Society since its first formation in 1839), from the attempt upon Her Majesty’s life, on Thursday, the 2nd of March, at Windsor, was unanimously recorded, upon the motion of the Chairman of the Committee, Captain the Hon. Francis Maude, R.N., seconded by Lord Ashley. As the result, the following telegrams have passed between the Chairman and Lieut.-General the Right Hon. Sir Henry Ponsonby, K.C.B., Private Secretary to The Queen :—

“London Bridge, March 10, 1882.

“On behalf of the Committee of Management, here met this day, and representing the 52,000 Fishermen and Mariner Members belonging to this Royal Benevolent Corporation, of which Her Majesty The Queen is the revered Patron, it is dutifully asked that the Committee’s unanimous expression of most loyal thankfulness, and of special gratitude to Almighty God, for Her Majesty’s recent Providential deliverance in the hour of imminent peril, may be humbly submitted for Her Majesty’s gracious acceptance.”

“Windsor Castle, March 10, 1882.

“I am commanded by The Queen to thank you, and the Committee of which you are Chairman, for your kind telegram of loyal con-

* From “The Court Journal,” Saturday, March 18, 1882.

“ gratulations, and to express Her Majesty's gratification at receiving it.”

In connection with the same event, thus alluded to in the Society's Proceedings, it will be of general interest here to record, also, the touching words addressed to the nation by Her Majesty, through the Secretary of State for the Home Department, as duly published :*—

“ Windsor Castle, March 12, 1882.

“ The Queen wishes, before she leaves England for a short while for some comparative rest and quiet, to express from her heart how very deeply touched she is by the outburst of enthusiastic loyalty, affection, and devotion, which the painful event of the 2nd inst. has called forth from all classes and from all parts of her vast Empire, as well as by the universal sympathy evinced by the Sovereigns and people of other nations. The Queen cannot sufficiently express how deeply gratified she is by these demonstrations, and would wish to convey to all, from the highest to the humblest, her warmest and most heartfelt thanks.

“ It has ever been her greatest object to do all she can for her subjects and to uphold the honour and glory of her dear country, as well as to promote the prosperity and happiness of those over whom she has reigned so long ; and these efforts will be continued unceasingly to the last hour of her life. The Queen thanks God that He spared her beloved child, who is her constant and devoted companion, and those who were with her in the moment of danger as well as herself and she prays that He will continue to protect her for her people's sake as He has hitherto so visibly done.”

THE LOCAL HONORARY AGENCIES, &c.

AS many as seventeen fresh appointments of Local Honorary Agents and Representatives of the Society have, from death, change of residence, or other unavoidable cause, been rendered necessary since the previous reference to such alterations in the last Number of this Magazine—that for the January Quarter, of the present year. In recording their obligations, on behalf of the Society, to all those who had thus—in some instances for very many years—so heartily laboured in furthering the Society's good work, the Committee of Management have specially had to deplore those changes

* From “ *The London Gazette*,” Monday, March 13, 1882.

occasioned by the decease of Honorary Agents and Representatives, as follows: Worthing—Captain H. B. Davis, R.N.; Dublin—J. Walsh, Esq.; Sligo—Mr. Middleton (Messrs. Middleton and Pollexfen).

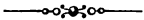


THE SOCIETY'S WORK.



UNDER the subjoined Annual Statistical Return, as well as Quarterly General Summary, and following Tables, numbered I, II, III, IV, and V—respectively answering to the several specified Objects* of the Society—will be found the interesting, and, in many respects, touching record of the Society's benevolent operations, on behalf of Mariners and Fishermen, their Widows, Orphans, &c., both during the whole of the past year, 1881, with those preceding it, from the Society's first Institution in 1839, and since the issue of the last Annual or Quarterly Statements:—

ANNUAL STATISTICAL RETURN OF THE SOCIETY'S OPERATIONS.



From the Institution of the Society in 1839, to 31st December, 1881.



RELIEVED LAST YEAR: 1881.

NUMBER OF SHIPWRECKED PERSONS, INCLUDING FISHERMEN, MARINERS, PILOTS, BOATMEN, &c., FOR LOSS OF BOATS OR CLOTHES	5,510	
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF FISHERMEN, MARINERS, &c.....	8,725	
		14,235

RELIEVED IN PREVIOUS YEARS: 1839—1880.

NUMBER OF SHIPWRECKED PERSONS, INCLUDING FISHERMEN, MARINERS, PILOTS, BOATMEN, &c., FOR LOSS OF BOATS OR CLOTHES	177,683	
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF FISHERMEN, MARINERS, &c.....	133,128	
		310,811
TOTAL NUMBER RELIEVED FROM 1839, TO 31ST DECEMBER, 1881	325,046	

* See the details given under "The Society's Objects," at the commencement of this Heading of "SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY."

GENERAL STATISTICS.

NUMBER OF LIVES SAVED, FOR WHICH HONORARY OR PECUNIARY REWARDS HAVE BEEN GIVEN	7,145
MEDALS, FOR SAVING LIFE, AWARDED SINCE JANUARY, 1851, THE YEAR IN WHICH THE SOCIETY COMMENCED GIVING SUCH REWARDS.	} GOLD MEDALS .. 38 SILVER MEDALS.. 284
AMOUNT OF PECUNIARY REWARDS, FOR SAVING LIFE, IRRESPECTIVE OF FRAMED TESTIMONIALS, &c.	

ANNUAL NUMBER OF FISHERMEN, MARINERS, &c., CONTRIBUTING YEARLY PAYMENTS, AS MEMBERS*.....	52,000
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QUARTERLY GENERAL SUMMARY OF RELIEF, &c.

THE total Number of Persons directly succoured by the Society's Executive in London, and by the Honorary Agents in all parts of the United Kingdom, &c., with the total Amount of Relief administered, as referred to in the subjoined Relief Tables for the past Quarter, ending 31st March, 1882, was as follows:—

TOTAL NUMBER OF PERSONS RELIEVED	4,838
TOTAL PECUNIARY AMOUNT OF RELIEF	£9,616

OF the numerous Agencies (appending also the names of the Society's Local Honorary Representatives) from which the more distressing claims embraced within these figures were received, the following, with the Amounts allotted to each, may be specially mentioned, viz. :—Aberdeen (Mr. D. Mearns), £75; Bristol (Mr. M. Whitwill), £81; Cardigan (Mr. T. Davies), £77; Glasgow (Messrs. Campbell and Hall), £98; Hull (Mr. J. W. Day), £217; Liverpool (Mr. T. Hanmer), £204; North Shields (Mr. G. French), £498; South Shields (Messrs. Crisp and Hails), £710; Sunderland (Mr. R. M. Hudson), £784; Yarmouth (Mr. G. T. Watson), £93; giving a total of £2,837 issued, during the past Quarter, at these Agencies and Seaports, &c., alone.

* This Number of 52,000 "Members," which is being largely added to from year to year, represents those Fishermen and Mariners, of all grades, embraced within the scope of the Society's wide-spread efforts, as quoted in its published Prospectus, &c., for "Specially helping all the Fishing and Seafaring Classes, providently to look forward and help themselves against the ever-recurring losses and perils of their hazardous calling."

I.—RELIEF TO SHIPWRECKED CREWS.

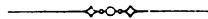


The Crews of Vessels wrecked on various parts of the Coast, or foundered at Sea, have been boarded, lodged, clothed, and forwarded to their homes, &c., by the Society, between the issue of the last Quarterly Statement and the 31st March, 1882, as follows :—

NUMBER OF VESSELS, OF ALL CLASSES, WHOSE SHIPWRECKED CREWS WERE RELIEVED.....	211
NUMBER OF SEAMEN, &c., THUS RELIEVED (MEMBERS OF THE SOCIETY—223, AND NON-MEMBERS—367)	590

DURING the three months in question there have been numerous and heavy claims upon the Society's resources, for the Relief of the Shipwrecked Fisherman and Mariner, as the result of destructive gales, or storms, involving various maritime disasters and calamities.

It would be impossible to give any detailed list of all the numerous vessels or places, brought under the Society's notice throughout the past Quarter: but special references to the more recent storms, with accounts of some of the most notable cases of wreck, &c., will be found duly recorded under the Heading of "The Sea and its Perils," in the current Number of this Magazine.



II.—RELIEF TO FISHERMEN AND MARINERS, THEIR WIDOWS, ORPHANS, &c.



Relief was afforded by the Society to Fishermen and Mariners, &c., Members of the Society, towards replacing their Boats or Clothes, and to the Widows and Orphans, or Dependent Aged Parents, of the Drowned, &c., between the issue of the last Quarterly Statement and the 31st March, 1882, as follows :—

FISHERMEN, MASTER-MARINERS AND MARINERS, PILOTS, BOATMEN, APPRENTICES, &c., RELIEVED FOR LOSS OF BOATS OR CLOTHES	490
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF SEAFARING MEN, RELIEVED ON THE DEATH OF THEIR HUSBANDS, AND FATHERS, &c.	564

THE respective periods of Membership of the Seafaring Men, themselves relieved, or at whose death their Widows and Orphans, &c., were relieved, as above, may be classified as follows :—Members of the Society from one to

ten years, 310 ; from ten to twenty years, 271 ; from twenty to thirty years 260 ; from thirty to forty years, 193 ; and from forty to fifty years, 5.

Of the Widows, in all 215, many of them suddenly reduced under most heartrending circumstances, to the greatest destitution, 25 were left with three children, 15 with four children, 9 with five children, 2 with six children, and 2 with seven children, while several of the 312 Orphans, now left fatherless, were already motherless.

The cases of the Dependent Aged Parents, numbering altogether 37, comprised amongst them many instances of great distress and sudden reduction to abject poverty, through the loss of their sole, or almost sole, means of support ; these stricken parents, too, being often special objects for compassion and relief by reason of incurable diseases, and the many infirmities incidental to advanced years, &c.

III.—REWARDS FOR SAVING LIFE.

Awards of the Society's Gold and Silver Medals, and of the Society's Framed Testimonial, instituted in recognition of praiseworthy endeavours to Save Life from Shipwreck, on the High Seas, or Coasts of the Colonies, with other Honorary or Pecuniary Rewards, have been made during the Quarter ending 31st March, 1882, as follows :—

AT COMMITTEE MEETING, FEBRUARY 24, 1882 :—

IN addition to the Awards of the Society's Silver Medal, as previously granted to members of the crews of the smacks *Reliance* and *Rialto*, of Ramsgate, the Society's Framed Testimonial was specially and unanimously awarded to the masters of these two smacks, respectively—namely, ALBERT A. ANNING, master of the smack *Reliance*, and GEORGE JONES, master of the smack *Rialto*—in further recognition of the praiseworthy efforts so successfully made for the Saving of Life upon the occasions in question.

The particulars of the services, thus referred to, are given in the subjoined statements, already printed, under this same heading, in the preceding Number (January, 1882) of this Magazine for the current Year.*

AT COMMITTEE MEETING, NOVEMBER 11, 1881 :—

THE Society's Silver Medal was unanimously awarded to each of the two men, MILES EDWARD YELLOP (mate), and STEPHEN BLACKMAN (senior apprentice), of the crew of the smack *Reliance*, of Ramsgate, which

* See, also, the Newspaper Announcement regarding these Rewards, as reprinted under the "Society's Proceedings," at p. 70 of the previous Number (January, 1882) of this Magazine for the current Year.

vessel had rescued and landed safely at that port, the master and entire crew of fourteen in all, of the S.S. *Countess of Durham*, when foundering at sea, about forty miles off the mouth of the Texel, during the gale of the 14th October, 1881—these recipients of the Medal being the two members of the smack's crew, who, at much risk, manned the small and crank boat of the smack, which effected the rescue in question.

AT COMMITTEE MEETING, NOVEMBER 25, 1881:—

FOR the most praiseworthy rescue, by the smack *Rialto*, of Ramsgate, in the smack's own boat, of the master and the whole crew of five men of the brigantine *Chilian*, of Sunderland, when foundering about four miles off the Cortin Gat Lightship, in a gale, on the morning of the 15th October last—the smack afterwards standing by for about two hours, and subsequently landing the rescued at Ramsgate, on the 16th October—the Society's Silver Medal was unanimously awarded to each of the two men, JAMES TAYLOR (mate), and WALTER JAMES SPAIN (seaman), who manned the smack's boat effecting the rescue; together with a special Pecuniary Award of Ten Guineas for further allotment to the smack's crew, in general recognition of their services on the occasion.

ATTENTION is again particularly requested, likewise, to the provisions of the newly-instituted "EMILE ROBIN LIFE-SAVING REWARDS," for English Seamen, as notified in *The Times*, &c., under date of November 26, 1880, and fully described and explained at page 63 of a previous Number (January, 1881) of this Magazine, in the Annual Volume, No. xxviii.

IV.—RELIEF IN EXTREME AND SPECIAL CASES.

Money-Grants, to Old and Necessitous Members of the Society, in Extreme and Special Cases of Distress and Destitution, have been awarded, during the past Quarter, ending 31st March, 1882, as follows:—

TOTAL NUMBER OF PERSONS RELIEVED 30

THE above figures embrace 20 Old and Necessitous Members themselves—of whom 14 had been Members for thirty years and upwards—with 4 aged wives, and 7 dependent or invalid children, &c., representing, in the peculiar needs of their several cases, almost every phase of misfortune, sickness, and poverty.

Of those thus relieved, 17 were in age between 60 and 70; and 10 between 70 and 80; with 3 between 80 and 90; while 11 were suffering from blindness, rupture, rheumatism, paralysis, or other infirmities, and from the effects of

accidents or injuries—all these disabilities, mostly permanent, incapacitating the afflicted claimants from pursuing their avocations as seamen.

V.—ANNUAL GRANTS TO WIDOWS AND ORPHANS.

Special Additional Relief, to Widows and Orphans of Fishermen and Mariners, left in want with young children, and to Widows themselves, above sixty years of age, in needy circumstances, was awarded on the last occasion—namely, to those included in the first (or January) list, for the Year 1882—as follows:—

NUMBER OF NECESSITOUS WIDOWS AND ORPHANS RELIEVED—(WIDOWS—1,422, ORPHANS—1,742)	3,164
PECUNIARY AMOUNT OF RELIEF.....	£4,250.

THE Relief thus awarded is, in every instance, in addition to that already given at the time of the drowned, &c., Husband's and Father's death, and forms what has been found to be a most important and most essential feature of the Society's benevolent work. A similar Amount of Relief, to a like number of other Widows and Orphans, as included in the previous (or July, 1881) list, was also specially awarded within the past twelve months—representing, in the aggregate, a total Annual Amount of more than £8,600, distributed to upwards of 6,500 necessitous Widows and Orphans.

The ages of the 1,422 Widows relieved on the last occasion, as above, may be classified as follows:—From thirty to forty years, 320; from forty to fifty years, 270; from fifty to sixty years, 218; from sixty to seventy years, 220; from seventy to eighty years, 316; and over eighty years of age, 78.

The widowed mothers of the 1,742 Orphans relieved, omitting the few Orphans who are left motherless as well as fatherless, may likewise be classified, as to number of young children depending upon them, as follows:—179 with three children; 87 with four children; 40 with five children; and 4 with six children.

PARAGRAPH which appeared in the various London and other Journals, giving an account of this last issue of these eagerly-sought-for Annual Grants, has been reprinted at page 149 of the current Number of this Magazine.



SPECIAL CONTRIBUTION LIST.

COLLECTIONS, DONATIONS, LEGACIES, SERMONS, &c., ON BEHALF OF THE SOCIETY, RECORDED SINCE THE ISSUE OF THE LAST QUARTERLY STATEMENT.

	£	s.	d.		£	s.	d.
L ONDON.— Her Most Gracious Majesty the Queen (annual).....	25	0	0	B ARNSTAPLE.—Offertory at the Parish Church, after Sermon by the Rev. A. E. Seymour, M.A.....	6	6	6
His Grace the Duke of Marlborough, the President of the Society (annual).....	15	15	0	Offertory at St. Mary Magdalene Church, after Sermon by the Rev. H. J. Bull, M.A.....	0	16	0
Proceeds of tickets sold and money taken at the gate, on occasion of annual Football Match between representative teams of the Stock Exchange and Lloyd's, at Kennington Oval, on February 23rd, and kindly remitted per E. H. Bambridge, Esq., Hon. Sec. to the Match	50	0	0	Offertory at the Roman Catholic Chapel (per Rev. Ralph P. Brindle).....	1	0	9
Mrs. Webster (per Captain Vincent Budd, Deputy-Chairman of Committee)..	5	0	0	B LYTH.— Congregational Collection in Wesleyan Chapel, after Sermon by the Rev. John Archer (per Mr. John Robinson, jun., Hon. Agent)	3	3	0
“Deo Gratia”.....	25	0	0	Congregational Collection by Captain Jane Close, of the Salvation Army (per Mr. John Robinson, jun., Hon. Agent).....	0	18	0
Trustees of the late William Thorngate, Esq. (annual)..	70	0	0	Congregational Collection by Mr. J. S. Swinburne, Evangelist (per Mr. John Robinson, jun., Hon. Agent) ..	0	14	0
Lewis Loyd, Esq.	25	0	0	Congregational Collection in the Church of Christ, by Mr. Joseph S. Lock (per Mr. John Robinson, jun., Hon. Agent)	0	14	0
Michael Wills, Esq.	50	0	0	C HURCH LAWFORD, RUGBY.—Congregational Collection in Church, after Sermon by the Rev. David Wauchope, M.A. (Life Governor)	3	18	9
Thames Conservancy Commissioners (annual)	10	10	0	C OLDSTREAM.— Congregational Collection, after Sermon in the Free Church, by the Rev. Jas. R. Gillies, M.A. (per Mr. John Smith, Hon. Agent)	2	10	1
National Provincial Bank of England.....	10	10	0				
James H. Crossman, Esq... ..	15	0	0				
W. Dent, Esq.	50	0	0				
The Leathersellers' Company	10	10	0				
The Joiners' Company.....	5	5	0				
Collecting Boxes on board the SS. <i>Esther</i>	0	3	1				
SS. <i>Warwick Castle</i>	2	2	0				
B ARMING.—Christmas offertory in Barming Church, after Sermon by Rev. T. W. Carr, M.A.	4	15	5				

	£	s.	d.
B UNGARVON.—Proceeds of a Lecture on "The Arctic Regions," by Capt. G. O. Stoney, "The King's Own Borderers" Regiment (per Mr. Edward Jacob, Hon. Agent at Waterford)	1	6	0
B ASINGTON.—Offertory, after Sermon by Rev. Nesbert Wilebough (per Mr. W. Bulson, Hon. Agent)	1	17	6
B ASTINGS. — Proceeds of Lecture given in the Castle Hotel Assembly Rooms, by Captain C. D. Campbell, H.M.I.N., Life Governor (Hon. Agent at Guildford)	3	5	0
B ILNSEA.— Offertory, after Sermon by Rev. Nesbert Wilebough (per Mr. Wm. Bulson, Hon. Agent)....	0	15	0
B YTHAM. — The Misses Hewitt (per Mr. J. W. Wilding, Hon. Agent)....	100	0	0
B YACDUFF (N.B.)—Proceeds of Concert (per Mr. James Farquharson, Hon. Agent)	1	18	9
B YETTERAVON.—Offertory in Church, after Sermon by the Rev. W.H. Heaven, M.A.	1	1	0
B YEWPORT (ESSEX).—Proceeds of Entertainment, per Rev. J. C. L. Court, M.A.	1	11	6
B YETERHEAD.—Part proceeds of Concert, promoted by Mrs. Morgan Morgan, the Parsonage (per Alexander Robertson, Esq., Hon. Agent)	5	0	0
B YLYMOUTH. — The Misses Bayley	20	0	0

	£	s.	d.
B YRIGATE.— Churchwardens of Parish Church, for Balance of Mission Account (per Wm. Allingham, Esq.)	3	2	2
S OUTH YARMOUTH (ISLE OF WIGHT). — Congregational Collection in Church, after Sermon by the Rev. C. T. Fisher, B.A. (per Mr. W. Magawly, Hon. Agent)	1	15	0
S OUTHPORT. — Congregational Collection in the Church of Hesketth with Becconsall, after Sermon by the Rev. Richard O'Brien, M.A., Rector.....	1	18	0
S TRANRAER. — Congregational Collection, after Sermon by the Rev. David Miller, M.A. (of the Free Church), in Stranraer Established Church, kindly lent by the Rev. H. P. Charlton (per James Waters, Esq., Hon. Agent)	15	0	5
S UNDERLAND.—Proceeds of Lecture by the Rev. A. A. Rees, Life Governor (per R. M. Hudson, Esq., Hon. Agent)	8	7	9
S WESTPORT. — Harbour Commissioners (per Mr. W. McCord, Hon. Agent)	10	0	0
S WOLF'S CASTLE (PEMBROKE). — Congregational Collection at St. Lawrence Church, after Sermon by the Rev. John Bowen, B.A.....	1	10	9
—♦♦♦—			
B EGACIES RECEIVED:—			
C. R. Craddock, Esq....	100	0	0
Miss C. W. Sutton	10	0	0
Benjamin Powell, Esq.....	10	10	0
Edward Cushee, Esq. (Consols)	449	18	9
Miss Jane Rowe	629	13	7
Mrs. Christian Chivas.....	53	17	0
Mrs. Jane Draeger	90	0	0



THE YEAR, AND THE MONTHS.

1882.

OLDEN NUMBER—2; SOLAR CYCLE—15; DOMINICAL LETTER—A; JULIAN PERIOD—6,595; EASTER SUNDAY—APRIL 9; WHIT SUNDAY—MAY 28; ADVENT SUNDAY—DECEMBER 3.

THE SEASONS.

*“ Spring—Showery, flowery, bowery :
Summer—Hoppy, croppy, poppy.
Autumn—Wheezey, sneezey, freezey :
Winter—Slippy, drippy, nippy.”*

LINES ON FRENCH CALENDAR, 1793.

SPRING, March 20, Sun enters Aries, 5 P.M. | AUTUMN, Sept. 23, Sun enters Libra, 4 A.M.
SUMMER, June 21, Sun enters Cancer, 1 P.M. | WINTER, Dec. 21, Sun enters Capricornus, 10 P.M.

The EQUINOXES—at Spring and Autumn; the SOLSTICES—at Summer and Winter.

ECLIPSE OF THE SUN (TOTAL)—May 17th, visible as Partial Eclipse at Greenwich.

ECLIPSE OF THE SUN (ANNULAR)—November 10th, invisible at Greenwich.

TRANSIT OF VENUS ACROSS THE SUN'S DISC—December 6th, partly visible at Greenwich.

APRIL.

*“ A cold April
The barn will fill.”*

PROVERB.

SUN.

1st DAY Rises 5h. 37m. Sets 6h. 30m. | 15th DAY Rises 5h. 6m. Sets 6h. 54m.
8th DAY Rises 5h. 22m. Sets 6h. 42m. | 22nd DAY Rises 4h. 51m. Sets 7h. 5m.

MOON.

3rd DAY Full Moon 5h. 47m. P.M. | 17th DAY New Moon 9h. 33m. P.M.
11th DAY Last Quarter 6h. 30m. A.M. | 25th DAY First Quarter 6h. 56m. A.M.
IN PERIGEE, 15th DAY ... 5 P.M. IN APOGEE, 27th DAY ... 3 P.M.

MAY.

*“ The haddocks are good,
When dipped in May flood.”*

PROVERB.

SUN.

1st DAY Rises 4h. 34m. Sets 7h. 20m. | 15th DAY Rises 4h. 10m. Sets 7h. 42m.
8th DAY Rises 4h. 21m. Sets 7h. 31m. | 22nd DAY Rises 4h. 1m. Sets 7h. 52m.

MOON.

3rd DAY Full Moon 8h. 31m. A.M. | 17th DAY New Moon 7h. 33m. A.M.
10th DAY Last Quarter 0h. 35m. P.M. | 25th DAY First Quarter 0h. 41m. A.M.
IN PERIGEE, 13th DAY ... 3 A.M. IN APOGEE, 25th DAY ... 9 A.M.

JUNE.

*“ Mist in May, and heat in June,
Make the harvest right soon.”*

PROVERB.

SUN.

1st DAY Rises 3h. 50m. Sets 6h. 5m. | 15th DAY Rises 3h. 44m. Sets 6h. 16m.
8th DAY Rises 3h. 46m. Sets 6h. 11m. | 22nd DAY Rises 3h. 45m. Sets 6h. 18m.

MOON.

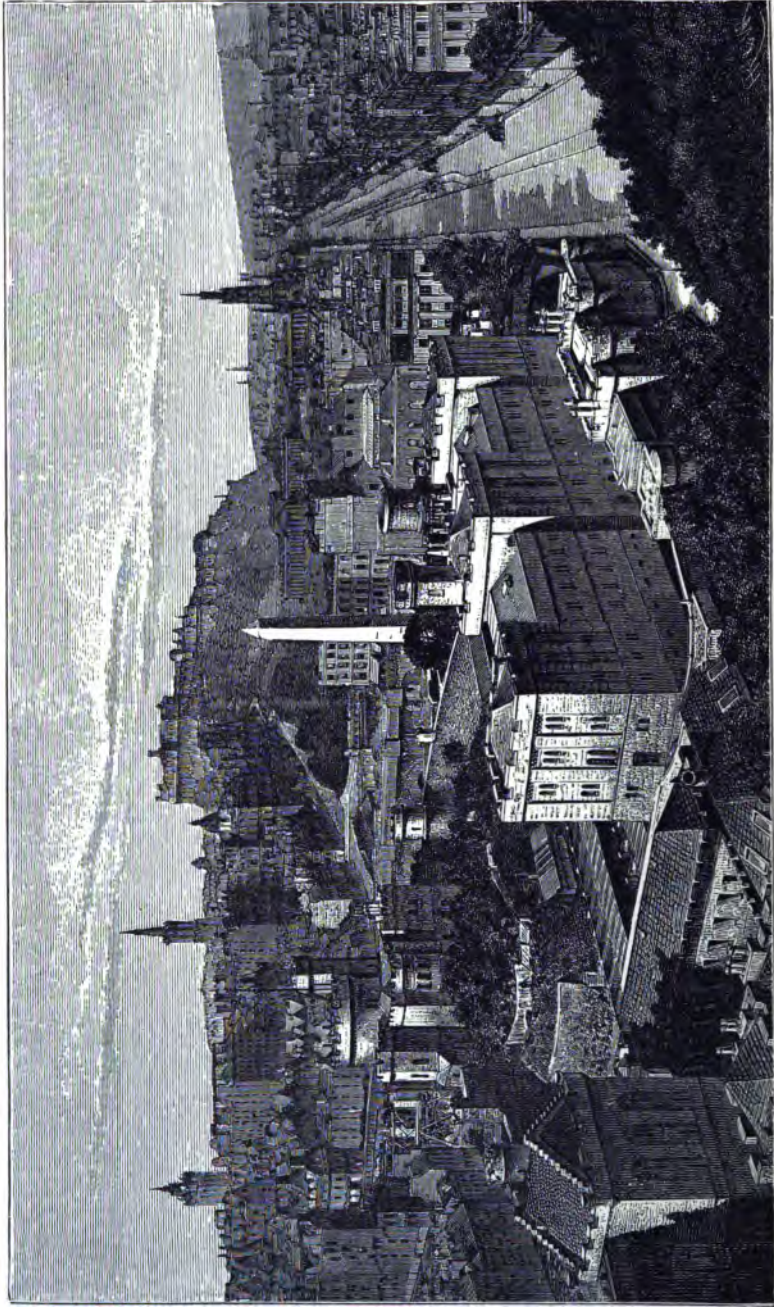
1st DAY Full Moon 8h. 33m. P.M. | 15th DAY New Moon 6h. 33m. P.M.
8th DAY Last Quarter 5h. 9m. P.M. | 3rd DAY First Quarter 6h. 1m. P.M.
IN PERIGEE, 7th DAY ... 6 A.M. IN APOGEE, 22nd DAY ... 4 A.M.

ILLUSTRATED] "The Shipwrecked Mariner." [MAGAZINE.

APRIL 1882.



FRONTISPIECE.—“*Die Schiffsreede Mariner.*”—JULY, 1852.

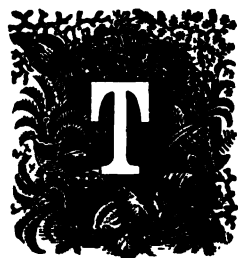


THE CITY OF EDINBURGH.



Published under the Auspices of the "Shipwrecked Mariners' Society."

THE INTERNATIONAL FISHERIES EXHIBITION, AT EDINBURGH.



THE historian, casting about for a distinctive term by which to designate the present period, might not inaptly style it the Age of Exhibitions. Great International Exhibitions we have had in every country, nor have the Colonies been at all behindhand, and, from exhibitions embracing every possible object of interest, we have come to those which deal exhaustively with one class of subjects.

Of the latter kind was the International Fisheries Exhibition, quite recently held at Edinburgh, under Royal patronage and State recognition, in what is known as the Waverley Market. This is a large, rectangular one-story building, lighted through the roof, communicating with a permanent Aquarium, which, for the occasion was thrown open to all visitors to the Exhibition. Standing in one of the galleries with which the building is surrounded, the scene was a varied and pleasing one. From the girders of the roof were festooned numerous fishing-nets, with modelled fish snared therein, and interspersed with flags and other decorations; below,

ranged in picturesque confusion, a large display of exhibits, either on well-arranged tables, or independently asserting themselves on showy stalls. Here, we have specimens of all kinds of salt-water and fresh-water fish and aquatic birds, whether stuffed or modelled, drawn, painted, or photographed. There, are models of apparatus, boats, implements, and gear; models of vessels employed in conveying fish to market, all sorts of crab and lobster pots and fish "creels," rods, lines, artificial flies, baits, hooks and gaffs; whale-boats, harpoons, knives, portable boats, ropes, cordage, and canvas. Then, again, examples of fish culture, ova, and live fish; apparatus for hatching, rearing, and transporting them. Salmon ladders, with the fish themselves experimenting on them. Tinned fish in every tempting form, with an appreciative crowd taking a fish luncheon at the various stalls. Smoked fish, dried and salted fish, which curers may be seen examining with no ordinary degree of interest, with eyes, and nose, and thumbs. Rows and pyramids of brilliant-coloured clear bottles; how tempting they look, but, alas! how disappointing: they are full, every one, of fish oil. All is redolent of fish, even many of the people who jostle one in the crowd—for crowd there is; and great is the interest evinced by these fish-catching, fish-preserving, fish-selling, and fish-eating people, some of them in their best Sunday attire of serviceable blue, but some in their workaday jerseys, and their wives and daughters arrayed in "full fisher costume," with its gaudy striped petticoat, and antique head-gear, setting off their fresh, healthy, and handsome faces. But moving round to the other side, we come in view of other objects of interest, models of fishing-boat harbours and fishermen's houses; examples of fishermen's food and clothing; drawings and models of fish-markets and swimming schools, chronometers, barometers, patent logs, and telescopes. Many objects brought from France and Italy of more special interest to the ladies—coral, amber, jet ornaments, rock-work grottoes, all products of the sea, worked up into articles of utility or ornament.

It would be well to point out the distinctive characteristic of this Exhibition as compared with that held at Norwich last year, or those of Berlin and Paris, at none of which was any attempt made to introduce the International element. At Edinburgh it was otherwise; and the experiment having proved a success, greatly enhanced the value of the Exhibition as the means of conveying to home-producers not

only many useful hints and many new ideas, but also as giving incentives to higher efforts, though, at the same time, it subjected them to severer tests in adding foreign competition to that of the home exhibitor. There are reasons to believe this interchange will be of great value for all, whether native or foreign, and the practical benefits likely to follow to the fishing industries everywhere will be, it is hoped,



THE FISHERMAN'S DAUGHTER AT HOME.

very considerable. Much that concerns this aspect of the subject is necessarily of a somewhat technical nature, but in the pages of a fisherman's magazine it will be thought all the more appropriate on that account. We propose to give, as briefly as may be consistent with a due regard to perspicuity, a description of some of the prin-

cipal exhibits, beginning with the Swedish collection, and afterwards following as closely as possible the classes into which they were divided by the Executive Committee.

The Swedish collection made its appearance in Edinburgh at the expense of Mr. Oscar Dickson, of Gothenburg, well known in connection with Swedish Arctic exploration. As an exhibition of the fauna of the sea it would be difficult to produce its equal, and its great value has been recognised by scientists from all countries. Professor Nordenskiöld also contributed two cases, included in this exhibit, containing animals procured in his memorable expedition in the *Vega*, in 1878-1880, which settled the practicability of a North-east passage, and, at the same time, added much to the storehouse of scientific research. There were shown specimens of the invertebrata of the eastern Polar Seas, which Nordenskiöld and Dr. Julius Stuxburg, the zoologist of the expedition, secured from the trawls and dredges, asterids, sponges, crinoids, crustaceans, and many other varieties of marine creatures, all beautifully preserved and arranged, many being procured from depths of the sea where darkness is perennial, and the temperature below the freezing point of pure water, these peculiar conditions having no apparent effect on their growth and development. One of the most curious exhibits was part of a skeleton of a sea animal, said to be extinct since the year 1854, namely, Steller's sea-cow (*Rhytina Stelleri*). This animal would seem to have been much like the seal in general form, and measured, in some instances, thirty-five feet and upwards in length. It was covered with a hairy, leathery skin, and had two short fore legs, without digits or claws, whilst its hinder end resembled the tail of a whale. The Russians, until a comparatively recent period, sought this animal for the sake of its flesh, which resembled beef. The Gothenburg collection included specimens of the various stages of development of a number of different kinds of fish, and the condition of several kinds of fish at the different periods of the year. These, and the other specimens shown, were collected by Professor Malm during the last thirty years, and were placed under the care of his son, Dr. A. W. Malm, who was present at the Exhibition at stated times to give the necessary explanations.

Seventy specimens of the herring, from the Kattegat and neighbouring fishing grounds, were shown in its several stages, from the

roe to its full development. In tracing the similar stages of the growth of the flounder, a curious development is discernible. In the earliest stages the young fish has one eye on each side of the head, and it swims edgeways; but, when it has become about an inch in length, one eye is brought round beside the other, and the fish commences to swim on its broadside, as usual with fiat fish. The Swedish collection included specimens of marine animals from Sweden, and of the parasites of fish, of marine birds, specially of those that prey on fish, and of their eggs. There was also a collection of the boats and implements used in that country, and a number of exhibits of commercial interest in



THE DOG-FISH (*ACANTHIAS VULGARIS*).

connection with the great fishery conducted by the Swedes on their own shores, and in the seas between them and the coasts of the British Islands. Some beautiful ornaments made of shells, and some grotesque figures formed of the claws of lobsters, for a moment arrest the attention, and with them we bring our notice of the admirable Swedish collection to a close.

Class I. gave an excellent exhibition of Buckland's casts of fish, and of stuffed birds from South Kensington. Prominent among the former was a splendidly modelled and artistically painted *fac-simile* of a salmon caught in the Tay, weighing 70 lbs.; models of pike, trout, dog-fish, and of an octopus. Drawings illustrative of the fauna of

the sea, and preparations showing the diseases of fish. Mr. W. C. Mackintosh supplied a most interesting case showing examples of fish found off St. Andrews and the Channel Islands, and upwards of seventy preparations displaying the development of the salmon from the ova onwards. Examples of the parasites which infest the salmon were also exhibited, and a large number of shell-fish and pearl-mussels. The same exhibitor sent fragments of rocks bored by crustaceans, and a piece of deep-sea telegraph cable, the insulating material of which was similarly damaged. Several cases of stuffed birds, including a fine sea-eagle, rare aquatic birds, and varieties of fish. Specimens of the heron, black-throated diver, and otter, all in the act of devouring fish, a stuffed seal, and skeleton skulls of haddock, hake, and cod-fish, disarticulated for scientific examination. Mr. George Sinclair, of Ollaberry, Shetland, an Honorary Agent of the SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY, supplied a photograph of the operations in connection with fish-drying; also the skin of a large otter, a large number of these animals being found in Shetland. Mr. Archibald Young, the Commissioner of Scotch Salmon Fisheries, showed a model of the American fish-eating bug—the *Belastoma grandis*—seated on the back of a small trout, preparatory to killing and eating him. In connection with this class were to be seen a number of live fish in the Aquarium, including Sir James Gibson Maitland's exhibition of artificially-reared salmonidæ, some sea-trout from Lochbuy, and 10,000 fry of the species *Coregonus bairi* sent by M. Constantine Muszynski, from Russia. The show of oysters was somewhat meagre, the French not having put in an appearance, and the Scotch having only two entries, as against several from England and Ireland. This is no doubt accounted for, as regards Scotland, by the decadence of the oyster-beds in that country. Not so very long ago—1888-40—oysters from the Firth of Forth were to be bought for 8d. and 4d. per 100, but as facilities increased for sending them away they steadily rose in price, and now fetch about 10s. to 12s. per 100. This rise in value no doubt acted prejudicially, the beds were over-fished and the supply is now greatly diminished. A rough-shelled oyster, possessing a fine flavour, was shown by Messrs. Garriock & Co., of Beawick, Shetland, where that firm represents the Society in whose interests this Magazine is published. The finest oysters, however, were shown by the English exhibitors, amongst whom we observed Mr. Albert Brazier

of Southwick, Brighton, and Mr. Coleman, of Whitstable, with a display of oysters from the beds of the Whitstable Oyster Guild, a corporation dating back many centuries, and reputed to have supplied the Saxon kings with the dainty bivalve. Both exhibitors adopt a system of culture which the Scotch oyster owners would do well to imitate. Young brood are brought from different places and placed



OYSTER-DREDGING.

in the beds, where they are tended and fattened till ready for the London and Continental markets. The beds of the Whitstable Company are nearly three miles in extent. On their stand in the Exhibition was shown the "native" in every stage of development, from the spat to the full-grown oyster. At first it is quite microscopical; at the end of the year it has become the size of a sixpence; at the

second year it is as large as a florin ; at the third year it is only "half-ware," and not an oyster until it has attained the fourth year of its development. Mr. Russ, an Irish exhibitor from Sligo, had a large collection, the oysters being reared from spat brought from Auray and Arcachon, in France.

Numerous models of ships, yachts, and boats were exhibited ; with what was of more importance, models of improved rig for fishing-boats. Considering the stormy nature of the seas in which these boats are employed, it is of the utmost consequence that they should be of a thoroughly serviceable and seaworthy character, and it can scarcely be maintained that the heavy lug-sail, almost universally employed, which requires dipping at every tack in beating to windward, is a safe or handy sail, however convenient for the mere purposes of fishing. The favourite rig adopted by competitors for the prizes offered for an improved rig of fishing-boat, as a substitute for the lugger-rig, was the yawl—a fore and aft rig, consisting of main-mast, fore-sail and jib, and a mizzen-mast, sometimes with a shoulder-of-mutton sail on it ; sometimes with a sail having a gaff and boom, like the mainsail, only smaller ; and sometimes with a lug-sail. Mr. W. Jarvis, of Anstruther, showed a fine model of a yawl-rigged boat, about 45 tons, which was estimated to cost £320. A model of a balance lug-sail was exhibited by Captain T. A. Swinburne, R.N., its speciality being that instead of all the sails being on one side, there is one on the windward and one on the lee, so that there is no time lost in lowering the sail in tacking. The same gentleman sent models of a reversible portable anchor of novel construction ; not only could the several portions of this anchor be taken apart for convenient carriage, but it was possible to convert the component parts of one anchor into two. Mr. Martin Boyd, of Irvine, exhibited a new arrangement of mast and sail for fishing-boats. The mast was of a peculiar construction, rising from each side of the boat, like the legs of a pair of compasses, and meeting at the top. Thus the danger that exists with the ordinary mast when the sail is taken aback is avoided, and it also avoids the great labour of dipping the sail every tack when beating to windward. There is thus a broad driving-sail of great power, possessing all the advantages of the ordinary lug-sail without any of the dangers or extra labour connected with the present rig of luggers—and it is claimed that this form of mast and rig has

all the advantages of the lugger and cutter rigs combined, while free from the disadvantages of either. The model is fitted with a screw arrangement for elevating the mast, which can be worked by one man—the ordinary way requiring the labour of the whole crew,

About thirty specimens of fishing-boats and trawlers were collected in one part of the exhibition, many of them finely-finished models, and in another part about twenty of Continental construction, together with some Chinese models. Several models of hulls, beautiful



ON BOARD A FISHING BOAT.

as regards both form and construction, were shown, as well as of forms of rig, and from them we select for special notice one by Messrs. Sims & Toozes, of Hull, as being one of the best in the exhibition. It represents a vessel 72 feet by 21 feet, of about 100 tons, fully equipped for sea, with a novel capstan, working with a handle instead of capstan-bars. Many other excellent models might be described, if the numerous other exhibits did not claim a portion of the space at our disposal. A useful invention, as tending to reduce the loss of life from fishing-boats, was exhibited by Mr. Garden Duff

Dunbar, of Hempriggs. It consists of a safety rail, or bulwarks, for fishing-boats, composed of a rope passed through a number of iron standards around the side of the boat. By a simple contrivance these standards are caused to fall by a joint at the deck, this being a great improvement on the old method, as it leaves the way clear for hauling the nets.

There were, besides, it may well be guessed, a vast number of other exhibits, which, however, it will be impossible within the compass of the present article to notice.

L. S.



THE RIVULET.



STAY, rivulet, nor haste to leave
 The lovely vale that lies around thee ;
 Why would'st thou be a sea at eve,
 When but a fount the morning found thee ?
 Born when the skies began to glow,
 Humblest of all the rocks' cold daughters,
 No blossom bowed its stalk to show
 Where stole thy still and scanty waters.
 Now on thy stream the noonbeams look,
 Usurping, as thou downward driftest,
 Its crystal from the clearest brook,
 Its rushing current from the swiftest.
 Ah ! what wild haste !—and all to be
 A river, and expire in ocean :
 Each fountain's tribute hurries thee
 To that vast grave with quicker motion.
 Far better 'twere to linger still
 In this green vale, these flowers to cherish,
 And die in peace, an aged rill,
 Than thus, a youthful Danube, perish.

W. C. BRYANT.





THOUGHTS WHEN AFLOAT, ON NATURAL PHILOSOPHY, OR COSMICAL CHANGES.

[BY A FELLOW OF THE ROYAL ASTRONOMICAL SOCIETY.]



SOME years ago, when sailing through that vast group of islands in the Pacific Ocean situated between the Equator and the 11° of north latitude, and stretching from 135° to 175° east longitude, I was led to reflect upon that mystery of nature, the upheaval of the earth.

All writers on this subject with whom I am familiar rest their conclusions on the coast-line, in which they find proof of a higher level of the sea having obtained in former ages than is to be found at present.

With this I agree; but differ entirely upon the cause of the sea's depression, holding the opinion that there has been a gradual subsidence of waters on the earth since the eruptive period, and that the process is still in force, and will continue until the earth, destitute of water, shall become an arid desert, with desolation, intensified by extreme darkness and frigid cold.

Most writers entertain the view that intense heat would attend the unobstructed ray of the sun striking the earth; but from this idea I also differ.

I base my theory upon water as the source of light and heat, and from whence we derive electricity, lightning, &c. Each of these will be treated upon in turn. It will, however, first be necessary to show the subsidence of the ocean in operation.

To all persons acquainted with the motions of the sea, it must be evident that the undulation of the wave travels with the wind, and when it breaks upon the shore its spray is borne onward by the wind over the land. That the sea contains much salt may be seen by the quantity encrusted on a steam-ship's funnel on a windy day. If, then, so small an object gathers so much salt after a few short hours' resistance to the wind, what an amount must the land have received from the surging of waves for ages we cannot number!

It may be said that salt, being soluble, will run back to the sea. When dissolved by the rain or dew, the soluble part of salt does undoubtedly find its way back to the sea; but the lime and insoluble



CORALLINE FORMATIONS.

parts remain, not only as an accumulation but as a fertiliser of the soil. It may be further agreed that the sea, thus robbed of its solidity (if I may be allowed the term), must become reduced in specific gravity. Undoubtedly so, were there not counteracting causes in operation.

To turn our search upon any known continent, we find, in extinct "water-courses and lakes," full evidence of the decrease of fresh water upon the land, and, to continue the research into nature's laws, we shall find these laws most absolute, and in their demands exacting from the ocean an equivalent for that which disappeared in the drying-up of lakes and rivers on the land; and as this is complied with through the process of evaporation, in which fresh water only is

lifted, the equilibrium is maintained in the specific gravity of the ocean. Opposition may be taken to this view, on the plea that, as the coast-line shows a subsidence of the sea in excess of all dried-up waters on the land, the sea must have gained in specific gravity.

In defence of my views on this head, recourse must be had to the labours of the coralline, or coral insect, from which the group of islands mentioned at the commencement of this paper derive their name. This tiny but active worker, found in greatest numbers where evaporation is most intense, extracts the surplus salt or lime from the salt, to build those reefs we mariners have so watchfully to guard against. Where the coralline fails to equalise the forces, the law of



A CORAL ISLAND.

gravity comes into operation; the heavier water sinks, and, forcing outwards into the lighter waters towards the Poles, returns again in those currents which sweep the massive iceberg to dissolve in temperate seas, thus begetting aqueous circulation similar to the aerial, or to that constituting the sustaining power of every living creature.

It may, again, be said that a gradual subsidence of the sea would not have left the inequalities we find in the water-marks of the coast-line. To this it may be replied that every one of the islands of volcanic origin, which are numerous and found in every sea, is evidence of partial upheaval; and to this cause I attribute the inequalities of the coast-line. The force that could lift from the depths of the sea the

ponderous mass which at its apex forms an island may have disturbed the adjacent coast.

The fact, also, of the earth's crust having gradually become cooler—of which we have abundant evidence in the remains of tropical animals and plants found in both temperate and frigid zones—should argue against universal upheaval, and favour that of the gradual subsidence of water and heat, especially so as these remains are found at moderate elevations. It is also reasonable to suppose that many of these islands have been thrown up at a later date than during the period when the waters covered the earth, and, if so, in proportion to the displacement, should the water on the coast-line have risen.

Again, we find thousands of square miles of land formed by silting at the confluence of large rivers, where once the sea flowed in depths to float the largest ships, yet the water-line on every coast is lower.

If not by the sea's subsidence, how are we to account for the present level of the group of islands named at the commencement of this paper? The insect-builder could not rear them to the surface, and live; neither can we call to our aid driftwood and fish bones. These do their part, when, after ages, the slow process of subsiding water has left the reef near the surface, then, with the accumulations from spray and atmospheric action, they are rendered fertile, and, as we now find them, fit for the abode of man.

In my endeavours to prove water to be the main source of light and heat, and, in its secondary state, the embodiment of electricity and fire, I am led far into the domain of speculation, and, I allow, of some embarrassment. It is no transgression of the truth to state that general opinion attributes light and heat, on this and the other planets of our system, to be wholly derived from the sun. To reason from analogy, these planets, many of them so much larger than our earth, must be inhabited, and probably by beings higher in the stages of intellectual culture than ourselves.

With this admitted, into what singular conditions of temperature does this opinion of "sun-diffusing heat" place these planets. Venus and Mercury, especially the latter, will require inhabitants of the salamander type to endure the heat; while those of Saturn, Uranus, and others, something we can literally form no conception of to support the cold.

With such evidence in surrounding nature that our God has made no mistakes, I think we are called upon to base our conclusions on more reasonable hypothesis.

Probably the sun's glare in a clear sky is answerable for much error in our views upon the origin of light and heat; both of these being demonstrated to the senses, we fail to carry our search beyond, or remain content to shape our argument to fit this groove. Truth, however, often rests beyond first appearances.

A lump of coal gives no external evidence of its remarkable combination of latent heat and light-giving gases; a glittering mass of



COAST-LINE INDENTATIONS.

gold would appear to the eye of sense a more certain embodiment of fire.

But, for the sake of argument, let us suppose the sun to be a body of intense heat, and, reasoning from such conclusion, can we accept, without doubt, his capacity to diffuse that heat over a space of 94,000,000 miles, or, in the case of other planets, say Saturn, 894,000,000 miles? If it be a fact that the sun does so diffuse his heat, this earth of ours must be floating in an atmosphere of equal heat, an assumption at once destroyed by the fact of the different temperatures existing on our globe, and by the fact of cold becoming more intense as we approach

the outer rim of our atmosphere. The mountain top is nearer the sun than its base, and yet we find it the abode of eternal snow.

That the sun, in combination with our atmosphere, gives heat is too evident to need comment, but that active heat descends from the sun the arguments advanced must have set at rest. Friction is the process by which atmospheric heat is produced. Thus the sun's ray, how or of what constituted I am not prepared to state, striking our atmosphere, produces light faintly, while contact remains in the lighter upper strata, but gaining in volume as it advances through the denser strata bordering the earth or sea level.

The nature of the atmosphere upon which the sun's ray strikes is the question next in order. To supply a name, let us borrow that of electricity, in this case produced by an atmospheric distillation of water in combination with gas arising from decomposed matter, animal or vegetable, taken aloft in the process of evaporation. Of this process there are doubtless various stages. Water, as all know, is constituted of minute particles or globules; if so, then, in its compact or normal state, how infinitesimally small and how aerial those globules or molecules ascending to the upper atmosphere in the process of evaporation. Yet each of these, as it rises in whirling progress, becomes, through friction with its fellow, brighter, and reflecting backward, giving heat, until, with room for expansion, it disperses, and freezes against the cold ray of the sun, to fall again in vapour or rain for fertilising the earth.

The word distillation is introduced as exemplifying the process of rising gas mingling with water, and, in the fusion, producing electricity, and, through this agent, light, heat, and elemental fire. Also, because in this process we find that water, in the absence of properties of heat in itself, may be made to contain all the elements required.

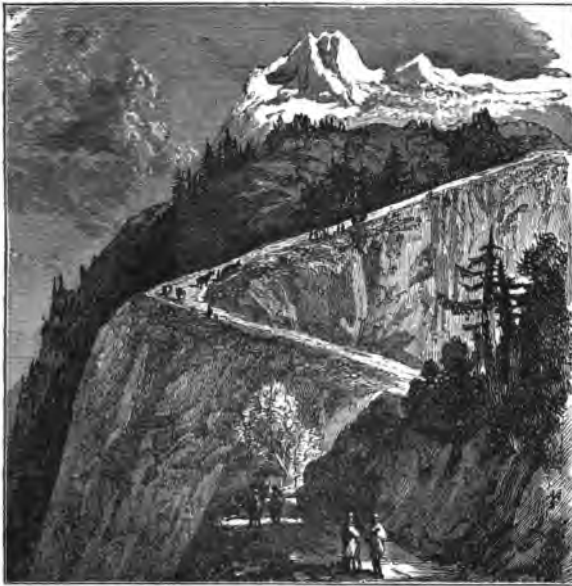
From the compactness of water in its normal state, and its capacity of expansion under heat, combined with the abundance of the supply, we may see the wisdom of God in providing so liberally for all the requirements of His creatures. Still, with such vast demand, who can doubt the eventual exhaustion of the supply.

It is said that every drop of water lifted by evaporation returns again to the ocean—like many other sayings, "a mere figure of speech." Water, probably of all elements, is least capable of change in its properties, but nothing the earth contains can be subject to constant

translation from original to secondary stage, and *vice versâ*, without some diminution of the primal substance.

It will be evident from the position herein given to water in the economy of nature, that the earth must be deprived of light and heat without it. I shall now, in the third place, endeavour to show how a large portion of the earth is colder than in former ages, and the cause of cold commencing at the Poles and travelling towards the Equator.

It is stated above that gases, generated by the decomposition of animal or vegetable matter, hold a prominent place in the production



A SNOW-CLAD MOUNTAIN TOP.

of light and heat. According to this theory, it must be evident that without vegetation or with a limited supply of animal matter, there must be comparative absence of light and heat.

Now, the earth gives proof of having been for ages submerged in water. On the loftiest hills we find shells and other marine deposits, which can only have been produced under the sea. Whether the sea receded from these deposits, or they were thrown there by volcanic force, does not affect the argument in its present stage. It is, however,

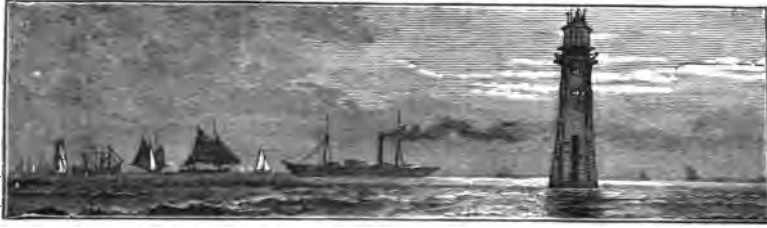
reasonable to suppose that while the earth remained submerged, its temperature was equal throughout, and continued thus until all surface heat had evaporated, probably for ages after its crust had been left exposed to atmospheric influence.

The surface heat which had been inherent (not borrowed) in the earth, when once evaporated, left nothing behind to produce steam, which, with the earth hitherto shaded in gloom, screened it from the cold ray of the sun ; and, as there could not be much friction on that part of the globe which stoops so rapidly towards the Poles to produce heat by this process, vegetation ceased, and the sun's ray, finding ready access through the impoverished atmosphere, produced at the Poles the reign of cold which, with gradual encroachments, will eventually envelope the earth. This encroachment, however, like other cosmical changes, will be very slow. Whilst there remains water in sufficient quantity to form an atmosphere, the friction caused by the earth's diurnal motion will give sufficient heat to resist this change on the vast plain extending from the Equator, north and south beyond the Tropics.

It is probable that during the period of general heat (*i.e.*, Poles and Equator alike) the portion of the earth now so prolific in animal and vegetable life was covered with slime and mud, and enveloped in gloom and mist, and was the abode of those singular monsters whose massive skeletons excite our present curiosity and surprise. While the earth sustained her own atmosphere of steam, produced by internal heat, the decrease of water may not have been great on the earth. We thus find it necessary to assume another or fourth period—fourth in sequence according to the abstract reasoning of our theory, but which, in a general sense, is only a second period. The consideration of such other period, however, with any additional remarks, must be left for a subsequent occasion.

J. S.





CAPTAIN COOK.



(Continued from p. 108.)

XIII.—THIRD VOYAGE. THE SHIPS ARRIVE AT HAPAAE—FRIENDLY RECEPTION—GREAT FESTIVITIES—THE STATE OF CULTIVATION—CURIOUS CUSTOMS—A GREAT SURPRISE—THE VISIT TO TONGATABOO—DEPARTURE THENCE.



T was at daybreak on 16th May, 1777, that the *Resolution* and *Discovery* sailed from Annamooka for Hapaae (or Habai Isles), a group of low islets, named Haanno, Foa, Lefooga, and Hoolaiva; the natives included all four in the general name Hapaae. Omai, in company with one Feenou, a chief of some consequence in Tongataboo, first set out in a canoe for the islands, and, having landed, made a beacon-fire, which they kept burning all night; for the channels among the coral reefs were very dangerous, and the wind having scanted, the ships had to fly to windward throughout the night, and sometimes passed over coral rocks covered with only six fathoms of water. At daylight next morning Foa was fetched, and an anchorage found by a creek in the reef—not a mile from a good landing-place. By the time the ships were anchored they were surrounded by many canoes, and the decks were soon filled by natives, who carried on board hogs, fowls, fruit, and roots, which they exchanged for hatchets, knives, nails, beads, and cloth.

Feenou and Omai shortly appeared, and requested Cook to go on shore to be introduced to the natives. The captain complying, all three landed on the north of Lefooga, where a hut had been brought for their

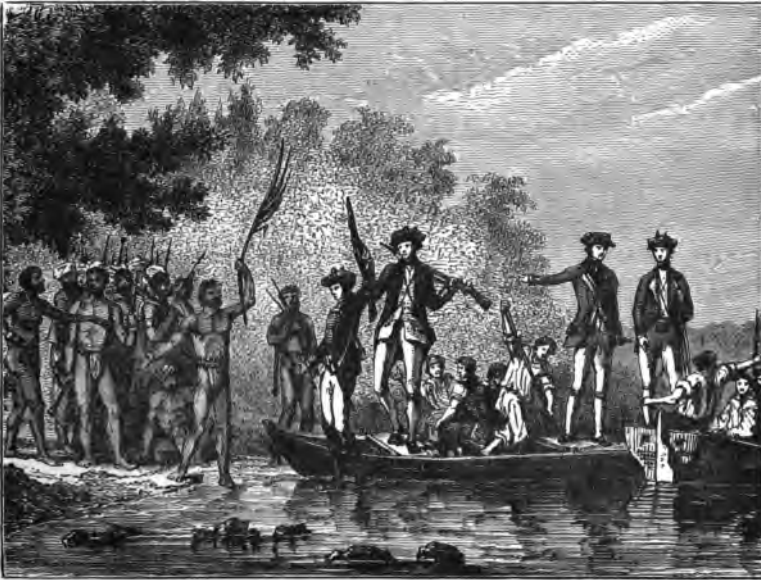
reception. They being seated therein, some chiefs (the principal being one Earoupa) and a multitude of natives squatted on the ground, in a circle, by the hut. Cook was asked what stay he would make, and he replied five days; whereupon a proclamation was made to the people and a covenant entered into. Taipa, a sort of Secretary of State or Prime-Minister to Feenou, was requested to speak to the natives, and the purport of his harangue was, that they were all, both old and young, to look upon Captain Cook as a friend, who intended to remain with them a few days; that during his stay they must not steal anything, nor molest him in any way; and that it was expected they would bring hogs, fowls, &c., to the ship, where they would receive in exchange certain articles of value. Feenou then withdrew, and Taipa intimated to Captain Cook that it would be necessary to make presents to Earoupa, which request was liberally complied with.

On the next day Cook's presence on shore was again requested. A great festivity was prepared for him. Being seated in the same place as on the day before, about 100 natives appeared in sight; they were bearing yams, bread-fruit, plantains, cocoa-nuts, and sugar-canes. These articles were, in fact, a contribution from the chiefs, by command of Earoupa, and, with the addition of pigs, fowls, and two turtles, were piled up by the hut in which Cook was seated,

The provisions being disposed of in this way, the multitude formed in a circle, within which men armed with clubs fought in single combat. "As soon as each combat was over, the victor squatted himself down, facing the chief, then rose up and retired. At the same time some old men, who seemed to sit as judges, gave their plaudits in a few words; and the multitude, especially those on the side to which the victor belonged, celebrated the glory he had acquired in two or three huzzas." During the entertainment some women entered the lists and began boxing, but to this part of the sports Cook, like a true Englishman, expressed his dislike. When the diversions were over, the chief made a formal presentation of the heaps of provisions, which required four boats to convey them to the ships. Cook said it was the most munificent gift he had ever received from any of the sovereigns of the islands of the Pacific. Certainly the term "Friendly Islands" was not a misnomer.

The natives now expected some diversion from the English, and, at Feenou's request, the marines were ordered on shore to go through

their military exercises. They performed several evolutions, and fired several volleys, which greatly delighted the multitude of natives. The chief, in his turn, arranged for another exhibition. It was a kind of dance, performed with great skill and dexterity, and was considered to have surpassed in effect our own military manœuvres. The islanders arranged themselves in three lines, moved from the rear to the front, extended themselves into a single line, formed a semicircle, and again into two solid columns. Two drums, made of hollow logs of wood,



AT THE LANDING-PLACE.

were used on this occasion, and varied notes were produced by beating on them with two sticks; but the dancers were assisted in keeping their movements to time by a chorus of vocal music, in which they all joined. "Their song was not destitute of pleasing melody; and all their corresponding motions were executed with so much skill, that the numerous body of dancers seemed to act as if they were one great machine. It was the opinion of every one of us that such a performance would have met with universal applause in a European theatre."

It appears from this, and other such records, that, wherever man-

kind attain a certain degree of civilisation, amusements of some sort, where combined effort is required, become almost a natural necessity. The mind, once aroused into activity, seeks to break away from solitude and the oppression of dull monotony. The great concern, however, in our time, is to give this desire a true direction.

In the sports described, a friendly rivalry was set up between these Hapayans and the English sailors. The former held our musical instruments—even the French horns—in contempt, though our drum, it seems, found some favour. But the English were fully bent on giving a friendly turn to the scale, and on asserting their own superiority of attainments.

Cook ordered some fireworks to be prepared, and after dark they were played off in the presence of the chiefs and a great concourse of the Hapayans; the water and sky-rockets were most effectual, and they both pleased and astonished the natives, who had now to yield the palm to their visitors.

The islanders were, however, stimulated to fresh exertions, and entered upon a series of night dances, accompanied by music (in their fashion) and song. Twenty women, with their heads decked with tasteful garlands of the China rose flowers, now entered the circle, and accompanied their song with very graceful movements; and so the frolic went on, the dances alternating between bands of men and women, in the presence of some 5,000 persons, yet the most perfect discipline was maintained, till night closed the scene.

The next day Captain Cook visited the island of Lefooga, which he found superior in some respects to Annamooka; the plantations were numerous, and there were signs of a numerous population and an improved cultivation. The plantations were bounded by fences running parallel to each other, and the public roads were spacious and ornamented. Some spots were covered with mulberry trees, and the plantations generally stocked with roots and fruits, the natural products of the islands. Cook made some additions by sowing the seeds of Indian corn, melons, pumpkins, and so forth. These he had brought with him, with the intent to increase the resources of new-found friends.

On the 25th May, while on a walk, Cook entered a house, and there found a woman dressing the eyes of a young child; the eyes were much inflamed and had a thin film over them, and with two slender wooden

probes this female oculist had brushed the eyes so as to make them bleed. Going into another house, he saw a woman shaving a child's head with a shark's tooth. Cook says, "The operation seemed to give no pain to the child, although the hair was taken off as close as if one of our razors had been employed. Encouraged by what I saw, I soon after tried one of these singular instruments upon myself, and found it to be an excellent *succedaneum*."

He found that the men of the island shaved their beard with two shells, and our sailors used to go on shore to be shaved in this way; while some of the chiefs went on board the ships to be shaved by our *professional* barbers.



A NATIVE PLANTATION.

Our voyager now began preparations for leaving these isles, purposing to make a passage to Annamooka, on his way to Tongataboo; but before he could start he was visited by a great personage, one who proved to be greater than Feenou. The latter had assumed the position of ruler of those realms, but he was now to be eclipsed by Poulaho, the veritable king of Tongataboo. This man went in a large sailing canoe, and being introduced as the king, Cook was not a little surprised; but as the natives persisted that supreme dignity belonged to this new comer, and that Feenou, though a man of great power, was not king, Poulaho was received with all the court which became such a station, and was invited on board the ship. He was not an unwel-

come guest, for he carried with him a kingly present, "two good fat hogs, though not so fat as himself."

If weight of body could give weight to rank or power, this ruler of the isles lacked nothing. Poulaho dined with Cook, but he ate little and drank less. He must have been a man of extreme good nature and easy temperament, like some who do grow corpulent on small fare.

Suitable presents were made to the king, and were such as he valued; they were beyond his expectation, and they secured his friendship, for going on shore shortly after with Cook, he ordered two more hogs to be sent on board. Next day Poulaho, like a friendly gentleman, made a return visit on board the *Resolution*, not forgetting a present—a cap of red feathers, so highly prized in Otaheite.*

The following day anchors were weighed, and the ships stood to westward, followed by several canoes; but the day after that an adverse wind obliged the voyagers to seek another anchorage, yet the ships could not be anchored except in 50 fathoms of water.

On the 4th June anchor was again weighed, and the ships stood away for Annamooka, where they arrived the next morning. Yams and plantains were procured here in good quantity. Feenou had arrived at Annamooka, and Poulaho soon followed. Here the two were face to face, and the former, not without showing some sense of shame, had to acknowledge his superior and make the usual obeisance, by saluting his sovereign's foot with his head and hands. The stay here was short; the ships sailed for Tongataboo, where they arrived in two or three days, though not without having been subject to some peril by striking on some coral rocks.

The reception at Tongataboo was very cordial. The king had arrived before the ships, and was waiting upon the beach to receive Cook, who, having landed, was invited to a feast. A baked hog and some yams were distributed, and then some liquor was served out; of this Cook did not drink, for the *manner* of brewing it had quenched his thirst.

A tent was pitched on the shore, and the animals landed for pasture;

* These caps, or bonnets, were composed of the tail feathers of the tropic bird, with the red feathers of the paroquets wrought upon them. The islanders never offered them for sale.

sails were repaired, and a traffic with the natives carried on in the purchase of hogs, yams, cocoa-nuts, &c., so that this land post became like a fair. Several chiefs of the island were introduced to Captains Cook and Clerke. One of these chiefs, a venerable man, about whose actual authority the visitors were dubious, gave a grand *haiva*, or entertainment, on the 17th June. Great multitudes of natives, each bearing a pole six feet long, with a yam suspended at each end, arrived early next day. These poles and yams were Mareewagee's (the old chief's) present to the English captains. By eleven o'clock the dances began, and 70 men formed a choral band. The



SHIPS SURROUNDED BY NATIVE CANOES.

performance lasted till 3 p.m., and about 12,000 persons were present. As the day closed night dances were begun, and lasted three hours.

On the 19th June, the chiefs were assembled in the evening, to receive Captain Cook's present of animals. To Poulaho, he gave a young English bull and cow; to Mareewagee, a Cape ram and two ewes; and to Feenou, a horse and a mare. These they were to keep in remembrance of the men of *Britane*.

The next morning—strange to say—a kid and two turkeys were stolen. Cook immediately seized three canoes then alongside the ship, went on shore, and placed the king and chiefs under a guard of

the marines. The stolen goods were restored, a reconciliation effected, and the king and chiefs went on board to dine. We have not space to record other minor events nor the amenities which followed the above-named circumstances ; such might be touched upon in a general description of the manners and customs of the Friendly Islanders.

An eclipse of the sun was observed on the 5th of July, and certain records made by the scientific staff. It was on the 17th July that the ships sailed from Tongataboo on their way to Otaheite.

S. H. M.



BY THE SEA-SIDE.



HE sun is couched, the sea-fowl gone to rest,
 And the wild storm hath somewhere found a nest ;
 Air slumbers ; wave with wave no longer strives,
 Only a heaving of the deep survives,
 A tell-tale motion ! Soon will it be laid,
 And by the tide alone the water swayed.
 Healthy withdrawals, interminglings mild
 Of light with shade in beauty reconciled—
 Such is the prospect far as sight can range,
 The soothing recompense, the welcome change.
 Where now the ships that drove before the blast,
 Threatened by angry breakers as they passed :
 And by a train of flying clouds bemoaned ;
 Or, in the hollow surge, at anchor rocked
 As on a bed of death ? Some lodge in peace,
 Saved by His care who bade the tempest cease ;
 And some, too heedless of past danger, court
 Fresh gales to waft them to the far-off port.

W. WORDSWORTH.





GREAT GALES.

(BY A FELLOW OF THE METEOROLOGICAL SOCIETY.)



Fury on seas, on shores, the winds discharge ;
Bound as they are, and circumscrib'd in place,
They rend the world, resistless where they pass ;
And mighty marks of mischief leave behind.

DRYDEN.



III.

(Continued from page 94.)



IN attempting to follow up, in chronological sequence, the record of storms, we have, in some instances, to rely on the accounts which have been handed down to us respecting the inroads of sea-floods ; for details as to the intensity and courses of the wind-storms are frequently very meagre.

(The following inundations could not have been the result of local storms.)

1218 A.D. A great inundation formed the gulf of Jadhe (north of Oldenburg), west of the mouth of the Weser. This gulf covered a fertile plain.

1219-20. Terrible storms formed the island of Wieringen, south of the Texel ; in 1205 this was part of the mainland of Holland. In England, all winter, were frequent thunders, continual rains, violent hurricanes.*

1221. Violent tempest. "During a violent tempest fiery dragons, and flying spirits were seen careering through the air." (Lowe.)

* This and others marked (L) are quoted or abridged from "A General Chronological History of the Air, Weather, &c.," published by T. Longman, London, 1749.

1222 (November 30th). A tempest of thunder and lighting, productive of great mischief to England. At same time a great hurricane, overthrowing houses, trees, &c., all which mischief continued till *Candlemas*. A most shocking winter.

1224. "In this yere, upon Seynt Luke's day (October 18), there blew a gret wynd out of the north, which caste downe manye houses, steples, and torrettes of chirches, and turned up so downe trees in wodes and in orchardes; *at which tyme fyry dragons, and wykkes spirytes, grete noumbre, were seyn openly fleying in the eyre.*" ("Chronicle of London," quoted in Lowe's "Chronology of the Seasons.")

1226. In England a terrible hurricane, with a north wind. (L)

1240. Great irruptions were made in the west coast of Schleswig, and fertile lands swallowed up. "For about four months together, it scarcely ever ceased raining." (May 7). "A dreadful hurricane." (L)

1250 (October 1st). "The moon on her change appeared red and swelled; so great and mighty a hurricane, both by sea and land, followed, that the like had not been known nor heard of." (L)

1252. Gale. "Great tempests upon the sea, and fearfull." (Lowe.)

1253. "Much winter thunder and a great hurricane." (L)

1271. "On the 4th of the nones of July, a terrible wind and rain, rotting and breaking trees, overthrowing houses, &c. A great famine over all England followed." (L)

1272. "The most dreadful tempests of hurricanes, hail, and fire in Scotland, that is on record." (L)

1277-80. The Dollart was formed by inundations, which covered the fertile plain of Reiderland. Torum and about fifty market towns and villages were engulfed.

1282. Holland was separated from Friesland, and the Zuyder Zee formed by violent tempests. Boston, Lincolnshire, a great flood and gale. "The Monasterie of Spalding and many churches destroyed. At Yarmouth, Donwich, and Ipchwich, an intolerable multitude of men, women, and children, overwhelmed by the waters, especially at Bostone." (Allen's "Lincoln.")—(Lowe.)

1300 (and 1,500). Heligoland was reduced to about one quarter of its former size (it suffered most in 800, and has been reduced from eleven miles in length to one mile during the past century).

1303. A great part of Rugen was washed away, and several villages to the north of Pomerania were destroyed.

1330 (December 24th). "At break of day, a terrible hurricane from the west, which demolished houses, trees, &c." (L)

1337. In this year fourteen villages in Holland (in Cadsant, south of the West Scheldt), were destroyed by a storm.*

1352. "About the feast of All Saints, came a tempest of wind, stripping houses and churches, blowing down mills, rooting up trees, with like mischief." (L)

1360. "On 16th of the calends of February was a hurricane, the



HELIGOLAND.

greatest, and did most mischief of any remembered in England." As King Edward III. lay encamped about Chartres, in France, a sudden and dreadful storm arose, accompanied with thunder and hail of prodigious size, which killed thousands of his horses, and about one thousand men. Lord Morley was killed; the Earl of Warwick's son mortally wounded, and died soon after. So extraordinary an accident was deemed by the troops a demonstration of

* Most of the details regarding all this immense destruction are given by Hoff, and quoted by Milner.

Divine displeasure ; the King was so much of the same opinion, as in the midst of the storm, on his knees, to make a vow to consent to an equitable peace.

1362 (January 15th). Such a S.W. wind as had not been known in many years, and (as well as in 1860), there was great wind in divers parts of England, attended with thunder and lightnings ; whereby many men and beasts perished ; many steeples and towers were thrown down.*

1382. A great gale on South coast in January.

1389 (March 5th). A sore and terrible wind, destroying houses, trees and much cattle.

1396. In July and August, but especially in September, were terrible hurricanes, which in many parts did great damage to churches and houses. (L)

1402. A great tempest of wind on *Corpus Christi* day, and in 1404 ; or 1406, great losses in Kent, Holland, Flanders, Zealand, by the sea overflowing the banks, &c.

1418. There was such a storm and hideous tempest as endangered the loss of the whole English Navy. (L)

1421. An inundation destroyed twenty-two villages on the coast of Holland.

1438-39. Great tempests and terrible winds and rain ; great scarcity followed ; but the citizens of London had a good supply of rye from Prussia. (L)

1475. Several villages were destroyed near the mouth of the Humber, the land being washed away.†

1500. The coast of Brittany suffered from storms, and Bourgneuf and other places (in the department of Loire-Inférieure) were inundated. Heligoland suffered also.

1520 (June 18). A most terrible storm of wind and weather. (L)

1523. After long and great rains and winds, which had happened that season, followed so severe a frost that many died of cold. (L)

1530. The coast of Holland again suffered. The town of Kortgene,

* Vide "The City Remembrancer," London, 1769.

† We have but few details of storms in the fifteenth century. War, rather than chronology, occupied men's minds. Of plagues, pestilences, and famines, there were plenty, however.

in north Beveland, was engulfed. (November 4 and 5.) A great wind which blew down houses and trees ; then a high tide, which drowned the marshes of Essex, Kent, and Thanet, and much cattle. (L)

1532. The towns of Borselen and Remerswalde, and several villages in South Beveland, were carried away. For many years nothing was to be seen above water but the tops of the steeples. The deposit from the sea again raised the land, which was drained and brought into cultivation in the next century.



AN INUNDATION.

1563 (January 9). At night was a great tempest of wind and thunder at Leicester, which did great mischief.

1567 (December 28). "There arose a great storm and tempest of wind, by rage whereof the Thames and sea overwhelmed many persons ; the great gates at the west-end of St. Paul's Church, London (between which stood a brazen pillar), were by the force of the wind blown open." (Stowe.)

1570. A violent storm destroyed half of the village of Scheveningen, north-west of the Hague. The church, once in the middle of the

village, now stands on the shore. (Hoff.) "A dreadful hurricane destroyed the port of Liverpool. (Baines's "Lancashire.")—(Lowe.)

1574 (November 18). At night a hurricane came out of the south.

1579 (September and November). Great winds and raging floods, carrying down corn, cottages, drowning pastures and cattle, in many places in England. (L)

1586 (Eve of St. Andrew—November 29). A violent storm at Beccles, Suffolk. (Lowe.) This, we presume, was recorded there, but was not simply local.

1588. This must have been a stormy year. The Spanish Armada was delayed by the winter storms, and only left the Tagus on May 20; it was considerably damaged by a storm a few days after, and obliged to put back. (This was on May 30, and was severely felt on the southern coast of England.) It was not ready for sea again till July 12; was seen off the Lizard on July 19; and on retreating towards the north of Scotland early in August, was shattered by storms. "On a strand, near Sligo, an English captain numbered eleven hundred corpses, which had been cast up by the sea." (Green.) The Spanish ships were large, for those times, being, some of them, more than 1,000 tons.

Byron, having this fact in mind when writing "The Ocean," thus speaks:—

"The oak leviathans, whose huge ribs make
Their clay creator the vain title take
Of Lord of thee and arbiter of war:
These are thy toys, and as the snowy flake,
They melt into thy yeast of waves, which mar
Alike the Armada's pride or spoils of Trafalgar."

1593 (March 21). Alrewas, Staffordshire. "This yeare was an exceeding great tempest of winde, which continued all the daye longe, and did great hurte in many places, in blowing downe of steeple, dwelling houses, barnes, trees, innumerable in every place. Within the parish there weare seven barnes overthrowen. In Lichfield, the toppes of the steeple of St. Michael and St. Marie's were blown downe, which hurt the churche and chancell and houses, that it be the imagination of the townsmen £300 will not repair and make the same." (Lowe.)

1594 (March 21). In this year, also, this date is recorded as a tempe-

tuous day. There were excessive rains and consequent floods in April and May.

1607 (January 27—Tuesday). A strong west wind caused a great flood. The banks of the Severn were laid under water. "Houses, barns, ricks of corn and hay, were all involved in common ruin."

Bristol, Chepstow, Cardiff, Newport, Swansea, and other towns, suffered greatly. Five hundred persons and thousands of cattle were drowned. The disasters in South Wales were deplorable.



"GREAT WRECKS AT SEA WERE MADE."

1608. "A tremendous hurricane did incalculable mischief at Beverley, Yorkshire." (Wittock's "York.")—(Lowe.)

1626 (June 8th). A great storm in London.

1627 (January 28). Alrewas, Staffordshire. A terrible south gale. "Many houses and trees thrown downe." (Lowe.)

1642 (August 27). A gale at Nottingham, two days after the King fixed the standard there. (Lowe.)

1650 (January 18). A terrible storm.

1658 (September 3—the day Oliver Cromwell died). There occurred "the most prodigious storm of wind that ever had been

known ; all the elements seemed concerned in it. Great numbers of trees and houses were overthrown ; great wrecks at sea were made. The effects of the tempest were terrible in France, the Netherlands, and foreign countries, where all the people trembled at it. Besides wrecks along the coasts, many boats were cast away in the rivers." ("The City Remembrancer.")

1660. A stormy, tempestuous winter in England, did much harm in many places. ("Clark's Exam.")

1661 (February 18). A very great storm—accounted greater than that in 1658. It was universal in England, France, and Holland. Many lives were lost in London and elsewhere. Churches were damaged at Tewkesbury, Gloucester, Worcester, Hereford, Ipswich, and other places. The Earl of Suffolk's house at Audley End, Essex, was damaged to above the value of £5,000. Orchards suffered terribly in the south-west counties. In Hereford several persons were borne up from the ground, one man at least six yards. Westminster Hall was set on fire by the lightning.

1662 (March 2). Of fifty-three Dutch ships which were in the Texel but seven returned safe, the rest were either dispersed, so as not to be found, or cast away. Five ships were lost in the Vlie (which may be described as the entrance of the Zuyder Zee, between the islands Schelling and Vlieland), and many others richly laden nearly shattered to pieces.

1665 (January 27). A dreadful storm passed over Coventry, accompanied by thunder and lightning. It threw down the spire of Trinity Church, and caused other damage.

(September 3 to 5). "A storm dispersed the Dutch fleet ; and some merchantmen were driven into the Elbe, others, with some men-of-war, driven into Uleckery (?); and in this distress some others were taken by the English."

(October 25). There was a great gale in London upon this date. The latter part of the year was likewise very stormy in many parts of Europe.

(November 14 to 17). Violent storms both day and night. Many ships and boats were lost near Deal, Yarmouth, Newcastle, Falmouth, &c. The storm falling in with the spring-tide so raised the water in the haven of Yarmouth, that the marsh grounds were laid under water for eight or ten miles. Twenty colliers lost near Yar-

mouth. At Lynn, houses were flooded, and thousands of sheep drowned. Between Wells and Blakeney, many colliers were stranded. The sea banks on the coast of Lincolnshire were broken and the land flooded.

(November 24 and 25). A continued storm severely felt at Deal. At Ostend, a hoy was cast up half a mile beyond high-water mark. The Dutch fleet driven from the Dogger Bank, ships with all hands



AFTER A FLOOD.

lost in the Texel. Much damage was done on the French coasts, also at Copenhagen. Cliffs washed down on the coast of Norfolk, near Winterton.

1674 (December 21). Tarbut, Scotland. Whole woods were torn up by the roots. (Sir G. Mackenzy.)—(Lowe.)

Sir W. Temple describes a storm in Holland. "Stories of violent effects came to the Hague from all parts. At Amsterdam they were explorable; many trees torn up by the roots, ships sunk in the

harbour. . . . At Utrecht the great and ancient cathedral was torn to pieces by the violence of the storm. In France and Brussels the damages were infinite."

1675 and 1681. Great hurricanes occurred in the West Indies.

1683. A storm much felt at Brentford, in Middlesex. Boats were rowed down the streets. Houses carried away.

In this year there was a succession of storms, with heavy rains, over the whole of Great Britain. There were floods and earthquakes, and a great frost followed in December.

(June 6). Torlorica, in Sicily, suffered greatly. St. Nicholas Church overthrown, and the Archdeacon and many other persons perished therein. Six hundred of the inhabitants were drowned. The towns of Randazzo, Francaville, and several others, destroyed. ("City Remembrancer.")

1693 (January 11, till after September). Considerable and strong south winds, preceded by noise like cannons at a great distance. (L)

1696. On the east coast of England 200 colliers and coasters lost.

1697. N.W. gale; much damage in Lancashire.

1699 (February 7). W.N.W. gale, Upminster. A terrible gale, doing much damage. (February 7 and 12). Terrible storms, yet warm winds. (September 24). Dreadful wind.

1700 (July 10). Stormy weather. (December 18). "Dreadful storm."

1701 (December 26). Terrible storm, followed by an abundance of rain. (L)

1702 (February 3 and 4). Violent gale at Upminster; most destructive at Chester. (Lowe.)

S. H. M.





MARITIME NOTES.



“The Sea! the Sea! the open Sea!
The blue, the fresh, the ever free!”

PROCTER.



“Thou glorious mirror, where the Almighty’s form
Glasses itself in tempests!”

BYRON.



THE HERRING.*



HERRING may be bought for a halfpenny, but he occupies a distinguished position in the world of letters. For three successive centuries, at least, he has had books devoted to his history. For three successive centuries he has been the innocent occasion of scientific animosity and wordy war. There has been little unanimity about his habits; his home, what he eats, and the effects of eating him, are yet grave matters of contention. As an article of medicine, he has been by turns humbled and exalted. The printed opinions of eminent physicians about him, as a drug, would of themselves form a small library. Of him, cataplasms have been made, and lotions, and essences, and oils, and extracts. He has been calcined, for even in his ashes live his wonted fires of healing virtues: distilled and candied, stuffed with myrrh, aloes, and cassia, with resin, frankincense, and cedar wood, he has become, in process of time,

* From the *Globe*.

a mummy, of which, if ten grains are taken in a gill of tent by those suffering from internal bruises, they will be straightway healed. A medicinal wine may be prepared from him of much use in malignant fevers, and where a highly volatile cordial is necessary, an admirable and never-failing elixir may be obtained out of his bones. Those who disbelieve in these marvels of hygiene, who look upon them as idle stories, or, to use an old French expression, calves' bridles, have, in this fish, other matters of wonder. To say, however, that he abounds in these, as he himself abounds in the sea, will appear a speech of some extravagance of conception to those who know that, among the Loffoden Islands alone, 20,000,000 herrings are caught every year.

Cob, the water-carrier in Ben Jonson's "Every Man in his Humour," speaks of the herring as the king of fish, and one of the monarchs of the world. This title was, as we are told by practical people, conferred on him in consequence of the great advantages derived from this fishery, but the ideal history of the poet was this: Once on a time a hawk roving for food over the sea was snapped up by a shark. War then was proclaimed between the birds and fishes. Among the former the cocks acted as trumpeters, the cranes as pikemen, the peacocks as heralds, and an old goshawk was their commander-in-chief. But the fishes of the sea had much difficulty in their election of a king that might marshal them to battle, a commander under whose colours they might league themselves for the destruction of the foe. At length, after clamorous suffrages, the herring won the day, and was saluted on all sides with cries of *Vive le Roi*. From that time to this the herring has worn a coronet, and never stirs abroad without his army. It is added that the plaice on this occasion, in a fit of contempt and spleen, made a wry mouth, and has been for a punishment marked by that deformity ever since.

So important is the herring that he has a private and peculiar form of numerical measurement. It is the herring alone which is counted by the "cast" and the "maze." The cast, or the warp, is the quantity of three fishes, and the maze, or meas, expresses that of five hundred. Jack Cade was so-called, from his own confession, from stealing a "cade" of herrings. A cade, explains Dr. Johnson, is a barrel. But other authorities say that a barrel differs from a cade, the latter containing six hundred and the former a thousand. The very name of the herring is fenced about with difficulty. It is to the present day a matter of doubt, among the learned, whether it is to be connected with a Latin word signifying fish pickle, or with a German word expressing an army. The latter derivation possesses over the former the advantage of being supported by sense as well as sound.

A vast army, indeed, of herrings is that shoal which rises in spring from the deeper waters, or, as Pennant tells us (but this again is a matter of dispute), comes from high northern latitudes and the frozen seas of the Polar zone. Mighty is the genus *Clupea*; mighty not only with regard to the number of its species, but also the number of individuals composing them. As many as 68,000 eggs have been counted by diligent inquirers in the roe of a single fish. Among numerous near relatives of the herring are the sprat, the anchovy, the pilchard, and the sardine. The esteemed whitebait are his children. The chief honour and glory of the Ministerial dinner at Greenwich is but a dish of small herrings. Some species have but slight marks of difference from one another. The herring, for instance, is frequently confounded with the pilchard. The resemblance between them is insisted on by the Clown in "Twelfth Night," when he mentions them as an illustration to Viola, in a comparison little complimentary to married men. "Fools," he says, "are as like husbands as pilchards are to herrings, only the husbands are the bigger." As a scientific fact, the pilchard is thicker and rounder.

The man who first cured herrings made, say the historians (or such of them, at least, as believe in him), his name immortal. It is a pity that they agree neither about the spelling of his name nor the period of his existence. Some of them prefer the fourteenth century, and others the fifteenth; some of them call him Buckelsz, and others Beukels, and others Beukelus, and others Bachelen. It is, however, agreed on all hands that the Emperor Charles V., with his sister, the Queen of Hungary, made a pious pilgrimage to Bierliet, in the Netherlands, in which the first barreller of herrings was born, for the single purpose of praying at his tomb for the repose of his soul. It is to this Beukels, or whatever his name may be, that we owe the white and the red herring, or to speak generally, the herring cured by salt and pepper, and the herring cured by smoke and fire. The red herring is still sufficiently common—the white herring is no more in fashion. But it was for him, or rather two gentlemen of his house, that the fiend Hopdance cried, if we accept the evidence of Edgar, surely under the circumstances the best authority on the subject, in "King Lear." The familiar, much-affected bloater is but the red herring under another name. His appellation, indeed, is derived from his blushing honours. The "kipper" is properly a salmon after spawning season, and to anglers kipper-time is well-known. The term is applied to a herring cured in the usual fashion after being split open. Cookery books are curiously meagre of receipts for the cooking of herrings. One gives them but a poor half page, telling us only how they may be baked, fried, and boiled; but formerly they were stewed, potted, and roasted,

after many fashions. There were in those days pies, and puddings, and soups, and fricassees, of this savoury fish. Here is the mode of preparing a favourite repast called, for no apparent reason, a Virginia trout, extracted from a cook's oracle of the last century. It appears to be a weird mixture, but the proof of it, of course, is in the eating. "Take pickled herrings, cut off their heads, and lay their bodies two days and two nights in water; then wash them well and season them with mace, cinnamon, cloves, pepper, and a little red sanders." (This is a corruption of sandal-wood, and was probably used solely for its colour.) "Lay them close in a pot, with a little onion chopt small, and strewed between them; then put in a pint of claret, and cover them with a double paper tied on the pot, and bake them. They are to be eaten cold."



DEEP-SEA SOUNDINGS. —

Some very interesting experiments on this subject have been lately made at Portsmouth, under Admiral the Hon. F. Foley, and it is hoped that the use of the lead will be no longer necessary for deep-sea soundings. The apparatus, which is the invention of Mr. H. Reece, has a sinking weight attached to it, from which, when it reaches the ground, it disengages itself, and then generates a sufficient quantity of hydrogen gas to raise it rapidly to the surface. This apparatus is provided with a flag so that it can be discerned from the vessel, and being taken on board, the depth to which it has sunk is seen marked on the index. In soundings exceeding one mile in depth there is always great difficulty; so much of the line is drifted horizontally by the currents of the ocean, that sometimes two or three miles of rope are expended before the bottom is reached, even though there may not be much more than one mile in depth if measured direct. The weight of this length of rope in the water would exceed two

cwt., and the friction caused by dragging this extent of line through the water is so great that many hours are spent in the operation, and several hundred men employed. The great advantage, therefore, of sailors having a self-raising apparatus is evident. To ascertain smaller depths a much simpler apparatus has been designed by Mr. Reece, and this he purposes to project 100 yards from the bow of the vessel, so that the sailors, without stopping its course, can ascertain the exact depth of water as it passes over the registering apparatus.


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TONNAGE STATISTICS, 1870-80. —

A most interesting paper on the progress of British shipping, between 1870 and 1880, was recently read by Mr. John Glover, at a meeting of the Statistical Society. It shows that the increase in the entries and clearances of our foreign trade exceed in 1880 by 22,000,000 tons those of 1870. When to this is added that the increase in 1870 over 1850 was the same number of tons, the total increase of entries and clearances since

1850 amounts to the enormous quantity of 44,000,000 tons. This means that our foreign entries and clearances since 1850 more than quadrupled. The proportion of foreign vessels in our trade was 38 per cent. in 1850; in 1880, however, it had fallen to 27 per cent. The proportion of British vessels in the foreign trade of the United Kingdom in 1850 was 66 per cent.; in 1880 it was 72 per cent. Of steamer tonnage the proportion was 44 in 1880. The steamer trade under the British flag with the United States was 5,500,000 tons in 1880, while the steamers under the American flag aggregate only 139,070 tons. Including both sailing and steamships, the tonnage under the American flag in our ports in 1880 was less than one-third of the amount in 1860. On the other hand, the Norwegian tonnage in England has increased tenfold since the repeal of the Navigation Laws. Since 1860 the American tonnage in our ports has fallen from 2,750,000 tons to 800,080 tons, and in the same period the Norwegian has increased from 750,000 to about 3,000,000 tons. The extent to which steamers are used in our trade is shown in the fact that their entries and clearances were 15,000,000 tons in 1870, and 37,000,000 tons in 1880. Under such a competition the number and tonnage of our sailing vessels are rapidly decreasing, for in 1880 there were 3,000 fewer sailing vessels under our flag than in 1870; and in the years 1880-81 no less than 2,000 sailing vessels disappeared from the register.



TILISATION OF SEA-WAVES.—The recent progress of electric machines has largely directed attention to the economical production of

force. The sea, with its tides and surge, offers stores of force little utilised as yet. Two schemes for turning the wave-motion of the sea to good account have lately appeared. M. Victor Gauchez (whose method is described in *La Nature*) would suspend a large float by ropes from a pulley outside of a stone enclosure built a short way from the beach. Within the enclosure is a bell-shaped iron vessel, suspended from a central pulley system, connected with the float pulley. This moves up and down in correspondence with the float, on a block of masonry, which has passages communicating with the air space above, and with a pipe below, which extends to a reservoir on shore. The bell, in rising, sucks in air through valves in its upper surface, and, in falling, forces the air along the passages to the reservoir. The ropes are kept always taut by means of a weight hung in air from a pulley connected with the central system, and the bell has at its lower part a caoutchouc membrane connected with the block of masonry. M. Gauchez specifies the dimensions which, he thinks, would ensure a rapid flow into the reservoir and involve no excessive heating. In the other scheme, by Professor Wellner, of Brünn (an account of which appears in *Dingler's Journal*), there is fixed along a sea-wall a sort of air-trap—a metallic case, open below, now in air, now in water, as the waves beat on it. At the top this communicates through valves and pipes with a reservoir in which the air is compressed, and the force thus supplied may be directly utilised for some purposes. Herr Wellner brings a pipe from the reservoir to the lower part of an air-wheel, which is like an overshot water-wheel, immersed in water. The air displaces

the water from the cells, and drives the wheel round, while expanding and rising to the surface. The system works with different degrees of compression, if the air-conducting tube be provided with several valves, so that the air may be admitted to the wheel at different depths, according to the pressure. With small waves and compression it is admitted higher. This apparatus the author proposes also to use by way of supplying cooled air for beer-cellars, larders, &c., in hot climates.

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CAPTURE OF FLYING FISH.— Among the fish indigenous to Barbados the flying fish is said by Mr. Endlich in a recent number of the *American Naturalist*, to rank high as an article of food. Rare at some seasons, at others it is abundant. In March, 1880, they were selling at Bridgetown for four cents the hundred. The sport of catching them is described as most enjoyable; but this evidently depends on whether the sportsman is as fond of tossing about on a breezy sea as of sport. Mr. Endlich graphically describes the one effort he and three companions made to enjoy the sport. The nets and tackle, and a sumptuous lunch, also bait, were soon on board. After having gone with a fresh breeze to sea for a distance of about twelve miles, sails were lowered, and soon the bright bodies of the fish were to be seen flashing out from the crest of a wave, passing with great rapidity for some distance over the water, and then dropping into it again. Quickly, a few curious ones seemed to wish to inspect the boat; during this examination they encountered the baited hooks that were dangling about, which, opening their capacious

mouths, they gulped in. One or two "flops" when brought on board, and they then settled down, seemingly resigned, in the water at the bottom of the boat. Though the sport grew exciting, the four friends, with the rolling motion of the boat, felt a certain absent-mindedness as to the fascination of the fishing steal over them, and there was a decided disinclination to attack the lunch basket. At this period the basket with the bait for the fish was produced; it was filled with fragments of flying fish some few days dead. The living fish were evidently attracted by the perfume, and came in large numbers within easy range of the nets. But the effect on the four friends was different, and from this period the proceedings interested them no more. But the fishing still went on, and now and then a cold, wet fish would alight on the pale, damp face of one or other, producing no action beyond a very mild protest. When the dancing boat returned to the shore she had a cartload of flying fish, and the drooping spirits of the friends revived.

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NEW TEA STEAMER.—The *Stirling Castle* was tried in the Clyde not long since, and gave a speed which shows her to be the fastest ocean-going steamer in the world. In the course of a run of six hours on the first day, she gave an average speed of 18.18 knots, and on the second day six consecutive runs at the measured mile gave a mean speed, calculated on the Admiralty method, of 18.418 knots, or 21 3-10th miles per hour. The actual time taken in running each mile respectively was .3 min. 13 sec.; 3 min. 23 sec.; 3 min. 12 sec.; 3 min. 16 sec.;

3min. 13sec.; and 8min. 18sec. The vessel has been built for Messrs. Thomas Skinner and Co., by Messrs. John Elder and Co., of Fairfield, for the China trade, and was tried with a cargo of 8,000 tons dead weight on board ready for the voyage out. Her length is 430 ft., breadth 50 ft., depth 33 ft., and she registers 4,300 tons. Her engines are the three-cylinder type, and they developed 8,237 horse power. The diameter of the high-pressure cylinder is 62 in., and the two low-pressure 90 in., with a 5 ft. 6 in. stroke. The boilers are of steel, and present a total heating surface of 21,161 ft.; the grate surface is 787 in.; and the working pressure 100 lbs. to the square inch. Some of the speed is due to the character of the propeller. It is made of manganese bronze, is 22 ft. 4 in. in diameter, with a pitch of 31 ft. The maximum number of revolutions at the trial was 66½ per minute, accompanied by absolutely no vibration, except in the immediate vicinity of the screw shaft. The hull is built of steel, on plans approved by the Admiralty, with a view to national requirements, and is capable of carrying coal for a twenty-four days' cruise.

LIGHTNING, AT SEA.—Particulars have just been received at Liverpool of a remarkable disaster to a vessel at sea, the *Gertie May*, about 174 miles from Martinicus, on the 18th June, when she was struck by lightning, which first caught the foretopmast, breaking some three feet off it, and then ran to the bow, smashing a portion of the stem;

thence to the forecastle, where were ten of the crew in different attitudes, some sitting and some standing. All alike were rendered instantly insensible, but recovered a short time afterwards. The lightning coursed through the vessel, eventually returning to the fore part, where it knocked out two of the vessel's planks in the stem: fortunately, the damage was above the water-line. The flag, which was flying on the mainmast, was completely consumed.

MEANS OF SAVING LIFE IN SHIP-WRECK.—At the highly interesting and instructive Naval and Sub-Marine Engineering Exhibition, lately held at the Agricultural Hall, Islington, London, there were two prizes offered—one of 100 guineas for the best means of saving life in cases of shipwreck, and another of 50 guineas for the best invention of a humane character connected with seafaring. The Committee appointed to act as judges for awarding prizes, and consisting of Vice-Admiral Boys, Mr. Digby Murray, and Vice-Admiral Hood, have now stated that, after a careful examination of all the exhibits brought to their notice with the objects in view, they award the 100 guinea prize to Mr. R. Roper, for his "Bridge Raft," as affording the readiest means seen of saving collectively a large number of persons and supporting them above water for a lengthened period. The 50 guinea prize they award to Messrs. J. and A. W. Birt, for their contrivances of cork mattresses, hammocks, cushions, seats, &c., for supporting persons individually in the water.





THE SEA AND ITS PERILS.



“Oh, many a bark, to that breast grappled fast,
Has gone down to the fearful and fathomless grave;
Again, crash'd together the keel and the mast,
To be seen tost aloft in the glee of the wave!”

SCHILLER.



WRECKS AND CASUALTIES.



AMONGST the various Maritime Disasters which have recently occurred, in numerous instances involving the total destruction or abandonment of vessels, with, unhappily, much terrible privation and loss of life to crews, &c., the following cases, exemplifying some of the many “Perils of the Sea” to which both Ship and Sailor are at all times so imminently exposed, may be specially recorded:—*

THE “ALFGAR.”—The steamer *Alfgar*, of Hull, lost by collision with the steamer *White Sea*, of Dundee, left the Albert Dock, Hull, for Cronstadt, with a cargo of coal, on the 4th of May. As she was proceeding through the Hull Roads, engines going dead slow, the *White Sea* was seen coming up the river at full speed. About the same time the master of the *White Sea* appeared to have seen the *Alfgar*, and he blew his whistle as an indication of the

* The timely aid and relief to the shipwrecked sufferers, or the suddenly bereaved and distressed dependents, directly or indirectly afforded, almost without exception, in these and similar cases, by the SHIPWRECKED MARINERS' SOCIETY in London, and its local Honorary Agents at Home, Abroad, and in the Colonies, will be found included in the General Statistics of the Society's Work, as given, under the Society's Heading, at the end of each Number of this Magazine.

course he intended steering. He heard what he took to be two blasts of the *Alfgar's* whistle in reply, and at once starboarded his helm. The result was that the *Alfgar*, which was on a port helm, was struck by the *White Sea*, a little abaft her port fore rigging, almost stem on, and sank in about five minutes, being nearly cut in two. The captain's wife and 14 of the crew were saved in the steamer's boats. A passenger and a pilot on board were thrown into the water when the vessel sank, and were picked up by a boat which happened to be near; but another passenger, an engineer going to Cronstadt, was entangled in the rigging, and was drowned. The *White Sea* was seriously injured about the stem, and put into dock.

THE "FAMENOTH."—This three-masted iron ship, of 1,054 tons gross register, belonging to the port of Aberdeen, left London on the 26th of March last, with a crew of twenty-four hands, eighteen passengers, and a general cargo, bound for Otago, New Zealand, and proceeded down the river Thames in tow of a steam-tug, the *Benachie*, in charge of a duly licensed Trinity House pilot, and having on board a deep-sea channel pilot. At about 11.30 the same night she anchored off the Nore, and remained there until 6 a.m. on the 27th, when the tide began to ebb, and she then proceeded down the river in tow of the *Benachie*, which took a course down the Oaze Deep, intending to pass the Alexandra into the Prince's Channel, with the *Famenoth* following. The weather was fine, and the wind light from about S.S.W. at the time of starting; but at just half-past seven, when op-

posite to the Middle Oaze buoy, the wind suddenly shifted to the N.W., it began to blow hard, and the course of the vessel was altered to E. On nearing the Shivering Sand Buoy it was determined to enter the Prince's Channel by the Girdler Lightship and the West Girdler Buoy, and so the tug and her tow proceeded on a course heading about S.S.E., when all of a sudden the master of the tug observed the Pan Sand Beacon a little on his port bow, upon which the pilot ordered the helm to be ported; and when the vessel's head was seen to be paying off to the starboard, the master of the tug signalled to starboard the helm, and, this being done, brought the ship's head more to the wind, and the tug was then able to take up a position on her port bow. The gale was very violent at that time, and, although the tug got her head round to E.N.E., she was unable to tow the ship into Prince's Channel, and they began to drive broadside towards the sand. The port anchor was ordered to be let go, but immediately afterwards the ship struck and became fast, when the *Benachie* at once slipped the tow-ropes. The place where the vessel grounded was on the shallowest part of the Pan Sand. As soon as this happened, the captain of the *Famenoth* ordered out the starboard life-boat, but a heavy sea stove it in, and then the gig was got out and the women and children passengers were placed in her. The second and third officers, two seamen, and the pilot also got in, and succeeded in reaching the tug. The passengers were placed on board the tug, but the men remained in the boat with the intention of returning to the ship. The tug was going to the ship, when it was observed that the line by which the

boat was held was loose, and the boat astern, drifting towards the sands, the men in her vainly struggling to make way. The tug was put astern to try and reach the boat, but getting into shallow water she had to abandon the attempt, and the boat with the men in drifted out of sight across the sand. The *Benachie* then returned to the *Famenoth*, but in the meantime another tug came up and took off the remainder of the female passengers. A third tug also came up, and then all three tugs began to tow the ship; but in about five minutes it was found that the ship was filling with water, and the tow-rope was slipped. The *Benachie* was then ordered to come alongside to take off the remaining passengers and the crew, and this having been accomplished, the vessel herself soon sank. The gig subsequently came ashore at Cliff End, about four miles to the westward of Margate; but she was empty, and the five hands who were in her were not seen again.

THE "F. W. B."—The brigantine *F. W. B.*, of Brixham, 192 tons, left Berbice on the 5th of February, with a cargo of sugar and rum, bound for London, and arrived off Dungeness, where she took on board a Trinity House pilot. At 11.50 p.m. on the 23rd March she arrived off Southend Pier, and brought up with the port anchor, veering 85 fathoms, the Chapman Light bearing N.W. by N., and Southrend Pier about a mile distant. The side lights were taken in, and the riding (anchor) light was hoisted on the foremast shroud in the starboard forerigging, 25 feet above the deck; and the anchor watch being set, the master, pilot, and remainder of the crew,

went below. The men who were in the anchor watch stated that the riding light was burning brightly, when shortly before 8 a.m. the mast-head and green lights of a steamer coming up the river were observed two points on the port bow. Soon afterwards the steamer appeared to be coming in the direction of the *F. W. B.*, and as a collision was imminent, the two men on deck hailed the steamer, and called up all hands, and at 8 a.m. the steamer struck the *F. W. B.* on the port side, a little forward of midships, cutting her down below the water's edge. The crew scrambled on board the steamer, which then went astern, and the *F. W. B.* filled, and sank in about four minutes after the collision. The steamer, which proved to be the *Gertrude*, of London, from Dieppe, then proceeded up the river, and landed the rescued men.

THE "KATE."—The schooner *Kate*, of Milford, Captain David Williams, and 94 tons register, left Caen on Friday, March 17th, with a cargo of barley, for Gloucester. On Friday, Saturday, and Sunday, she had calms and very light airs, till on Monday the wind freshened, and she reached over to the English coast. On Tuesday the weather was wild and a gale blew with very heavy squalls at intervals. At 5.30 p.m. she was off Bigbury Bay, five miles from land, standing to the S.W., with the wind about W. by N., under her small topsail reefed, mainsail double reefed, and foresail reefed. Captain Williams was at the helm, when suddenly a tremendous sea threw her up and then poured over her decks, clearing them fore and aft, and washing everything overboard. Her

masts were carried away, and went with the rest of the wreckage. Her crew, four all told, escaped with some rough bruises, but were rendered helpless, having no means left of controlling the vessel. The accident was observed by the French barquentine *Georges Rene*, of Fecamp, Captain Leders, bound from Fecamp, with a cargo of salt, for Newfoundland. Captain Leders at once set moresail than he had been carrying, and bore down promptly to the rescue. On arriving alongside, he launched a boat, and at considerable risk and danger, a heavy sea running, the schooner's crew were taken off, and got on board the barquentine. The *Georges Rene* then bore up for Plymouth, and took just twenty-four hours in beating in to the anchorage in the Sound. She spoke the Government steam tug *Scotia* on the Tuesday night, and gave her the information that the abandoned hull when left was watertight, and was then, if floating, between two and three miles on the barquentine's lee quarter; and subsequently the *Scotia* returned with the dismasted schooner in tow.

THE "KOOMAR."—The *Koomar*, an American-built brig, of 1,225 tons, owned in Newcastle-on-Tyne, left Quebec on the 1st of November, 1861, with a crew of nineteen hands and a cargo of wood. She proceeded down the St. Lawrence in charge of a pilot. She came to anchor at Indian Cove, and continued on her voyage on the 4th of November. The pilot left her below Bic Island on the night of the 5th of November, and from that day nothing has been seen or heard of the *Koomar* or her crew. The vessel carried four name boards, with white letters ("Koomar") cut

6 in. in length on a black ground. On the 12th of March, a fisherman picked up one of the boards at Bishop's Island, Killkee, Limerick, and it was considered probable that the vessel foundered during the disastrous weather of November last, when so very many shipping casualties were experienced.

THE "OLBERS."—This German steamer, of 405 tons register, left Sunderland on April 25th, with a cargo of patent fuel, for Cronstadt, and on the following day experienced terrific northerly gales, during which she became leaky. The steamer being unable to face the heavy sea running, the captain was compelled to heave the vessel to. The steamer's fires were extinguished, and the water also got into all the holds. Every effort was made in order to keep the water under by means of the pumps, but without success; and the crew at last resolved to leave the steamer to her fate, as she was fast sinking. Signals of distress were displayed, and at 10 a.m. on Thursday, in lat. 55 48 N., long. 0 48 E., the German schooner *Margaretha*, Captain Vogel, from Bremerhaven, bore down to their assistance, and took them all safely off, after which the steamer was seen to founder. The *Margaretha* brought the crew to Leith Roads, where they were transferred in a tugboat to shore.

THE "PET."—The *Pet*, a schooner, on a voyage, in March last, from Bunbury for Melbourne, was about fifty miles to the south-west of Capé Leeuwin, when a large sperm whale was sighted on the starboard quarter. Suddenly bearing down upon the ship—so suddenly, in fact, that no

time was left to take any steps to evade or repel the attack—the whale struck her on the starboard bow, knocking a large hole. The captain, seeing that the ship was lost, ordered away the boat, which was done. He then descended to the cabin for his log-book and ship papers, but before he could regain the deck the vessel sank. The survivors were ultimately picked up by the *Agincourt*, and conveyed to Hamlin Harbour.

THE "PROMISE." — The British schooner *Promise* left the port of St. John's, Newfoundland, on the 29th March, for Lisbon, with codfish. On the 31st March, when about forty-five miles south-west of Cape Pine, she was struck by a huge ice floe on the starboard bow, and began to leak badly. There was a heavy gale blowing, and a very high sea and swell rolling among the ice. Signals of distress were hoisted on the schooner without delay. The vessel was surrounded by ice floes, and no boat could live for a moment among them. The crew of the sealing brigantine *Dawn*, Captain King, boarded the *Promise*, and manned the pumps; but the vessel sinking rapidly, the crew of the *Promise* were transferred to the *Dawn*, and the schooner sank. Five miles distant lay a German barquentine. She had been rolling some time among huge sections of ice, when suddenly she disappeared, and was not seen afterwards, nor any portion of her wreck or gear, the opinion being that she was struck by a heavy floe, opened, and sank, too, immediately.

THE "RICHARD WARBRICK." — The schooner *Richard Warbrick*, of Fleetwood, 100 tons register, left

Runcorn on January 25th, with coals, for Plymouth, and after beating about in the St. George's Channel, was obliged to run for shelter, for a couple of days, to a neighbouring port. On Monday, January 30th, she once more put to sea, and again met with strong gales, till at dusk, during thick rain and hard wind, she struck on the Sevenstones, in the Bristol Channel. The accident was due to the ship having become ungovernable, the compass having for some time failed to act. The schooner, after striking, cleared, but began rapidly to sink in deep water. The ship's boat was immediately lowered, and by the time the crew had taken their positions the schooner was nearly down to the water's edge, and had altogether disappeared five minutes after being abandoned. Not one of the men who got in the boat had been able to carry from the ship more than he stood upright in, and no food or drink of any sort. The sea was running heavily, and the night was dirty. The captain first lashed the boat's bottom boards to the painter, and thus succeeded in keeping her head to sea, and from the Monday until the following Friday night the men remained thus destitute upon the open sea. During the first three days the wind blew strongly from the south-east, and although ships were seen, the boat lay so low in the water, and the distance was always so great, that it was impossible to make signals. The sufferings of the men were terrible. On the second day one man became very ill from exhaustion, and his thirst so intense that he insisted upon drinking the salt water. The day following he became delirious and jumped overboard, but was promptly rescued. Later on that day a keg of salt butter was picked

up and ravenously attacked, but it had the effect of intensifying the thirst of the crew. With the knife which was used to open it, the same man previously rescued attempted to stab the captain, but was held down by his companions. From that time he gradually sank, and on the Thursday morning the men, on going to rouse him, found that he had died during the night. The men knelt in the bottom of the boat and offered up a prayer for the dead man and themselves, and then threw the corpse overboard. In the meantime, two others were seized with insatiable thirst, and drank copiously of the salt water, despite the protests of the captain, who preserved wonderful self-restraint. During the Thursday a calm set in, followed by a gentle breeze, and the crew, too weak to pull, succeeded in rigging a sail by connecting their oilskins to a paddle. They then steered for what they believed to be the Irish coast. On the Friday evening, the Austrian barque *Grad Karlovac* bore down on them. The poor fellows were overwhelmed with joy, but were so worn out that they had to be assisted up the side. The barque was on the passage to Jamaica. Her captain treated the rescued with exceeding kindness, but it was five or six days before some were sufficiently restored to stand. They were subsequently transferred to the West India mail steamer *Para*, and landed from her, on her arrival at Plymouth, on the 10th April.

THE "ROBERT JONES." — The barque *Robert Jones*, of Carnarvon, which foundered at sea on January 7, 1882, in lat. 12 2 N., long. 26 33 E., while on her voyage from Grimsby to Buenos Ayres, with

a cargo of coal, was of 287 tons register, John Rowlands, master, and fully manned and equipped for the voyage. On first leaving, moderate weather was experienced, but afterwards the ship encountered a succession of gales and high seas, causing her to strain severely and make much water, the pumps having to be kept constantly at work. She continued to leak, until suddenly a great increase was noticed in the quantity of water in the ship, when a dangerous leak was discovered in the fore-peak, which they were unable to get at from the inside, and, in consequence of the sea at the time, nothing could be done from the outside. The crew kept at the pumps, the water steadily gaining on them nevertheless, and some of the cargo was jettisoned from the fore hatch; but the leak increasing so fast, the men were sent back to the pumps, and at daylight on the morning of the 7th January there was six feet of water in her, and there being imminent danger of her sinking, the boats were got ready to abandon the vessel in order to save the crew's lives. At 9 a.m. a vessel was sighted, and signals of distress made to her, which were answered, and the crew of the *Robert Jones* then abandoned their ship, and proceeded on board the barque *Holly Bough*, bound for Cape Town, the *Robert Jones* being seen to sink within an hour of her abandonment.

THE "TRINITY." — The American barque *Trinity*, Captain John L. Williams, sailed from New London, Connecticut, on June 1, 1880, bound on a whaling and sealing voyage in the Southern Ocean, and arrived at Heard's Island—a bleak island of volcanic origin, about thirty miles long by three miles wide—

on October 2, 1880. The barque anchored off the island, which is uninhabited, and is situated in lat. 58 deg. S., long. 78 deg. E. Until October 17 all went well, but on that day, during a heavy gale, the barque dragged into four fathoms of water. The anchors had to be slipped, and the vessel was beached in order to save the lives of the crew. At the time the weather was intensely cold, and while the crew were being landed seven of them had their limbs badly frost-bitten. With this exception the landing was effected without accident. The same night the *Trinity* floated off and was blown to sea, since which time no trace of her has been found. From October 17, 1880, the shipwrecked crew, numbering thirty-five originally, remained on the island until they were rescued. Fortunately, in landing, the crew managed to save some three months' supply of provisions from the wreck. This, supplemented by sea-elephant, penguin flesh, and penguin eggs, with some sea cabbage, formed the diet of the crew. On landing, the captain and crew found some small wooden huts, placed there by various whalers who occasionally visited the island in search of sea-elephants. These huts formed a most welcome shelter. During the sixteen months of their enforced captivity the sailors were engaged in hunting sea-elephants. In the winter season, and, in fact, during most of the year, the men suffered much from the intense cold, and on January 30, 1881, two of the crew, while out hunting and when crossing a glacier, were overcome by the cold, and frozen to death. On the 15th of February, 1882, about 5 p.m., the forlorn crew sighted a ship standing along the coast. Signals were made to her by means

of blankets, and the steamer, which proved to be the American corvette *Marion*, Commander Terry, at once made for the anchorage. Early next morning the wrecked mariners were transferred to her, and she subsequently arrived safely at Cape Town, with the whole of the thirty-three survivors.

THE "W. R. RICKETT." — The steamship *W. R. Rickett*, Captain Henry Freeman, left Cardiff on April 21, with a crew of seventeen hands, all told, for Gibraltar. On April 23 she encountered a strong gale in the Bay of Biscay. At 3.40 a.m. on April 26 the vessel struck, about five miles north of Cape Mondego. The lifeboat was got out, but bumped against the ship's side, and was in danger of being stove in, and the painter was thereupon cut. The captain and two of the crew climbed into the rigging when the ship went down. They hailed the boat, but even if there had been rowlocks on board it would not have been able to pull back against the sea. The boat, with thirteen men in all, including the two mates, reached the shore in about twenty minutes. At daylight the men in the rigging could be seen, and the crew on shore tried four times altogether to reach them with their boat, but each time without success. One of the sailors attempted to swim ashore from the rigging, but was drowned. Some people in a neighbouring fishing village gave the crew a little food. Some Portuguese coastguards, with Lloyd's agent, and afterwards a son-in-law of the English Vice-Consul, came upon the beach. The coastguards made a tent, but objected to let the shipwrecked men (many of whom were scantily

clad) share it. There was a lifeboat at Figueira, about twelve miles distant, whither the second mate went to seek assistance. The English Vice-Consul said he would endeavour to get it launched, but subsequently stated the crew could not go out, and that he would telegraph to Lisbon for assistance. The next afternoon the boat was launched. There was great delay through bargaining about money. A brig from Lisbon appeared and took the lifeboat in tow, but the men refused to approach the wreck. That night the rest of the boat's crew went to Figueira, and the next day (the 28th) a volunteer crew, consisting of the two mates, the boatswain, and others of the *W. R. Rickett's* ship's company, with volunteers from some Nova Scotian vessels, and one Portuguese, manned the Figueira lifeboat, and succeeded in taking off the captain and the surviving sailor, after they had been fifty-six hours without food or water in the rigging,



LIFEBOAT SERVICES AT WRECKS, &c. —The boats of the Royal National Lifeboat Institution have been recorded, at recent meetings of the Institution, as having been instrumental in saving life, &c., amongst other instances, as follows:—

The Tynemouth No. 2 lifeboat went out twice in a heavy sea and landed on the second occasion 14 of the crew of the stranded steamship *R. W. Boyd*, of North Shields. The Howth lifeboat saved five men of the brig *Elizabeth*, of Whitehaven, which

had stranded on Baldoyle Bank. The *Elizabeth* was found on her beam-ends, with the men in the rigging and the sea rolling over them. A communication having been effected by means of the heaving cane and line, a lifebuoy was veered to them, and they jumped one by one into the sea, clinging to the buoy, and were hauled into the lifeboat. The Lydd (Dungeness) lifeboat had, with much difficulty and danger, saved the crew of six men of the brigantine *Concordia*, of Guernsey, wrecked off Dungeness, in a strong gale of wind; and the Isle of Whithorn lifeboat brought safely ashore from the stranded steamship *Kittiwake*, of Liverpool, in a high sea, seven of the crew who had remained on board to try to save her. The Ramsay lifeboat went off in reply to signals of distress from the schooner *Countess of Caithness*, of Gloucester, which was perilously near the rocks of Mangold Head, during a fresh gale and rough sea. The lifeboatmen boarded her, secured one anchor, slipped the other, and took her safely to Douglas with her crew of four men. And during a violent gale the Freemasons' lifeboat at Clacton—named after the Prince of Wales, the *Albert Edward*—saved, with much difficulty, the crew of five men from the Norwegian sloop *Nordstjerten*; and the Hayle lifeboat saved two men from the ss. *Drumhendry*, which had been driven on the beach while crossing Hayle Bar during a gale from the north-east, the remainder of the crew being rescued by means of a rope from the shore.

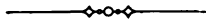




MISCELLANEOUS JOTTINGS.



“Here a little, there a little.”



“O Reader! had you in your mind
Such stores as silent thought can bring,
O gentle Reader! you would find
A tale in everything.”

WORDSWORTH.



THE TOMB OF “THE SAILOR BOY.”



AN exquisite little poem, written by an American authoress, during the war between the Northern and Southern States, commemorated an incident but too common in the world, that of an unknown youth dying among strangers, who

“Tenderly buried the fair young dead,
Pausing to drop on his grave a tear;”

there being carved on the wooden slab at his head—

“Somebody’s darling lies buried here.”

Equally touching is a story which has quite recently been made known through the New York journals.

In a little cemetery near Long Branch, a point on the coast of New Jersey, near the entrance to the bay of New York, a beautiful marble monument has just been erected, bearing the simple inscription—

“THE SAILOR BOY,
WASHED ASHORE, MARCH 19, 1882.”

This monument was erected by Mr. James A. Bradley, of Asbury Park, New Jersey. The poor little fellow, whose remains had been so tenderly

placed in their last resting-place, was one of the crew of the barque *W. J. Stairs*, which was wrecked off Long Branch on the 1st of March. Beyond this, however, there was no trace of his identity, and hence the inscription on the monument placed over his grave.

The circumstances of the case were communicated by the editor of the *New York Herald* to Captain Miller, of the school-ship *Conway*, stationed in the Mersey, to Captain Moger, of the training-ship *Clio*, Bangor, and to others, in the hope of discovering some clue to the boy's friends; and these thoughtful missives have added another chapter to the touching story.

Captain Moger, replying to the inquiry addressed to him, wrote that the boy, whose name was Charles Dixon, was one of the first lads joining the *Clio* when she was opened as a training-ship, in 1877. He was "a very nice little fellow," and was known as "Poor Joe," having neither father nor mother. Captain Miller, of the *Conway*, who had taken a warm interest in the story, wrote also to the editor of the *Herald*, assuring him that all Englishmen would feel grateful to those who so kindly laid to rest the body of the poor and unknown sailor lad, as well as to those who had taken so much trouble to discover his identity.

The story of "Poor Joe," as thus briefly told, will assuredly be long remembered on this side the ocean, not merely on account of its pathetic incidents, but because of the kindly interest taken by Americans in the unfortunate little English lad who now sleeps his last sleep in the cemetery near Long Branch.



SPIDERS' THREADS.—The Rev. H. C. M'Cook has been studying the mode of constructing webs prevailing among the orb-weaving spiders, and he seems to have confirmed his previous opinions that the silk-line framework or foundation of their webs is laid, in the first instance, by the help of a current of air carrying the thread. In a great number of cases Mr. M'Cook observed the spiders passing from point to point by means of lines emitted from their spinnerets and entangled upon adjacent foliage. These mimic "wire bridges" were of various lengths,

owing to the direction of the wind and the relative position of the spider and the fixed objects around it. Lines of 2 ft. to 4 ft. were frequent; lines of from 7 ft. to 10 ft. occurred pretty often; one line had been measured for a length of 26 ft., and in several instances they had been observed stretching across country roads of from 80 ft. to 40 ft. width. He had also observed some of these carried by the wind directly from the spider's spinnerets; had watched the entanglement; had seen the spider then draw the threads taut, and finally cross upon them. These air-laid bridge-lines were often

used for the frames of the orb, though undoubtedly the foundations for these were also very frequently made, as described by the Rev. O. Pickard (Cambridge), by the spider fixing its line to one spot, then traversing the distance to some other spot and then hauling in the slack. The observations of Mr. M'Cook show nothing like a deliberate purpose in connecting the point of occupancy with any special opposite point. The spiders seem to act in the matter very much at hazard, but with a special instinct of the fact that such behaviour would secure available attachments. Many of the bridge-lines were evidently tentative, and were chiefly at the mercy of the breeze, although some observations seem to indicate a limited control of the thread by manipulation. As a generalisation from many observations, Mr. M'Cook concludes that webs built in large open spaces are perhaps always laid out by bridge-lines, while in more contracted spaces the frame-lines are generally carried around, and often a foundation is the result of both methods.

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EUROPEAN POSTAL TRAFFIC IN 1880.—An interesting paper on this subject has recently appeared in the *Deutsche Industrie Zeitung*, from which we cull the following items:—The total increase, which had been 11 per cent. in 1878 and 4 per cent. in 1879, was 7 per cent. in 1880; the total number of articles sent in 1880 being 6,206,577,592. The proportions of different articles were nearly as in the preceding year—Letters and post-cards, 61·3 per cent.; book packets and patterns, 15·8; newspapers, 22·9. England

stands first with 1,690,724,491 articles, or 27·2 per cent. of the whole; next, Germany, 23·3 per cent.; then, France, 19·6 per cent. (showing a large percentage in patterns and book packets, 27·6, while 15·8 is the average for Europe); Austria-Hungary ranks fourth, with 8·6 per cent.; Italy has 5·6; Russia, 3·3; Belgium, 3·2; Switzerland, 2·4; and Holland (ninth), 2 per cent., closes the series of States whose entire traffic is over a hundred millions. These nine States have 95·2 per cent. of the European traffic, leaving only 4·8 per cent. to the ten remaining States. Turkey is not included. The nine States show a relative decrease from 1879 (when they had 96·4 per cent. of the whole), and the smaller States an increase. Greece alone shows an absolute decrease. Nearly everywhere there is an increase of letters and post-cards per head of the population. The total number of persons engaged in postal service in 1880 was 250,655, of which Germany has 72,808; France, 45,444 (but these two include telegraph officials); England, 34,644; Austria-Hungary, 18,676; Italy, 15,813; Russia, 14,985, &c. The postal service in the whole of Europe brings in a surplus of about £5,750,000 (this includes the telegraph service in Germany, France, and Roumania). England has the lion's share, about 2½ millions; then follow France, Germany, Spain, Italy, &c. Russia and Roumania show considerable deficits, and the Bulgarian deficit is 65 per cent. of the total expenditure. The postal traffic of Europe has increased from 3,957,850,639 articles in 1873 to the figure above given, or 58·8 per cent. in eight years. At this rate, in 1888 it should amount to some 13 milliards. The percentage increase in the last eight years has

greatly exceeded that of the population, which is only 7 to 8.

OATHS OR AFFIRMATIONS IN FOREIGN ASSEMBLIES.—A Parliamentary paper, just presented, contains reports from Her Majesty's representatives abroad on this subject, as well as upon the mode of taking votes on divisions. In Austria no oath is taken by the members of the Legislative Assemblies, but they are obliged to make an affirmation, promising "fidelity and obedience to the Emperor, observance of the constitutional and all other laws, and conscientious discharge of their duties." The members of the Hungarian and the Croatian Legislative Assemblies make no oath or affirmation whatever. In Belgium each representative takes this simple oath: "I swear to observe the Constitution." In Denmark members of the Rigsdag swear as follows: "I hereby promise and swear to maintain the Constitution. So help me God and His Holy Word." In France no oaths or affirmations are required from the members of the Legislative Assembly. In Germany in like manner neither oaths nor affirmations are required from members of the Reichstag; but members of the local State Parliaments must take the oath of allegiance to their respective Sovereigns, and swear to abide by the Constitutions of their respective States. In Greece an oath is exacted, and also in Italy, where senators on appointment, and deputies after each election, must take an oath of fidelity to the King and the Constitution. In Spain the form in the Congress and the Senate is as follows:—One of the Secretaries, addressing the member who is about

to take his seat, says: "Do you swear to maintain the Constitution of the kingdom of Spain? Do you swear fidelity and obedience to the legitimate King of Spain, Don Alfonso XII.? Do you swear to properly and faithfully fulfil the charge intrusted to you by the nation, ever considering its welfare?" The member kneels, and, placing his hand on the Gospel, says, "I do." Whereupon the president replies, "Then may God repay you; but if you fail, may He claim it from you." In the United States an oath or affirmation to support the Constitution is administered by the President of the Senate to each senator, and by the Speaker of the House to each member, before taking his seat.

EARTHQUAKES IN 1881.—In Herr Fuchs's report on this subject, in *Der Naturforscher*, it is stated that 244 earthquakes are at present known to have occurred, of which 86 were in winter, 61 in autumn, 56 in spring, and 41 in summer. The earthquake period at Agram, beginning in November, 1880, extended into 1881; in which earth vibrations were observed on 24 days, many of the shocks being very violent (*e.g.*, on February 1, and at St. Ivan Zelina, from May 20 to June 1). The neighbouring regions, Dalmatia and Herzegovina, were frequently affected from this source, also by violent shocks, which occurred in the Croatian Mountains. Among the great earthquakes of 1881, that of Chios takes the first place. The tremendous first shock, in the afternoon of April 8, laid most of the town of Castro in ruins. This earthquake, lasting six days in full strength (with 30 to 40 very violent shocks),

was felt most in the south part of the island. On the mainland, the Port of Tschesme was half destroyed. In Chios, 4,181 persons were killed, and about 1,000 injured. From April 10, the phenomena gradually abated; but strong shocks occurred on May 20, June 10, August 27, and even in the end of November. The violent earthquake of Ischia (March 4) caused the death of about 150 persons; it was quite local—confined to the district of Casamicciola and Lacco. A loud noise, about 1.5 p.m., was followed by the shock, which, lasting seven seconds, wrought most of the ruin; the movement seemed undulatory and jerky, and threw down whole streets in the upper part of Casamicciola; in the lower part, and in Lacco, over the hill, only a few houses suffered. A second weaker shock occurred at 4 p.m. The fine seismographs at Vesuvius Observatory and at Naples gave no sign. Other notable earthquakes occurred at Osogna, in Abruzzo, on August 10, ruining about 1,000 houses; between Tabreez and Khoi, from August 28 to September 11; and at the Azores, from the end of February extending into March; this last was connected with a submarine eruption, and in San Miguel destroyed 200 houses. Some interesting seismic phenomena occurred in Switzerland; the basin of the Lake of Geneva is indicated as a chief centre of vibration, whence principally Western Switzerland is affected. The more violent shocks extended into France or the Black Forest (*e.g.* on March 8 and July 22); neither Alps nor Jura proved an obstacle. Another centre appeared on November 18 in East Switzerland, between Santis and Glarnisch, and the effects reached to the Tyrol, the Southern Black

Forest, the Jura, and the Ticino: Vorarlberg seems to have been the seat of independent earthquakes, with the Arlberg as centre. On January 10 there was an earthquake on the eastern side, and on December 2 one on the western; and on November 5 a movement extended from Arlberg over the Bergezerwald, most of East Switzerland, and as far as Zurich. In the flat regions of the Danube three earthquakes were observed (February 5 and 11 and April 3). In Belgium there was a small earthquake on February 28, in Beckrath and Wickrath; and a stronger one occurred on November 18, affecting Belgium, the Rhine province, and Westphalia, and having its centre about Charleroi. Saxony had earthquake motions on May 22 and September 24. Herr Fuchs says little of volcanic phenomena, but notes those of San Miguel as the most remarkable.

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NEWSPAPER STATISTICS. — The *Newspaper Press Directory*, for 1882, gives the following particulars:—"There are now published in the United Kingdom 1,817 newspapers, distributed as follows:—England—London, 375; provinces, 1,012—1,887, Wales, 71; Scotland, 188; Ireland, 156; Isles, 20. Of these there are 124 daily papers published in England, five daily papers published in Wales, 22 daily papers published in Scotland, 16 daily papers published in Ireland, two daily papers published in the British Isles. In the year 1846 there were published in the United Kingdom 551 journals; of these 14 were issued daily—viz., 12 in England and two in Ireland; but in 1882 there are now established and circulated 1,817 papers, of which

no less than 169 are issued daily, showing that the Press of the country has more than trebled during the last 36 years. The increase in daily papers has been still more remarkable; the daily issues standing at 169, against 14 in 1846. The magazines now in course of publication, including the quarterly reviews, number 1,180, of which 326 are of a decidedly religious character, representing the Church of England, Wesleyans, Methodists, Baptists, Independents, Roman Catholics, and other Christian communities.



TORNADOES IN AMERICA.—The destructive effects of a recent tornado in Minnesota led the editor of the *American Architect* to invite information from various sources as to this class of phenomena. Among the contributions is a valuable collation of data by General Hazen, of the Signal Service. It appears that in the passage of those cyclones or tornadoes, wind pressures of various amounts, from 18 lb. to 112 lb. per square foot, have been demonstrated by destruction of bridges, brick buildings, &c. The upward pressures are sometimes as great as the horizontal, and even greater. Downward pressures or movements of wind have not been clearly proved. Upward velocities of 135 miles per hour seem to be not unusual, and horizontal velocities of 80 miles have been recorded with the anemometer. The destructive wind velocities are confined to very small areas. A destruction of fences, trees, &c., is often visible over a path many miles long and a few hundred yards wide; but the path of greatest violence is very much narrower. The excessive cases above referred to are observed only in small isolated spots,

less than 100 ft. square, unequally distributed along the middle of the track. Thus, in very large buildings, only a small part is subject to destructive winds. In different parts of this area of maximum severity the winds are simultaneously blowing in different, perhaps opposite, directions, the resultant tending not to overturn, or carry off, or crush in, but rather to twist round a vertical axis. Buildings are generally lifted and turned round before being torn to pieces. As the chances are very small that a building will be exposed to the violent twisting action, it is evidently the average velocity of rectilinear winds within the path of moderate destruction that it is most necessary to provide against in ordinary structures. These winds may attain a velocity of 80 miles an hour over an area 1,000 ft. broad, and generally blow from the south-west; the next in frequency blow from the north-west. The time during which an object is exposed to the more destructive winds varies from 6 to 60 seconds—the general average of a large number of cases is 16 seconds. An exposed building experiences but one stroke like the blow of a hammer, and the destruction is done. Hence, in a suspension bridge, chimney, or other structure liable to be set into destructive rhythmic vibrations, the maximum winds do not produce such vibrations. The duration of the heavy south-west or north-west winds over the area of moderate destruction is rarely over two minutes. The motion of translation of the central spout of a tornado, in which there is a strong vertical current, is, on an average, at the rate of 80 miles an hour. The relative frequency of tornadoes is, in order of decreasing frequency, July, May, June . . . :

January, December. In the geographical distribution of 247 tornadoes from 1794 to 1878, the largest figures are obtained for New York (24), Indiana (20), Illinois (20), Ohio and Georgia (16 each), &c., but the records are fragmentary. The largest number of tornadoes apparently occur between 4 p.m. and 5 p.m., the next between 5 p.m. and 6 p.m.

THE MALAY ADJUTANT. — The family of the storks contains a series of strange, but very interesting birds, several of which are, no doubt, very familiar to the visitors to the gardens of the Zoological Society of London. Of these, the Malay Adjutant—*Leptoptilus javanicus* (Horsf.) —is, from its odd manners, not the least in interest. In a very pleasantly written series of notes made on the birds of the Straits Settlements, and of the Western States of the Malay Peninsula, by Lieutenant Kelham, and published in a recent number of *The Ibis*, we find the following graphic account of a pair of these birds which had been purchased by a detachment of the 74th Highlanders, who, in June, 1877, were stationed at Penang. The birds stood about three feet in height. They were never kept in confinement, and from the very first were allowed to roam over a large, open expanse of ground. They never seemed inclined to stray far, and very seldom ever attempted to fly. When they did so it was rather a failure, and consisted of a succession of bounds for about 50 yards, after which they appeared to be quite exhausted. They gave one quite the idea that their surroundings had but little attraction for them, as they would spend more than half the day standing motionless opposite each

other, bill to bill, and with both their wings outspread, forming a most ludicrous picture. Sometimes, after standing like this for an hour or more, one or the other would occasionally raise and stretch out one of its legs, as if it were stiff, but otherwise scarcely stirring a muscle. They were never heard to utter a sound. They were coarse feeders, and neither quality nor quantity seemed to trouble them much; one of them on an occasion gulped down, one by one, as fast as they could be thrown to it, 32 small fishes, each about six inches in length, and evidently was ready for more. After they had been with the regiment about a month, one of them began to look downcast. One morning it remained basking in the sun for several hours, with outspread wings. Later in the day it lay down on the grass, with its eyes closed, and evidently very sick, and by it stood its brother, apparently quite unconcerned. Like this they remained until late in the afternoon, when the healthy bird was seen to put his head on one side, and, looking curiously at his sick comrade, proceeded to stir him up with his beak, without making him move; and on going to look he was found to be dead. A *post-mortem* examination was immediately held, and in the poor bird's stomach were found the legs and claws of a large fowl, quite undigested, which were the apparent cause of the intense inflammation. While the investigation was going on, the surviving bird evidently regarded it with much interest, and as great lumps of muscle were stripped off his comrade's bones he gobbled them up. Having thus got a good meal, he at length stalked demurely away, satisfied with his afternoon's performance, and apparently think-

ing what a pity it was that he had not a brother dying every day.

TRANSPARENCE OF THE AIR.—The result of three years' observations of the air, near Upsala, in Sweden, with regard to transparence have been lately published by Herr Hamberg in the *Zeitschrift für Meteorologie*. The degree of transparence was estimated by the greater or less distinctness with which a wood and houses, bounding the view from the Observatory, could be seen at midday. Thus, a scale of 6 deg. was formed, from zero (0), representing extremely transparent air, to (5), extremely troubled air. Rainy and snowy weather was excluded. These degrees were found to occur with various frequency in the different months. Extreme transparence (0) occurred most frequently in March and April, very frequently also in October, but it was very rare in June and December. The extremely troubled state (5) presented a first maximum of frequency in winter, and another less pronounced in July. No. 4 had a maximum of frequency in July, and a minimum in April; and so on. The transparence was proved to be related to air pressure and direction of wind (in a way we cannot here stop to explain); but these two elements do not fully account for the annual variations of transparence. With regard to moisture, it appeared that in general the transparence decreased as the moisture increased. In the colder months this relation was very pronounced and regular, but in the warm season, from May to August, the air was often very troubled, though the moisture was not over 80 or 40 per cent.; and not infrequently there was

great transparence with a moisture as high as 70 or 80 per cent. Though, on an average, the air was more transparent on cloudless than on cloudy days, there were great irregularities, and a direct connection between transparence and quantity of clouds could not be affirmed. On the whole, the cause of the differences in the transparence of the air seems to be a partial condensation of aqueous vapour. In the warmer months another cause operates, which is probably to be sought in dust and smoke from regions near or distant. This is being investigated by the author. The relation of atmospheric transparence to the amount and frequency of rain was also studied by Herr Hamberg. The tables show that, the more troubled the air, the greater is the probability of rain, and the greater the quantity of rain. This does not, however, hold good in the same measure for different seasons. In the months of February, March, September, and October, the probability of rain with transparent air is very small in comparison with that with troubled air; but in the months April to August the difference is not nearly so great, evidently because of the dry troubling of the air which then occurs.

MOST ELEVATED BUILDING IN EUROPE.—Hitherto the Hospice of the Great St. Bernard, which stands 8,200 ft. above the level of the sea, has enjoyed the distinction of being the most elevated inhabited building in Europe. This honour it can now no longer claim. During the past year the city authorities of Catania, in Sicily, have caused to be erected, near the summit of the great volcano, Mount Etna, an astronomi-

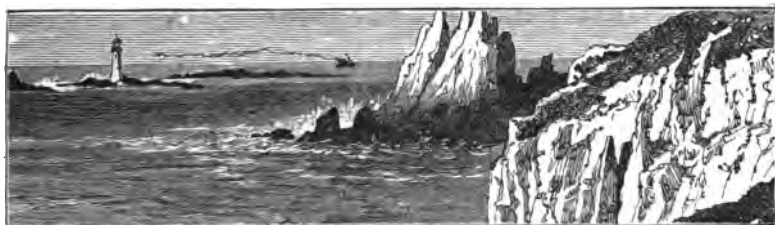
cal observatory which stands 2,948 mètres above the sea-level, or fully 1,000 ft. higher than the Hospice of St. Bernard. The structure is 9 mètres in height, and covers an area of 200 square mètres. It consists of an upper and a lower story, and is built in a circular form. In the lower story there rises a massive pillar, upon which is placed the great refracting telescope. The lower story is divided into a dining-room, kitchen, and store-rooms. In the upper story there are three bedrooms, intended for the accommodation of astronomers and tourists visiting the establishment. The roof consists of a movable cupola or dome. From the balconies of the upper story a prospect of vast extent and grandeur is presented. The spectator is able to see over half the island of Sicily, the island of Malta, the Lipari Isles, and the province of Calabria, on the mainland of Italy. The observatory is erected upon a small cone, which will, in the case of eruption, protect it completely from the lava-stream which always flows down on the opposite side of the volcano.

THE HUMAN FIGURE.—The height of the human figure is six times the length of the feet. Whether the form is slender or plump the rule holds good; any deviation from it is a departure from the highest beauty in proportion. The Greeks made all their statues according to this rule. The face, from the highest point of the forehead, where the hair begins, to the chin, is one-tenth of the whole stature. The hand, from the wrist to

the end of the middle finger, is the same. From the top of the chest to the highest point of the forehead is the seventh. If the face, from the roots of the hair to the chin, be divided into three equal parts, the first division determines the place where the eyebrows meet, and the second the nostrils. The height, from the feet to the top of the head, is the distance between the extremities of the fingers when the arms are extended.

EFFECTS OF COLD WIND.—The power of violent wind when accompanied by rain, not to say snow and piercing cold, in exhausting the physical powers, is little appreciated, and would hardly be believed if certain evidence of it did not exist. The chilling effect of a current of air is familiarly known. Arctic travellers have no difficulty in bearing a cold of 80° or 40° below zero if the atmosphere be perfectly still, but the smallest wind, with a temperature even of zero, is almost insupportable. Even in the temperate climate of Great Britain, and at very moderate elevations, not infrequently cases of death from exposure have come to our knowledge which took place in the summer months. One remarkable instance occurred in August, 1847. Two Englishmen, travelling on foot by a well-marked road from King's House to Fort William, in Scotland, during a storm of wind and rain—violent, yet not excessively cold, and without a flake of snow—lay down and died on the path. Similar instances have happened of late years in Westmoreland.





QUIET THOUGHTS FOR QUIET HOURS.



“ Alone with Thee, my God! alone with Thee!
Thus would'st Thou have it still,—thus let it be!—
Alone with Thee, my God! alone with Thee!”

HYMNS FOR THE CHURCH ON EARTH.



HOW LIGHT CAME TO THE LIGHTHOUSE.



HIGH in the strong tower the revolving light shone clear and far. A faint tint in the east betrayed the sun's approach. Down in the living-room of the lighthouse three hardy men were finishing their morning meal. They had all been sea-captains. The youngest was forty; the others had seen three-score years. Through many a hardship and peril they had been kept in the hollow of God's hand, but they kindled no lights for Him. One called himself an atheist; the others held no faith, and denied the Bible.

“ You're off for shore to-day, I s'pose?” said Captain Tom, addressing the elder of the grey-haired men.

“ Off by sunrise. Any errands?”

“ Nothing but a letter.”

“ Tell my folks,” said the third man, “ that all's well.” He was a dark, stern man. Children would never dream of climbing his knee, and sailors had feared to disobey.

The sun rose out of the far sea. The light in the tower was quenched. A little boat glided away from the solitary fastness and took its even course for the shore. For a whole week Captain Torrey

would be on land. This was the first of the winter furloughs. They came now at intervals of three weeks.

In the little village upon the outskirts of which Captain Torrey's family lived there was gathered a Church under a faithful pastor. For the remote districts there were neighbouring prayer-meetings, and on the last night of the light-keeper's week at home the minister met a prayerful band at the house next to his.

"What's going on at Ben's?" asked Captain Torrey, as he noted the people gathering. His wife told him, adding—

"Mis' Trowell asked me yesterday if we wouldn't all come in."

It would have been difficult for even astute Betsy Torrey to say accurately how long it was since she had been to a religious meeting of any kind. Very nearly as long was it since her husband had been seen in such a place. Occasionally some of the children had strayed into church, or had had an intermittent curiosity concerning the Sabbath school, but they vanished entirely at any word of welcome or encouragement. For some inexplicable reason Captain Torrey said to-night—

"S'pose we go, Betsy?"

But she let him go alone. Neighbour Ben's great kitchen was full when he entered. Those who knew him wondered. To the minister he was a stranger. The meeting was an earnest one, full of tender appeal and prayer. At its close the pastor sought the stranger, expressing his pleasure at seeing him there.

"You are a Christian, I trust, sir?"

"I can't say that I am, but if there's anything in religion I believe I should like it."

"You go to church sometimes?"

"Well, not latterly. Since I've been on the light there a'int much chance. Before that I went to the Universalist, off and on—mostly off," he said, with a smile. He had a pleasant, honest face. The minister liked it, as he looked up at the man, who added, "I've always been good enough without going to church."

The minister could not forbear a few earnest words. Perchance they would go back with him to the lonely light, and spring up to life everlasting. The man listened courteously.

"I can't promise anything, but I'll try to break off my bad habits, if I've got any. I've always thought I was good enough."

He went his way. The next morning the little boat shot out from the wintry sands for the rocks again. Surely some word did go back with him. He had said he would break off his bad habits. He supposed, then, that he must stop his tobacco. He shook his head as he thought of the self-denial involved. For forty-two years he had smoked and chewed.

Something prompted him to figure up how much money he had spent on tobacco in forty-two years. His pencil made startling disclosures—eight thousand dollars! His fist fell heavily on the table as he said under his breath—

“I’ve wasted enough on that. Not one penny more!”

When once thinking began, it was not easy to stop. Conscience, so long silent, rose up to accuse. Sins of omission and commission sprang up in long array. Was it possible that he, guilty Captain Torrey, had ever felt “good enough”? For a week he agonised in despair. Then Christ walked over the waves again. Light came to the lonely lighthouse tower, and salvation to a sinking soul.

His companions sneered when Captain Torrey told them of his struggle and his victory; but he held on bravely and waited patiently for the furlough. Then he hastened home joyfully to tell the good news. To his great delight there was a prayer-meeting at neighbour Ben’s that very night. Again the room was crowded. Everyone stared as Captain Torrey took a front seat. The minister opened the meeting, and after a few remarks sat down. Instantly, the light-keeper was on his feet.

“My friends, I’ve got something to tell you!”

In great wonder they listened. They had not dreamed that Captain Torrey could bring such news. “O ye of little faith!” He went on to give an account of this week of conviction.

“I felt as if mountains of rocks were upon me. I seemed to be beneath the great stone tower. The light shines on top to save others, but my sins closed up the way to it and shut me down in thick darkness.”

But one’s pen fails wholly to give the eloquence of his narrative, or to present the appeal that followed in its earnestness and power. He begged his unconverted friends to give up their bad habits, adding—

“But you’ll find, as I did, that that is only a step. You cannot stop there. It is only one step towards Christ. He is what you need most of all. Only Christ can save you. Without Him you are nothing, and can do nothing.”

Then he tried to find words to express his great happiness. He used one phrase after another, but they were all inadequate. At last he clasped his hands and said fervently, “Oh! my friends, I feel beautiful!”

All the listeners, with moist eyes and swelling hearts, felt that it was good for them to be there; and the minister’s faith was quickened anew as the happy man grasped his hand at the close of the meeting.

At the expiration of a week Captain Torrey returned to his scoffing companions. How well he stood in the new and difficult position

may be judged from what followed. Some months later the hard-featured Captain Barnes appeared among the neighbours. It was his week off, and he brought a message to Betsy Torrey. She looked in his face, wondering. Her little child ran to him. The dark-browed man stooped and kissed him, saying gaily—

“That’s from your father, my man!”

Betsy looked and listened in amazement. She hardly knew what was the message he left, so puzzled was she by his changed appearance. When he had gone she said to Molly—

“It must be that Captain Barnes has got religion. Run over to Ben’s, and ask if they know what’s come over him.”

The little girl did her mother’s bidding, and ran back to verify her surmise.

“It’s all along of your father, I make no doubt,” said Betsy, thoughtfully.

Betsy’s husband was saying, “It’s the blessed Light—praise His name!”

And now as the prayer-meetings break up, and the light-keeper lingers, the minister asks—

“How fares it, Captain Torrey?”

“Oh! sir, I feel beautiful,” is again the ardent testimony.

“Keep the lower light burning, my friend!”

“Ay, ay, sir!”

It was a happy Sabbath when he let his light shine before men in the little church, and was received to its membership.

Captain Tom still holds to his utter disgust. Pray, all good people, that the darkness in his heart may be speedily dispelled.

Mrs. S. L. HALL.



“LET THE LOWER LIGHTS BE BURNING!”



RIGHTLY beams our Father’s mercy

From His light-house evermore,

But to us He gives the keeping

Of the lights along the shore.

Let the lower lights be burning—

Send a gleam across the wave—

Some poor fainting, struggling seaman

You may rescue, you may save!

Dark the night of sin has settled,
Loud the angry billows roar ;
Eager eyes are watching, longing,
For the lights along the shore !

Trim your feeble lamp, my brother !—
Some poor seaman tempest-tost,
Trying now to make the harbour,
In the darkness may be lost !



P RAYER.—He that is much in prayer shall grow rich in grace. He shall thrive and increase most that is busiest in this, which is our very traffic with Heaven, and fetches the most precious commodities thence. He that sets oftenest these ships of desire, that makes the most voyages to that land of spices and pearls, shall be sure to improve his stock most, and have most of Heaven upon earth.—*Archbishop Leighton.*

THE PERFECT LIFE-BUOY.—What sort of a life-belt have you got ? What are you trusting to, to float you over the deep waters ?—

“When you come to Jordan’s flood,
How will you do ?
Can you brave the awful storm ?
When the waves of death assail,
When you sink no more to rise,
How will you do ?”

Christ is the *perfect life-buoy*. “There is no other name under heaven whereby we may be saved.” Flee to Him. Cast yourself upon Him and His finished work. Trust simply in His atoning blood, believe on Him as your Substitute, bend your willing heart to His loving Spirit. Cleave to Him. Bring your emptiness to be filled with His fullness, and all your sins shall be blotted out, His righteousness shall be yours,

the Holy Spirit shall dwell in you, and as you live by faith on the Son of God, you shall receive power over indwelling corruption, and when the waters of death overflow your soul, He will hold you up in His arms, and carry you triumphantly to a happy home in the eternal mansions of the blest.

COMING TO CHRIST.—St. Peter entered through the door of confession, St. John through the door of love, St. Paul through the door of resolution, the jailer through the door of fear, the eunuch through the door of hope ; in truth, it would be hard to find any two men, whose experience is recorded in the New Testament, who entered through the same door. The practical lesson is a very simple one :—Let each one come to Christ in his own way ; and let no one hold back from coming because he cannot come in some other person’s way. Let each soul bring its own burden to Christ ; let no one wait until he can get another one’s burden. He that is blind need not wish that he were, instead, paralytic, and then he could be cured ; nor need he that is paralytic imagine that, if he could exchange his paralysis for deafness, then he could find a help which is now denied him. Christ is not a physician for one disease only, but for all.

THE GREAT LIGHT.—There are many things we cannot see save in the dark. The stars shine all day long, but we cannot see them till night comes on; and it is the same with many other starlights. We need the dark to see them, and God kindly lets some shadow fall upon us, and we grumble at Him for His thoughtful goodness! It is only in the dark that the glowworm is to be seen, and, if you *will* take your lamp to it, you shall not see it. Symbol, truly, of many of the glowing lights of God's truth, Persist in looking at them by the light of *your* lamp, however well trimmed that lamp may be, and you shall not see them at all. They must be looked at in that Great Light which is their own.

THE KNOWLEDGE OF GOD.—The knowledge of God is gained, as the knowledge of man is gained, by living much with Him. If we only come across a man occasionally, and in public, and see nothing of him in his private and domestic life, we cannot be said to know him. All the knowledge of God which many professing Christians have, is derived from a formal salute which they make to Him in their prayers, when they rise up in the morning, and lie down at night. While this state of things lasts, no great progress in the Christian life can possibly be made. No progress *would* be made, even if they were to offer formal prayer seven times a day, instead of twice. But try to draw God down into your daily work; consult Him about it; offer it to Him as a contribution to His service; ask Him to help you in it; do it as to the Lord, and not unto men: refer to Him in your tempta-

tions; seek a refuge under the shadow of His wings until the tyranny of temptation be overpast; go back *at once* to His bosom, when you are conscious of a departure from Him, not waiting till night to confess it, lest; meanwhile, the night of death should overtake you, or at best you should lose time in your spiritual course; in short, walk hand in hand with God through life (as a little child walks hand in hand with its father over some dangerous and thorny road), dreading above all things to quit His side, and assured that, as soon as you do so, you will fall into mischief and trouble. Seek not so much to pray, as to live in an *atmosphere* of prayer, lifting up your heart momentarily to Him in varied expressions of devotion, as the various occasions of life may prompt, adoring Him, thanking Him, resigning your will to Him many times a day, and more or less all the day; and you shall thus, as you advance in this practice, and it becomes more and more habitual to you, increase in that knowledge of God which fully contents and satisfies the soul.

REST.—Jesus looks over all the world, sees every beaten nerve, every fatigued muscle, every fainting heart. Over the roar of the machinery and the calls of the workmen to one another, and the rush and bustle of the throbbing crowds, we hear His musical invitation, "Come unto Me all ye that labour and are heavy-laden, and I will give you rest." How authoritative this promise! It is the voice of One who knows the weight of each burden, and the pain condensed into each sigh, and the spot made sore by each yoke; of One who feels that in Himself are such

divine resources that He can lift every heavy burden, heal every sore, and rest every heart. How comprehensive is this invitation! It takes the whole world in. How sweet are the invitation and the promise!—"Come unto Me. I will give you rest." Rest! That is what we need, and desire, and pray for. Rest! Rest of brain and heart, especially, we need. Some person—yea, a divine person—is needed to give us that. A bed of senseless down can rest our weary muscles; but our minds need a mind, and our hearts need a heart, for rest. Other human brains, even the strongest, seem to fail to satisfy us. Jesus says, "Come unto Me. I will give you rest." And He does not allow us to be ignorant. "Take My yoke upon you, and ye shall find rest for your souls." Is there, then, no relief from yokes and burdens? None. Even this very sweet invitation talks of a yoke, but of a yoke that will give rest. Then, perhaps, we have been altogether mistaken in our notions of rest? We certainly have, if we have supposed that it meant a cessation of the activities of our faculties, a relapse into merely conscious inertness, a total pause in the exertion of our influence on the world outside of us, and the culture of the world inside of us. Rest is simply the absence of a sense of pain, or disagreeableness in our work; it is not the absence of work. Now, Jesus proposes to impart just that blessing to us, and He teaches us that we are to gain it by learning of Him, by taking His yoke, by working according to the law which He gives. The weariness comes not from working, but from working in a wrong manner; not from the drudgeries and difficulties of this present life, but from our

ties by the wrong handle. It is not the burden; it is the method of carrying it. It is not the load, but it is the way we try to drag it. The yoke for the ox and the collar for the horse are heavy, perhaps, and unpleasant, perhaps, but they could not draw their loads without some yoke or some collar. The right thing is not to throw all yokes away, but to find the yoke that is easy, and the contrivance that is light. Jesus says that faith in Him, obedience to Him, learning of Him, is the great secret of such easy working of the hands, and brain, and heart, that such working may be called rest.—*Rev. Dr. Deems.*

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GOD'S WITNESS IN NATURE.—

Who can forget the rapturous effect produced on first witnessing a sunrise from the summit of the Rigi? Every thought is hushed as the pulse of nature begins to throb. One is melted into deepest feeling as the night of silence is followed by the gladness of day. The morning grey gives place to the first faint streak of light, that again is succeeded by a lovely roseate hue tipping the summits of the Alps, till at length the sun rises above the mountain tops, and floods the earth with warmth and gladness. Again, can we forget the impressions at early morn at sea, on the wide and boundless waste of waters, when one's sense of helplessness and dependence is inexpressibly felt, and a solemn awe takes possession of the mind whilst regarding the vast expanse of sea and sky? But even in the circumstances of our daily life, to go no further, we wake up to consciousness renewed and refreshed, as the genial light of day breaks into the chamber. That por-

tion of the earth which we inhabit, having turned itself from the sun in its rapid diurnal revolution, has again in some hours revolved so far as to permit us to see the sun again, and hail its welcome rays. The interval, with its grateful change to darkness and calm, has invited to repose and the refreshing of wearied nature, whilst the wondrous system of our bodily frame has pursued its active course and gone on without any volition on our part. Waking up in the semblance of a new life, we step forth into the fresh, sweet air of the morning, and every sense is gratified: the eye with the landscape and its refreshing variety and

verdure; the sense of smell is regaled with the odours exhaled from earth, trees, and flowers; the hearing is gladdened by the carol of the lark, pouring forth its exuberant morning song as it rises to Heaven, exulting in its joyous existence. The chorus of the songsters in the woods, the gurgling stream, "the whispering leaves," the impressions of these aspects of nature upon a healthy mind are a sweet harmonious rhythm, sounding forth the praises of that awful yet benign Intelligence, the Author of these faculties, as well as the phenomena of which they are cognizant.—*G. Pearse.*

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THE BOOK OF LIFE.

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Book of Life! To thee I fly
 When the world weighs heavily,
 Heavily upon my heart,
 And earthly thoughts no peace impart!
 Earthly hopes, all hollowness—
 Earthly joys, deceitfulness—
 Earthly praise, a tinsel gain—
 Earthly pleasure, after pain—
 Earthly stay, an ebbing wave—
 Earthly end, the dark, cold grave!
 Wearily, wearily,
 From worldly wastes so drearily
 That round me lie—
 From trouble, toil, and vanity,
 From care and strife,
 To thee I turn—to thee I fly,
 Book of Life!

CAROLINE BOWLES.





SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY.



“The stately ships go on
To their haven under the hill;
But O for the touch of a vanish'd hand,
And the sound of a voice that is still!”

TENNYSON.



THE SOCIETY'S OBJECTS.



THE Shipwrecked Fishermen and Mariners' Royal Benevolent Society was Instituted on the 21st February, 1839, and Incorporated by Act of Parliament, 13th Vict., 1850, having the following, amongst other Objects, in view:—

- 1st.—To board, lodge, clothe, and forward to their homes, or to their nearest Consuls, if foreigners, all Wrecked Fishermen, Seamen, &c., of all Nations, cast Destitute upon the Coasts.
- 2nd.—To assist Fishermen, Seamen (whether of the Royal Navy or Merchant Service), Coast-Guardmen, Pilots, Boatmen, and Apprentices, &c., Members of the Society, towards replacing their Boats or Clothes, when lost by Storms or other Accidents of the Sea; and to relieve their Widows and Orphans, or Dependent Aged Parents.
- 3rd.—To give Gold and Silver Medals, and other Honorary or Pecuniary Rewards, for any praiseworthy endeavours to Save Life from Shipwreck on the High Seas, or Coasts of the Colonies.
- 4th.—To give Money-Grants to Old and Necessitous Members of the Society in Extreme and Special Cases.

The foregoing Objects are carried out by the Society's Executive in London, and about 1,200 Honorary Agents and Representatives of

the Society, stationed on every part of the Coast of the United Kingdom, as well as Inland, Abroad, and in the Colonies, by whom, on an average, 14,000 persons are annually relieved.*

On all occasions of Shipwreck, immediate relief, with prompt medical aid, is afforded to the sufferers—by taking them up at the place of wreck, supplying them with every necessary, and at once conveying them to their homes, or, if foreigners, to their nearest Consuls. In the performance of this duty the Society acts on the broadest basis of Christian Charity—the foreigner and the native being equally cared for.

In addition to this universal aid to the Shipwrecked and Destitute and to that given in extreme cases of Disaster and Distress from Storms or other Accidents of the Sea, the Society, with a special view to the encouragement of moral and provident habits amongst our Fishing and Seafaring Men of all Classes, extends assistance to Fishermen, Mariners, and all persons occupied on the Sea or Rivers, contributing the regulated small yearly payments to the Society's Funds, as Members, to help them—according to a fixed Scale of Relief—to make good the Loss or Damage at Sea, &c., of their Boats or Clothes, while, in the event of their Death, however caused, the necessitous Widows and Orphans, or Dependent Aged Parents, are at once relieved.

The Society, further, specially provides for the annual grant of small sums, on a graduated scale, to Widows of Fishermen and Mariners, having been yearly Members, left in want with young Children, and including, also, Widows themselves, above sixty years of age, in needy circumstances—this valued relief being wholly additional to that already given at the moment of first bereavement.



THE SOCIETY'S PROCEEDINGS.



HE administration by the Society, as the one National Institution existing for the purpose, of the varied and immediate organised aid embraced within the wide scope of its several Objects, necessarily involves a most extensive and very voluminous series of Proceedings, fully to detail which, from time to time, would be entirely beyond the available limits of any periodical record.

Amongst many other similarly noteworthy and interesting references

* See the "Annual Statistical Return of the Society's Operations," as given at the commencement of "The Society's Work," under this heading of SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY."

to the Society's operations, however, the subjoined Announcements, &c., have appeared in the columns of the Public Press, as shown, since the issue of the last Quarterly Number of this Magazine:—

INTERNATIONAL FISHERIES EXHIBITION,
EDINBURGH.*

THE International Fisheries Exhibition, open at Edinburgh, was yesterday visited by large numbers of people, the Waverley Market being crowded in the evening. Among those present were a large number of fishermen, who seemed to take great interest in the exhibits. . . .

The SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY have a case giving examples of Objects and Working Results, with the Gold and Silver Medals presented by the Society. They also issue an appeal, in which they state what the Society's Objects are. . . .

Subjoined will be found a complete list of the Official Awards of the jurors so far as at present made public, and as approved of at a meeting of the Executive held yesterday afternoon. . . .

OFFICIAL AWARD LIST.

* * * * *

Class XII.

No. 428. SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY: Hibernia-chambers, London-bridge, S.E. Examples of Objects and Working Results of Society. Gold and Silver Medals, Books, Papers, Forms, Charts or Maps, with Descriptive Particulars of benefits of the Society to Fishermen, &c. Contained in a case. Awarded—DIPLOMA: For Examples of Objects and Working Results of the Society."

HELP AND SELF-HELP FOR SAILORS.†

It is always a pleasure to us to speak of that admirable and thoroughly British institution, the SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY. 'The sea is England's glory'; and it is also one of her glories that she gives so

* From "The Edinburgh Courant," April 18, 1882. See also the Account of the Exhibition, in the opening Article of the current Number of this Magazine.

† From "The Guernsey Advertiser and Weekly Chronicle," June 3, 1882.

“ liberally of her abundance to help, and bless, and comfort those who
 “ traffic and suffer on the deep. How nobly our own little island shares
 “ in the same feeling is evidenced by the goodly local subscription list
 “ which appears annually in our columns, as issued from the Society's
 “ Central Office in London.

“ Two or three weeks ago we drew attention to the heavy drain on
 “ the Society's funds which had resulted from the unusually serious
 “ shipping casualties of the past year. And we just mention the fact
 “ again, as an incentive to increased generosity among those of our
 “ readers who are in circumstances to afford it. The Society annually
 “ relieves between thirteen and fourteen thousand persons, and possesses
 “ about twelve hundred Honorary Agents stationed throughout the
 “ ports and fishing towns in the United Kingdom, the Colonies, and
 “ elsewhere.

“ At a recent meeting of the Central Board of Management of this
 “ Society, the sum of £4,250 was specially voted for distribution in
 “ annual grants of additional relief for the necessitous widows and
 “ orphans of seafaring men of all classes. The recipients of this
 “ much-valued timely aid, to the number of 3,164 in all, on the
 “ present occasion comprised, as usual, about one-half of the needy
 “ applicants borne upon the Society's list, the remaining half of the
 “ upwards of 6,500 widows and orphans thus annually relieved by the
 “ issue of this extra charitable help, receiving their grants, in a similar
 “ way, in the month of July each year—making a total amount of more
 “ than £8,600 altogether, so distributed yearly in the carrying out of
 “ this one portion alone of the Society's varied objects. This, in
 “ connection with the general work of the Society, shows that, during
 “ the past year, the numbers substantially relieved through its direct
 “ action have been no fewer than 14,235, or a total of upwards of
 “ 325,000 since the commencement of the Society's benevolent labours
 “ in 1839.

“ In conclusion, let us just remind our seafaring friends that the
 “ Society also possesses, what we may perhaps call a Self-Help Branch,
 “ in addition to its ordinary work of rendering gratuitous and charitable
 “ assistance. For a very, very small annual subscription—so small
 “ indeed as to bear no adequate proportion to the benefits secured—
 “ sailors, fishermen, boatmen, and others engaged at sea, may assure
 “ themselves against the loss of clothes, nets, gear, &c., and may also
 “ obtain other substantial advantages, which are fully set forth in the
 “ Society's publications. We think it would be a pleasure to many of
 “ our local seamen to feel that in this way they had ‘ a brick in the
 “ building ’ and ‘ a nail in the ship, ’ and that they would gladly contri-
 “ bute their annual mite to a Society which is ready in every emergency

“to act in such a very generous and disinterested manner towards
“them.”

THE VICE-PRESIDENTS, AND COMMITTEE OF
MANAGEMENT, &c.

THE Committee of Management have, with much regret, to record the death, on the 2nd June, of the Most. Hon. the Marquis Conyngham, a Vice-President of the Society—the sad event being specially noted upon the Minutes of the Committee's Proceedings by a Vote of Condolence, duly conveyed to the present Marquis.

The late Marquis Conyngham, Earl Conyngham of Mount Charles, Earl and Viscount of Mount Charles, county Donegal, Viscount Conyngham of Slane, county Meath, Viscount Slane and Baron Conyngham of Mount Charles, county Donegal, in the Peerage of Ireland, and Baron Minster of Minster, Kent, in that of the United Kingdom, by which latter title he held his seat in the House of Peers, was born in February, 1825. He entered the Army as Cornet and Sub-Lieutenant in the 1st Regiment of Life Guards in December, 1844, and in 1861 was appointed Major and Lieutenant-Colonel of the Regiment. He became a Major-General in the Army in October, 1877, attaining subsequently the rank of Lieutenant-General. He was appointed Lieutenant-Colonel of the Donegal Militia in 1849, and had been since 1863 Colonel Commandant of the East Kent Yeomanry. He was formerly State Steward to the Lord-Lieutenant of Ireland, and was Equerry to the Queen from October, 1870, to 1872, when he was appointed an extra Equerry to Her Majesty. Lord Conyngham was Vice-Admiral of the coast of Ulster; and the particulars of his Lordship's enrolment as a Vice-President of the Shipwrecked Fishermen and Mariners' Royal Benevolent Society will be found in the Number of this Magazine for January, 1882, at page 71.

THE LOCAL HONORARY AGENCIES, &c.

AS many as ten fresh appointments of Local Honorary Agents and Representatives of the Society have, from death, change of residence, or other unavoidable cause, been rendered necessary since the previous reference to such alterations in the last Number of this Magazine—that for the January Quarter, of the present year. In recording their obligations, on behalf of the Society, to all those who had thus—in some instances for very many years—so heartily laboured in furthering the Society's good work, the Committee of Management have specially had to deplore those changes

occasioned by the decease of Honorary Agents and Representatives, as follows: Enniskillen — Rev. A. C. McLatchy; Inniscrone — Mr. Thomas Smith; Peebles—William Stewart, Esq.; Steyning—Captain Jno. Rendell, R.N.; Westray—Captain James Pottinger.



THE SOCIETY'S WORK.



UNDER the subjoined Annual Statistical Return, as well as Quarterly General Summary, and following Tables, numbered I, II, III, IV, and V—respectively answering to the several specified Objects* of the Society—will be found the interesting, and, in many respects, touching record of the Society's benevolent operations, on behalf of Mariners and Fishermen, their Widows, Orphans, &c., both during the whole of the past year, 1881, with those preceding it, from the Society's first Institution in 1839, and since the issue of the last Annual or Quarterly Statements:—

ANNUAL STATISTICAL RETURN OF THE SOCIETY'S OPERATIONS.



From the Institution of the Society in 1839, to 31st December, 1881.



RELIEVED LAST YEAR: 1881.

N UMBER OF SHIPWRECKED PERSONS, INCLUDING FISHERMEN, MARINERS, PILOTS, BOATMEN, &c., FOR LOSS OF BOATS OR CLOTHES	5,510	
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF FISHERMEN, MARINERS, &c.....	8,725	
		14,235

RELIEVED IN PREVIOUS YEARS: 1839—1880.

N UMBER OF SHIPWRECKED PERSONS, INCLUDING FISHERMEN, MARINERS, PILOTS, BOATMEN, &c., FOR LOSS OF BOATS OR CLOTHES	177,683	
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF FISHERMEN, MARINERS, &c.....	133,128	
		310,811
TOTAL NUMBER RELIEVED FROM 1839, TO 31ST DECEMBER, 1881	325,046	

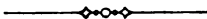
* See the details given under "The Society's Objects," at the commencement of this Heading of "SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY."

GENERAL STATISTICS.

NUMBER OF LIVES SAVED, FOR WHICH HONORARY OR PECUNIARY REWARDS HAVE BEEN GIVEN	7,145
MEDALS, FOR SAVING LIFE, AWARDED SINCE JANUARY, 1851, THE YEAR IN WHICH THE SOCIETY COMMENCED GIVING SUCH REWARDS.:	
} GOLD MEDALS ..	38
} SILVER MEDALS..	284
AMOUNT OF PECUNIARY REWARDS, FOR SAVING LIFE, IRRESPECTIVE OF FRAMED TESTIMONIALS, &c.	£2,328



ANNUAL NUMBER OF FISHERMEN, MARINERS, &c., CONTRIBUTING YEARLY PAYMENTS, AS MEMBERS*.....	52,000
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QUARTERLY GENERAL SUMMARY OF RELIEF, &c.



THE total Number of Persons directly succoured by the Society's Executive in London, and by the Honorary Agents in all parts of the United Kingdom, &c., with the total Amount of Relief administered, as referred to in the subjoined Relief Tables for the past Quarter, ending 30th June, 1882, was as follows:—

TOTAL NUMBER OF PERSONS RELIEVED	1,337
TOTAL PECUNIARY AMOUNT OF RELIEF	£3,924

OF the numerous Agencies (appending also the names of the Society's Local Honorary Representatives) from which the more distressing claims embraced within these figures were received, the following, with the Amounts allotted to each, may be specially mentioned, viz. :—Aberdeen (Mr. D. Mearns), £75; Guernsey (Mr. H. W. Stickland) £53; Hartlepool (Mr. S. Armstrong), £95; Hull (Mr. J. W. Day), £80; North Shields (Mr. G. French and the Rev. C. M. Woosnam), £157; South Shields (Messrs. Crisp and Hails and the Rev. H. W. Farrar), £243; Sunderland (Mr. R. M. Hudson), £208; Yarmouth (Mr. G. T. Watson), £50; giving a total of £961 issued, during the past Quarter, at these Agencies and Seaports, &c., alone.

* This Number of 52,000 "Members," which is being largely added to from year to year, represents those Fishermen and Mariners, of all grades, embraced within the scope of the Society's wide-spread efforts, as quoted in its published Prospectus, &c., for "Specially helping all the Fishing and Seafaring Classes, providently to look forward and help themselves against the ever-recurring losses and perils of their hazardous calling."

I.—RELIEF TO SHIPWRECKED CREWS.



The Crews of Vessels wrecked on various parts of the Coast, or foundered at Sea, have been boarded, lodged, clothed, and forwarded to their homes, &c., by the Society, between the issue of the last Quarterly Statement and the 30th June, 1882, as follows:—

NUMBER OF VESSELS, OF ALL CLASSES, WHOSE SHIPWRECKED CREWS WERE RELIEVED.....	153
NUMBER OF SEAMEN, &c., THUS RELIEVED (MEMBERS OF THE SOCIETY—218, AND NON-MEMBERS—319)	537

DURING the three months in question there have been numerous and heavy claims upon the Society's resources, for the Relief of the Shipwrecked Fisherman and Mariner, as the result of destructive gales, or storms, involving various maritime disasters and calamities.

It would be impossible to give any detailed list of all the numerous vessels or places, brought under the Society's notice throughout the past Quarter: but special references to the more recent storms, with accounts of some of the most notable cases of wreck, &c., will be found duly recorded under the Heading of "The Sea and its Perils," in the current Number of this Magazine.



II.—RELIEF TO FISHERMEN AND MARINERS, THEIR WIDOWS, ORPHANS, &c.



Relief was afforded by the Society to Fishermen and Mariners, &c., Members of the Society, towards replacing their Boats or Clothes, and to the Widows and Orphans, or Dependent Aged Parents, of the Drowned, &c., between the issue of the last Quarterly Statement and the 30th June, 1882, as follows:—

FISHERMEN, MASTER-MARINERS AND MARINERS, PILOTS, BOATMEN, APPRENTICES, &c., RELIEVED FOR LOSS OF BOATS OR CLOTHES	283
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF SEAFARING MEN, RELIEVED ON THE DEATH OF THEIR HUSBANDS, AND FATHERS, &c.	494

THE respective periods of Membership of the Seafaring Men, themselves relieved, or at whose death their Widows and Orphans, &c., were relieved, as above, may be classified as follows:—Members of the Society from one to ten years, 230; from ten to twenty years, 105; from twenty to thirty years 110; and from thirty to forty years, 49.

Of the Widows, in all 184, many of them suddenly reduced under most

heartrending circumstances, to the greatest destitution, 22 were left with three children, 12 with four children, 12 with five children, 3 with six children, and 2 with seven children, while several of the 284 Orphans, now left fatherless, were already motherless.

The cases of the Dependent Aged Parents, numbering altogether 26, comprised amongst them many instances of great distress and sudden reduction to abject poverty, through the loss of their sole, or almost sole means of support, these stricken parents, too, being often special objects for compassion and relief by reason of incurable diseases, and the many infirmities incidental to advanced years, &c.

III.—REWARDS FOR SAVING LIFE.

Awards of the Society's Gold and Silver Medals, and of the Society's Framed Testimonial, instituted in recognition of praiseworthy endeavours to Save Life from Shipwreck, on the High Seas, or Coasts of the Colonies, with other Honorary or Pecuniary Rewards.

UNDER this heading, no special Awards have been made during the Quarter ending 30th June, 1882. For the interesting particulars regarding the last grant of such Distinctions, see page 155 of the preceding Number (April, 1882) of this Magazine.

ATENTION is again particularly requested, likewise, to the provisions of the newly-instituted "EMILE ROBIN LIFE-SAVING REWARDS," for English Seamen, as notified in *The Times*, &c., under date of November 26, 1880, and fully described and explained at page 63 of a previous Number (January, 1881) of this Magazine, in the Annual Volume, No. xxviii.

IV.—RELIEF IN EXTREME AND SPECIAL CASES.

Money-Grants, to Old and Necessitous Members of the Society, in Extreme and Special Cases of Distress and Destitution, have been awarded, during the past Quarter, ending 30th June, 1882, as follows:—

TOTAL NUMBER OF PERSONS RELIEVED 23

THE above figures embrace 23 Old and Necessitous Members themselves—of whom 19 had been Members for thirty years and upwards—with 11 aged wives, and 5 dependent or invalid children, &c., representing, in the

peculiar needs of their several cases, almost every phase of misfortune, sickness, and poverty.

Of those thus relieved, 14 were in age between sixty and seventy; and 8 between seventy and eighty; with 1 between eighty and ninety; while 9 were suffering from blindness, rupture, rheumatism, paralysis, or other infirmities, and from the effects of accidents or injuries—all these disabilities, mostly permanent, incapacitating the afflicted claimants from pursuing their avocations as seamen.



V.—*ANNUAL GRANTS TO WIDOWS AND ORPHANS.*



Special Additional Relief, to Widows and Orphans of Fishermen and Mariners, left in want with young children, and to Widows themselves, above sixty years of age, in needy circumstances, was awarded on the last occasion—namely, to those included in the first (or January) list, for the Year 1882—as follows:—

NUMBER OF NECESSITOUS WIDOWS AND ORPHANS RELIEVED—(WIDOWS—1,422, ORPHANS—1,742)	3,164
PECUNIARY AMOUNT OF RELIEF.....	£4,250.

THE Relief thus awarded is, in every instance, in addition to that already given at the time of the drowned, &c., Husband's and Father's death, and forms what has been found to be a most important and most essential feature of the Society's benevolent work. A similar Amount of Relief, to a like number of other Widows and Orphans, as included in the previous (or July, 1881) list, was also specially awarded within the past twelve months—representing, in the aggregate, a total Annual Amount of more than £8,600, distributed to upwards of 6,500 necessitous Widows and Orphans.

The ages of the 1,422 Widows relieved on the last occasion, as above, may be classified as follows:—From thirty to forty years, 320; from forty to fifty years, 270; from fifty to sixty years, 218; from sixty to seventy years 220; from seventy to eighty years, 316; and over eighty years of age, 78.

The widowed mothers of the 1,742 Orphans relieved, omitting the few Orphans who are left motherless as well as fatherless, may likewise be classified, as to number of young children depending upon them, as follows:—179 with three children; 87 with four children; 40 with five children; and 4 with six children.



PARAGRAPH which appeared in the various London and other Journals, giving an account of this last issue of these eagerly-sought-for Annual Grants, was reprinted at page 149 of the preceding Number (April, 1882) of this Magazine.



SPECIAL CONTRIBUTION LIST.

COLLECTIONS, DONATIONS, LEGACIES, SERMONS, &c., ON BEHALF OF THE SOCIETY, RECORDED SINCE THE ISSUE OF THE LAST QUARTERLY STATEMENT.

	£	s.	d.		£	s.	d.
L ONDON. — Society for the Discharge and Relief of Persons Imprisoned for Small Debts	50	0	0	F AMBLE. — Offertory in Church, after Sermon by Rev. J. H. Cancellor, M.A., Rector (per Mr. R. Scovell, Hon. Agent)	7	4	10
Mrs. B. Wood	20	0	0	S PSWICH. — Odd Fellows' and Foresters' Amalgamated Fête Committee (per H. F. Baker, Esq., Sec.) .	7	15	0
Miss S. Austin	150	0	0	S WITHE, N.B.—Collected on board a Clyde steamer by F. F. Reid, Esq. (per Messrs. D. R. Macgregor & Co., Hon. Agents)	1	5	0
Collecting Boxes on board the SS. <i>Australia</i> , P. and O. Co. (per Capt. Alderton)	3	17	7	S WESTON-SUPER-MARE.— Congregational Collection in Trinity Church, after Sermon by Rev. W. Hunt, M.A., Vicar, Life-Gov. (per W. E. Hillier, Esq., Hon. Agent)	21	17	5
SS. <i>Cuzco</i> (per Capt. Ridler)	0	10	0	S WITBY.—Ralph Horne, Esq., Secretary of the Society for the Prosecution of Felons, on the occasion of its winding up (per Capt. J. N. Lawson, Hon. Agent)	10	0	0
SS. <i>Rome</i> (per Capt. Cates)	6	13	1	S WITHORN, N.B.—Congregational Collection in Parish Church, after Sermon by Rev. Alexander Ritchie (per Mr. James Duff, Hon. Agent)	2	4	6
SS. <i>Ann</i> (per. Capt. Ivey)	0	17	0	L EGACY RECEIVED:— Christopher R. Brown, Esq. (less Legacy Duty) 1,000 0 0			
B ARNSTAPLE. — Moiety of Collection in Congregational Church, after Sermon by Rev. J. Rutty (per Capt. G. B. Pearce, Hon. Agent).....	4	12	0				
Offertory at Newport Church on 28th May, 1882 (per Rev. J. Gifford, M.A.) ..	2	12	6				
L AKENEY. — Congregational Collection in Melton Church, after Sermon by Rev. C. Norris, B.A. (per Mr. C. J. Temple-Lynes, Hon. Agent)....	6	14	2				
Congregational Collection in Langham Church, after Sermon by Rev. J. M. R. Randall (per Mr. C. J. Temple-Lynes, Hon. Agent)	2	0	0				
C ONNINGSBURGH, SHETLAND, N.B. — Congregational Collection in Free Church, after Sermon by Rev. George Clark (Hon. Agent)	1	1	0				



THE YEAR, AND THE MONTHS.

1882.



OLDEN NUMBER—2: SOLAR CYCLE—15: DOMINICAL LETTER—A: JULIAN PERIOD—6,595: EASTER SUNDAY—APRIL 9: WHIT SUNDAY—MAY 28: ADVENT SUNDAY—DECEMBER 3.

THE SEASONS.

"Spring—Showery, flowery, bowery: Summer—Hoppy, croppy, poppy. Autumn—Wheesy, sneesy, freezy: Winter—Slippy, drippy, nippy."

Lines on French Calendar, 1783.

SPRING, March 20, Sun enters Aries, 5 P.M. | SUMMER, June 21, Sun enters Cancer, 1 P.M. | AUTUMN, Sept. 23, Sun enters Libra, 4 A.M. | WINTER, Dec. 21, Sun enters Capricornus, 10 P.M. The EQUINOXES—at Spring and Autumn; the SOLSTICES—at Summer and Winter. ECLIPSE OF THE SUN (TOTAL)—May 17th, visible as Partial Eclipse at Greenwich. ECLIPSE OF THE SUN (ANNULAR)—November 10th, invisible at Greenwich. TRANSIT OF VENUS ACROSS THE SUN'S DISC—December 6th, partly visible at Greenwich.



THE YEAR.

"Then came hot July, boiling like to fire, That all his garments he had cast away."

SPEAKER.

SUN.

1st DAY Rises 3h. 46m. Sets 8h. 18m. | 15th DAY Rises 4h. 2m. Sets 8h. 9m. 8th DAY Rises 3h. 55m. Sets 8h. 15m. | 22nd DAY Rises 4h. 11m. Sets 8h. 1m.

MOON.

1st DAY Full Moon 6h. 8m. A.M. | 15th DAY New Moon 7h. 1m. A.M. 7th DAY Last Quarter 9h. 52m. P.M. | 23rd DAY First Quarter 10h. 18m. A.M. 30th DAY, FULL MOON, 2h. 2m. P.M. IN PERIGEE, 4th DAY ... 1 A.M. IN APOGEE, 19th DAY ... 8 P.M.



THE MONTHS.

"The eighth was August, being rich arrayed In garment all of gold, down to the ground."

SPEAKER.

SUN.

1st DAY Rises 4h. 25m. Sets 7h. 47m. | 15th DAY Rises 4h. 47m. Sets 7h. 21m. 8th DAY Rises 4h. 36m. Sets 7h. 35m. | 22nd DAY Rises 4h. 58m. Sets 7h. 7m.

MOON.

6th DAY Last Quarter 4h. 13m. A.M. | 23rd DAY First Quarter 6h. 55m. A.M. 13th DAY New Moon 9h. 10m. P.M. | 28th DAY Full Moon 9h. 19m. P.M. IN PERIGEE, 1st DAY ... 0 A.M. IN APOGEE, 16th DAY ... 9 A.M. IN PERIGEE, 29th DAY, 8 A.M.



THE MONTHS.

"Next him September marched eke on foot, Yet was he hoary, laden with the spoil Of harvest riches, which he made his boot, And him enriched with bounty of the soil."

SPEAKER.

SUN.

1st DAY Rises 5h. 14m. Sets 6h. 46m. | 15th DAY Rises 5h. 36m. Sets 6h. 14m. 8th DAY Rises 5h. 25m. Sets 6h. 30m. | 22nd DAY Rises 5h. 48m. Sets 6h. 56m.

MOON.

4th DAY Last Quarter 1h. 26m. P.M. | 20th DAY First Quarter 1h. 28m. P.M. 12th DAY New Moon 0h. 59m. P.M. | 27th DAY Full Moon 5h. 10m. A.M. IN APOGEE, 12th DAY ... 1 P.M. IN PERIGEE, 26th DAY ... 7 P.M.

ILLUSTRATED] "The Shipwrecked Mariner." [MAGAZINE. JULY 1882.

FRONTISPIECE.—*The Shipwrecked Mariner.*—OCTOBER, 1882.



CORAL FISHING.

No. CXVI. Vol. XXIX.

THE SHIPWRECKED MARINER

"There is Sorrow on the Sea."

Quarterly Maritime Magazine.

OCTOBER, 1882.

Published under the Auspices of the "Shipwrecked Mariners' Society."

**THE INTERNATIONAL FISHERIES
EXHIBITION, AT EDINBURGH.**



[SECOND NOTICE.*]



RESUMING our notice of this Exhibition, we shall have our attention claimed by models of fish passes, specimens of preserved fish, tinned fish, and fish products.

The other classes, under the headings adopted by the Executive Committee, including "the social condition of fishermen," "the history of fishing," and the question of "the pollution of rivers," will demand a brief notice.

Commencing with fish passes, we observed a small model of a salmon pass constructed on Loch Lochy, in Scotland, at the point where the river of that name issues from the Loch. The work was carried out at the joint cost of Cameron of Lochiel, and the late Mr. Edward Ellice of Glengarry. It was a work of great labour, involving considerable rock cutting, and a large volume of water constantly flowed

* See First Notice, in the preceding Number (July, 1882) of this Magazine, p. 161.

over the fall. The pass is subject to frequent and severe floods, but has hitherto withstood them with perfect safety, and the salmon easily pass through it into the Loch, from which the rocky barriers had previously excluded them. It is in contemplation to still further develop the system of passes, so that eventually a connection between Loch Lochy and Loch Oich may be formed, thus introducing into the river Garry, which falls into the Loch Oich at the summit of the Caledonian Canal system, Autumn fish from the west as well as Spring fish from the east side of Scotland. On some of the models of passes and ladders salmon fry were disporting themselves, and giving to the interested bystanders a practical illustration of the use to which the fish put these useful contrivances. Drawings and plans of the salmon passes at Rukanfos and Logefos, in Norway, were shown, and some models in Stuart's "Granolithic," a substance formed of powdered granite and cement, combining the durability of stone with the easily-worked qualities of the latter. Among many others, Mr. Archibald Young, the Commissioner of Scotch Salmon Fisheries, who was at great pains to make the Exhibition the success it ultimately proved, was an exhibitor; and Canada was represented by a wooden model of a fish ladder. Considering that there are nearly five hundred miles of river and loch in Scotland alone, barred against the ascent of salmon by natural obstructions, it will be acknowledged that any contrivance to facilitate the passage of fish, where these exist, is of great importance. Obstructions, artificial as well as natural, are very numerous, consisting of dams for the supply of water power to mills and manufactories, and are rarely supplied with proper fish passes.

In an Exhibition exclusively devoted to the stimulation of the fishing industry, the question of preserving the fish is one of prominent interest, and allied with it is the question of a profitable distribution of the fish, and the means of transport. To form an adequate idea of the value of the preserved or cured fish, and the employment it gives, it will be necessary to state that the enormous quantity of one and a half millions of barrels of herring were cured in this country, in the last year (1880) for which the returns are available, and that upwards of one million barrels were exported. Of dried cod and ling there were 155,000 cwts. and nearly 8,000 cwts. cured in pickle; while upwards of 14,000 men and boys were employed in the fishing. In this class, Shetland was prominently represented by Messrs. Adie of Voe, Gar-

riock of Reawick, Anderson of Hillswick, Bruce of Sumburgh, Hay and Co., and Richmond and Co., of Lerwick, Pole, Hoseason and Co. of Mossbank, Sinclair of Ollaberry, John Robertson, junior, of Lerwick, &c., nearly all of whom are the Honorary Agents of the Shipwrecked Fishermen and Mariners' Society in their respective districts. Their exhibits consisted principally of cod and ling, tusk and herring, with some fine smoked trout, for which the voes of Shetland are famous.



FISHING-BOATS AT WORK.

Large quantities of the former kind find their way to our Roman Catholic neighbours, especially Spain, where large quantities are required for the fasts prescribed by the religion of the country. Scarborough, Lowestoft, Newcastle-on-Tyne, Yarmouth, and many of the other great fishing stations in England, vied with Wick, Aberdeen, Peterhead, Macduff, and Cellardyke in Scotland; while the international

character of the Exhibition was fully maintained, for fine pickled and smoked herring were shown from Nova Scotia and Bergen. New York sent specimens of fresh fish packed in ice. Sun-dried turtle came from the West Indies—five tons of calipash and calipee and fins coming annually to London, thence. Trondhjem, Christiansund, and Molde, in Norway, sent specimens of fish oil; whilst there were anchovies from Christiansund and Copenhagen, smoked eels from Masnedsund in Denmark, eels in jelly from Kiel in Germany, the oil of tunny fish from Genoa, in Italy, herrings prepared in Dantzic, salmon trout, sturgeon, and Neva sea trout, from St. Petersburg.

The modes of curing the fish vary much in the different countries, and in different parts of the same country. In Shetland the fish are sun-dried, and, thus prepared, are much esteemed; at Wick the cod are pickled, and the occupation, which is carried on in January and February, engages a large number of persons, some 500 tons being annually sent thence to London, realising about £3 or £4 per barrel of three cwt. A very extensive industry is that connected with the herring. It occupies an army of women, coopers, packers, and others, besides a considerable staff of fishery officers, whose duty it is to examine the quality and size of the fish when cured, and to mark the barrels with the Crown brand as a guarantee of quality, principally for foreign markets. The famous "finnan" haddocks, or "real Aberdeens," are little known out of Scotland. They are very slightly salted, and will not, therefore, stand the transport of long journeys. They are smoked, when quite fresh, with peat and hard wood, and are greatly esteemed for their flavour. A model of a kiln for preparing these fish gives an excellent idea of the process, but far more common, as most visitors to Aberdeen know, is it to see the "finnans" smoking within the fishermen's cottages at any of the fishing villages along the coast. Here he may be regaled, after a scramble among the picturesque rocks and caverns, to a fish tea, served in almost more primitive style than is conveyed by the expression "homely comfort." The method known as the "North Country cure," is quite different. The fish are salted more highly than the finnans, and cut and smoked in different ways. They can be then sent, packed in barrels, to any part of the country. On the Aberdeenshire coast they have yet another way of curing. The spelding are spread out on a shingly beach to dry in the sun, this process requiring very little salt. In most of the methods this is, however,

not the case, and where so much has to be done with salt it comes to be a matter of some importance as to the quality of this article. Samples of different sorts were shown, and amongst them we observed the German rock salt, and Higgins's patent "eureka" salt, which is dry and white, and will not get lumpy. Another invention, which is getting to be better known, was also exhibited, of the name of "Gla-



PILCHARD FISHING.

cialine." It is claimed for this substance that it has the power of keeping all articles of food from putrefaction if occasionally dipped in a solution of it. It is almost tasteless, and some fish thus preserved during the continuance of the Exhibition, by being daily dipped in the fluid, were shown.

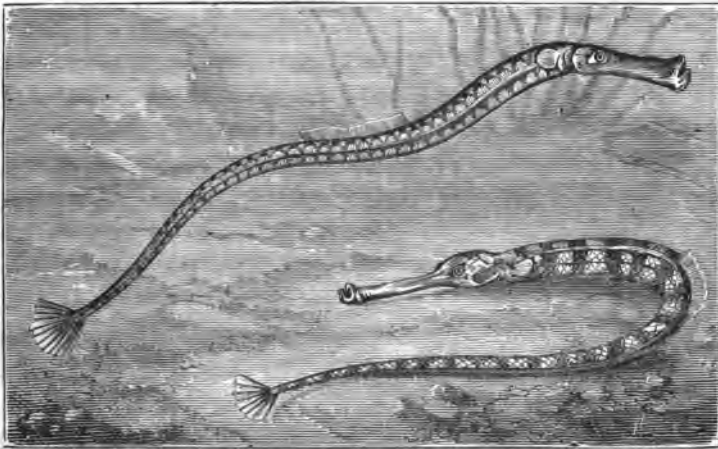
Some reference has already been made to the various fish oils, of

which large quantities were exhibited. The well-known cod liver oil, so highly recommended in diseases of a pulmonary character, here found a prominent position. The principal place of its manufacture is Norway, but a large quantity is also made at home, of a very excellent quality. Hundreds of thousands of gallons are consumed annually in this country, and a single London hospital is said to require seven hundred gallons. The principal home producers are found in Shetland, Edinburgh, and Eyemouth, and the foreign producers at Lofoden, Aalesund, and Furnak. These oils have other uses than medicinal, manufacturers of candles, especially, requiring large quantities. The livers from which the oils are expressed are afterwards turned to account by being made into manure.

As might be well expected in these times of tinned provisions, there was a large display of tinned fish. Tinned meats, fruits, and vegetables we have been long accustomed to, and the trade in tinned salmon has grown to enormous proportions. The salmon packed in California alone, in 1880, amounted to 650,000 cases, each containing forty-eight one-pound tins, the total being therefore over thirty-one millions of pounds. Latterly, many improvements have been introduced in the method of tinning salmon, which have resulted in a saving in the cost of production, besides furnishing a better article. A great trade is also done with America in tinned oysters, which are now much used for soups and other cooking purposes. This trade has been principally conducted at Baltimore, where it has given employment to upwards of 10,000 hands; latterly, however, the quality of the oysters supplied thence has declined. In Canada, 70,000 cases of lobsters, of forty-eight tins each, were packed in 1880, and in 1881 the number was 116,000 cases, upwards of 100 factories being now engaged in this great and extending industry.

Among the best of the displays of tinned fish were those of Mr. George Guest, and Messrs. B. F. Chisholm and Co., of Glasgow. They included some tins of Baratária prawns from New Orleans, put up on a new system. The prawns are enclosed in a small linen bag before being sealed up in the tin, and, as there is no oil of any kind about them, their original delicate flavour is preserved, and the tinny taste so often complained of is avoided; also, some superior oysters from New Orleans, and a large selection of tinned goods from the French firm of Dandicolle and Gandin, Bordeaux, including sardines in truffles, and

tomatoes, anchovies, and tunny fish from the Mediterranean, and many other sorts, put up with care and taste. Then there were pilchards from Ireland and Cornwall; a very complete assortment of toothsome and relishing goods of all sorts, real turtle soup in bottles and turtle green fat, caviare from Russia, and exhibits from Sweden, France, and Italy. Spain sent eels, bream, sardines in oil, and calamares, and from India came some brummaloe fish. On other stalls were seen sterlet, crawfish, sturgeon, and mackerel in tins. Aberdeen was well represented, that city having some nine factories for canning fish, the collection including cod in cream, ling roe, fresh ling, and fresh herrings. From Leith, Messrs. Gillon and Co. sent a fine display,



THE PIPE-FISH SYNGNATHUS ACUS).

gaining the gold medal in this class, the whole of their exhibits being prepared in their own factory. In the same class was shown a machine for putting on labels, capable, it is stated, of labelling 1,000 tins an hour, also a small hand machine, well adapted for less extensive purposes. Herring and other curing barrels, of several kinds, also had their place in this class, some of them full and some empty, some with iron hoops, and some with the Crown brand, or the private brand of the curer.

In the seventh class for "Fish Products" was found a very varied assortment, including a species of guano made from the refuse of fish,

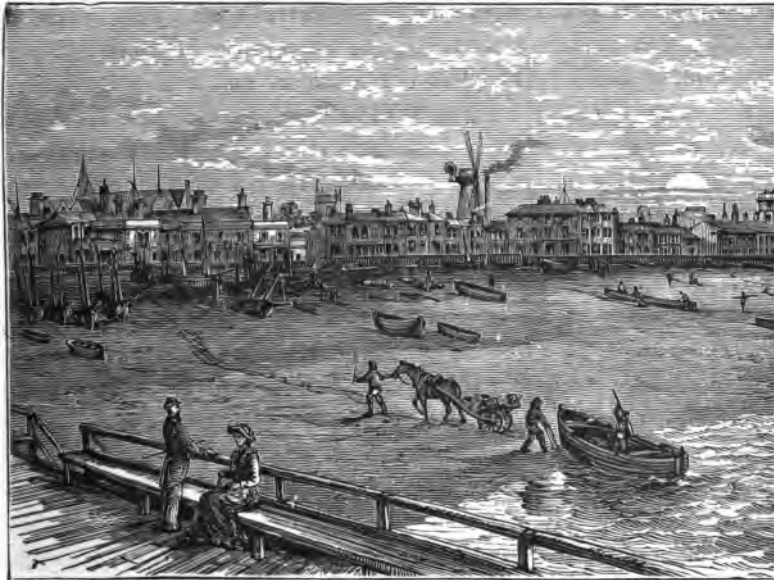
and isinglass and glue from their skins and bones. The Fishery Board of Scotland exhibited a complete set of the branding irons, from Crown "Full" to Crown "Cran," and gauging rods used for the various kinds of herring, including callipers, slide rule, diagonal rod, &c. Improved methods for the preserving of fish for domestic use were exhibited by Mr. Hilton, of Bristol, and by the Antitroptic Company, of London, and a bi-sulphate of lime for the same purpose by Messrs. R. and J. Garroway, of Glasgow. Some good models and plans of curing-yards, and a machine for cleaning fish by a set of revolving brushes, attracted considerable attention. This machine consists of a narrow trough, in which the brushes are fixed at suitable distances. In front is a "pouch" for uncleaned fish, while above the brushes is an endless web for carrying off those that have been cleaned. Each brush requires an attendant, who holds the fish in rapid succession in contact with it, as it revolves rapidly over the trough. The inventor is John Ross, junr., of Muchals, near Aberdeen. This class includes slabs of the substance we have already noticed as Stuart's Granolithic, it being here shown as suitable for fish-curing yards, fishermen's houses, sheds, tops of harbour piers, fish-tanks, &c.

A very comprehensive class is that dealing with the "Social Condition of Fishermen." Under it are grouped models and drawings of boat harbours, lifeboats, and fishermen's houses, their clothing and food. Waterproof garments, and waterproof articles of all descriptions used by them, here also found a place. There were likewise medicine chests for fishermen, systems of signalling for fishing fleets and vessels at night, plans for preventing collisions at sea, models of lighthouses, and examples of the different kinds of lights used therein; with plans of fish-markets and of swimming-schools, and specimens of compasses, barometers, marine chronometers, patent logs, sounding machines, and telescopes.

Commencing with this somewhat formidable list, we proceed to notice some of the harbours, either existing or proposed, for the accommodation of fishing boats.

From Aberdeen came a carefully-prepared plan and model of that port, showing the diversion of the river Dee, whereby a large amount of land has been rendered available for curing-yards and sheds, and on the south side is shown the accommodation prepared for some 400

boats, which now annually visit that great fishing station. A model and photographs of the new Buckie Harbour were also exhibited. This work has been munificently carried out, at an enormous expense (£50,000, if we mistake not), by Lady Gordon Cathcart. The outer basin has a depth of 10 feet at low water of spring tides, and the inner basin at high water rises to 21 feet. What a boon to fishermen an undertaking of this kind is likely to prove it is almost impossible to over-estimate, meaning, as it does, not only the increase of the powers of making money, by the saving both of time and wear and tear,



A VIEW OF YARMOUTH.

but also the affording a safe shelter for them and their boats. Messrs. Meik and Sons submitted plans for improvements of an important nature for the harbour of Eyemouth, including provision for a harbour of refuge for fishing boats and small vessels, and an inner harbour completely protected from the sea.

In passing through this same class, too, were to be observed appliances for ensuring safety in entering harbours, and in navigation generally, with schemes of international buoyage, as suggested by Mr.

Olsen, of Grimsby. Major Seddon had a proposal, illustrated by a model, for preventing misunderstandings between the captains of vessels at sea, whereby so many collisions are occasioned. Guns for firing lines from stranded vessels to the shore were exhibited by Messrs. Low and Duff, of Dundee, thus providing a ship with a sort of rocket apparatus, likely to be more efficient when used from the ship than when used on shore. Many remarkable examples of the utility of cork as a life-saving agent were shown, and other life-saving appliances. A very complete display of instruments employed in connection with fishing and general navigation formed part of this class. Negretti and Zambra sent thermometers specially designed for the use of fishermen in ascertaining the temperature of the sea. John Matheson, of Leith, had keyless chronometers and a new invention for binnacles, the lamp being so fixed in the top as to cast its light exactly on the point that the helmsman steers by. Messrs. Bryson, Edinburgh, had a telescope for examining the sea bottom, and some barometers, suited, both in form and price, to the requirements of fishermen. An exhibitor from Bodö, Norway, sent a collection of waterproof garments; and Goudie, Christie and Co., a number of waterproof contrivances, applicable to life-saving purposes. Thornton and Co. had a number of waterproof articles, including a life-saving vest, an aquatic "pedomotive" for fishing in positions where a boat could not be used, and an angler's canoe for fishing; also deck-boots, boating-jackets, and life-preservers, with oilskins, sou'-westers, and wading trousers.

In the class apportioned to the "History of Fishing" were included large numbers of books and charts, of our own and foreign countries. We would willingly linger for a while over these for the benefit of those interested with the literature of fishing, but must be content to mention the names of one or two of the most curious. First to be noticed is "A Treatyse of Fysshynge with an Angle," lent by Mr. Duncan. It is in the old black letter, and embellished with curious woodcuts; only three other copies of the work are known to exist, and one was recently sold for £600. Izaak Walton, of course, figures in this collection, there being a miniature copy of the original "Complete Angler," lent by Mr. Jamieson, of Edinburgh. The Hon. Bouverie Primrose submitted a number of the annual reports of the Fishery Board. Of these it is enough to say that they contain a

wonderful story of the success attendant on the Scotch fisheries for many years past.

Passing on to the class dedicated to the question of the purity of our rivers, or, as it is expressed by the Executive, the "Pollution of Rivers," there were to be found examples of pure water filtered by the process of the Native Guano Company, and a model of the Hawick Sewage Works. The paper-makers of the North Esk exhibit also an ingenious but simple solution of the difficulty. Each mill has ponds constructed capable of containing the discharge for a number of hours; the water is allowed to overflow into a filter bed, and the waste is utilised in different ways. This river, accordingly, which at one time was poisonous to fish, is now by the method thus pursued rendered quite innocuous.

In the twelfth class were found a number of Loan exhibits, of kinds more or less similar to those in some or most of the other classes. There were stuffed sea-birds and fish, hand-lines, dredges, creels, and nets, models of boats and canoes, white coral and shell-work. Mr. Robert Chambers, of Edinburgh, exhibited an instrument known as the "Belgian Devil," used, it is said, by the Belgian fishermen for cutting the nets of English fishermen. Dr. Mackenzie showed a collection of cast, hand, and drift nets, as used on the West Coast of Africa. They were of native manufacture, and made of pine-apple leaf fibre and palm-tree fibre twine; also some canoes and spears as used for fishing the rivers Congo and Loango. The Lifeboat Institution had a number of models of boats, transporting carriage, a life-belt, liquid compass, drogue, &c. The Shipwrecked Fishermen and Mariners' Society was also represented by a handsome stand, whereon were set forth the objects and the working results of the Institution. Attached to the stand, which was surmounted with a trophy of flags, was a glass case, showing the Society's gold and silver medals, a number of volumes of its Magazine, testimonial forms, books, &c., used by the Society.* It was thought important to utilise the occasion of so many seafaring men coming together, to bring prominently before them the many advantages to be secured by a connection with the Society; and

* See particulars of Honorary Distinction awarded to the SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY, duly recorded in the preceding Number (July, 1882) of this Magazine, p. 231.

this useful purpose was no doubt attained, a very large number of leaflets, &c., describing the value of membership, having been put into the hands of fishermen visiting this, the first International Fisheries Exhibition held in the British Isles.

L. S.



OUTWARD BOUND



SIT and watch the ships go out
 Across the widening sea ;
 How one by one, in shimmering sun,
 They sail away from me.

I know not to what lands they sail,
 Nor what the freights they bear ;
 I only know they outward go,
 While all the winds are fair.

Beyond the low horizon line
 Where my short sight must fail,
 Some other eyes a watch shall keep
 Where'er the ships may sail ;
 By night, by day, or near or far,
 O'er narrow seas or wide,
 These follow still at love's sweet will,
 Whatever may betide.

So round the world the ships will sail,
 To dreary lands or fair ;
 So with them go, for weal or woe,
 Some dear ones everywhere ;
 And these will speed each lagging keel
 When homeward it is laid,
 Or watch will keep o'er surges deep
 If there a grave be made.

O human love ! so kind, so true,
 That knows not stint nor bound,
 But follows with unwearied watch
 Our daily changing round !—
 O Love Divine ! O Love Supreme !
 What matter where I sail,
 So I but know, where'er I go,
 Thy watch will never fail !





CAPTAIN COOK.



(Continued from p. 186.)

XIV.—THIRD VOYAGE—PASSAGE FROM FRIENDLY TO SOCIETY ISLANDS—
PROGRESS TO THE NORTH—EXPLORATION OF THE COASTS OF AMERICA
AND ASIA—RETURN TO THE SANDWICH ISLANDS—THE END.



HE *Resolution* and *Discovery* left the Friendly Islands in the middle of July, 1777, and proceeded towards Otaheite. Heavy squalls of wind did some damage to the latter; repairs were soon made, and nothing remarkable occurred till August the 8th, when the island called Toobouai was discovered, and on the 12th the ships arrived at Otaheite. Omai was not at first recognised, nor was he received with great expression of joy, except by his sister and aunt; yet when it was discovered that he had red feathers as presents, people soon flocked around him for the sake of what he possessed.* The character and customs of the Otaheitians have been so fully described before, that we need not enter into further particulars.

In the early part of December, Cook quitted the Society Islands to prosecute his voyage, and sailed northward, and on the night of the 22nd December he crossed the equator in longitude $203^{\circ} 15' E$. On the 24th land was discovered. It was a low island, having a few

* The Rev. W. Ellis, the missionary, has given some account of the after life of Omai, which was short and ill-fated.

cocoanuts on it. It afforded a good supply of turtles. Cook says, "As we kept our Christmas here, I called this discovery Christmas Island."

On the 2nd January, 1778, anchor was weighed, and a northerly course again resumed, and on the 18th other land was discovered. After some difficulties a landing was effected, water was procured, and hogs and potatoes purchased for nails and pieces of iron. When Cook went on shore the people prostrated themselves on the ground; by expressive signs he prevailed on them to rise, and then they brought pigs and plantains as presents, using such ceremonies as were generally practised in the southern isles—"a long prayer being



NATIVES PREPARING PRESENTS.

spoken by a single person, in which others of the assembly joined." A mutual friendship was now established, and Cook offered presents which he had brought from the ships. An excursion was made into the interior of this island, which the natives called Atooi.

On the 24th another island, Oneehow, was discovered, and on this a landing was effected. Cook saw five islands in this group, which he named Sandwich Islands, in honour of the Earl of Sandwich, then First Lord of the Admiralty. The ships sailed for the north-west coast of America on the 7th February. The longitude of the Sandwich Islands had been determined by 72 sets of lunar observations.

The long looked-for west coast of North America, which Sir Francis

Drake had named New Albion, was sighted on the 7th March, in latitude 44° N. The land near the coast was covered with snow, and presented an uncomfortable appearance, the snow covering the rising grounds, which might easily be mistaken for white cliffs. A hard gale came on, and the ships were forced back to lat. $42^{\circ} 45'$, and it was not till the 29th that land was again sighted, and the ships found a shelter in an inlet (in Vancouver's Island), which Cook honoured with the name of King George's Sound, but which has since been called by the native name of Nootka Bay.

Here the ships were put under repair, and the observatories placed on the shore. Traffic commenced with the natives, who were found to be as thievish as the South Sea islanders.

The end of April had arrived, and the ships having been repaired, Cook made ready to go to sea again. He parted with the natives in a friendly way, both giving and receiving presents.

The ships sailed on the 26th April, and soon after encountered a strong gale, "and so dark a sky that we could not see the length of the ship;" but by daylight the next morning the ships were clear of the land, which was fortunate, for at noon the wind veered and blew a perfect hurricane, and the *Resolution* sprung a leak.

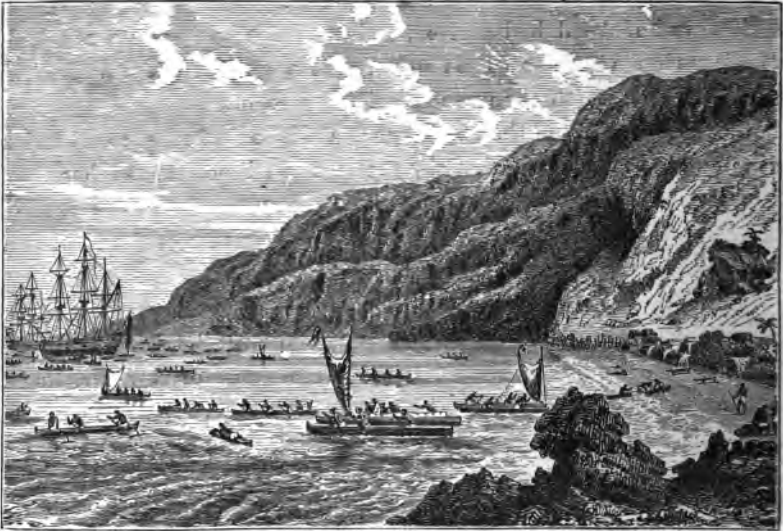
In a day or two the weather cleared up, and progress was made northward. On the 10th May he observed an island, on which he landed, and named it Kaye's Island, in honour of Rev. Dr. Kaye, afterwards Dean of Lincoln. Shortly after another inlet was entered, and this was named Prince William's Sound.

During Cook's progress along this coast he gave names to bays and capes, at the same time laying down their latitude and longitude, and making such observations as might prove useful to other navigators. On the 23rd May he entered a wide inlet, which gave him some hope of finding a passage eastward, but it turned out to be only an arm of the sea, which was afterwards called Cook's Inlet: the name was given by the Earl of Sandwich after the return of the expedition. The vessels left this inlet on the 6th June. Several islands were passed.

The voyagers had a serious loss in the death of Mr. Anderson, the surgeon, who died from consumption on the 3rd July. Cook made this record: "The reader of this journal will have observed how useful an assistant I had found him in the course of the voyage; and had it pleased God to spare his life, the public, I make no doubt,

might have received from him such communications on various parts of the natural history of the several places we visited, as would have abundantly shown that he was not unworthy of this commendation." Soon after Mr. Anderson had breathed his last, land was seen to the west, which was then named Anderson's Island.

Cook, being satisfied that he could find no passage to the eastward, bore away to the north-west, and on the 9th August reached the western extremity of America, and named the point of land Cape Prince of Wales. Cook resumed his course to the westward, and anchored in a large bay on the coast of Asia. A village was seen on



KARAKOOA BAY.

the north shore of this bay, and people soon made their appearance, but they seemed fearful and cautious. A landing was effected, and a friendly intercourse with the natives established. Cook concluded that this was the country of the Tschutski, explored by Behring in 1728. He then steered eastward for the American coast, and on the 18th August reached the latitude $70^{\circ} 44' N$. Our navigator says: "We were at this time close to the edge of the ice, which was as compact as a wall, and seemed to be ten or twelve feet high at least, but further north much higher." The eastern extremity of this field

of view was named Icy Cape (in $70^{\circ} 29'$ N.). This, then, was the most northern latitude Cook ever reached ; but in six months he had explored a large extent of coast formerly unknown.

On the 27th the ships again stood westward, and in latitude $60^{\circ} 56'$ N. a bluff point was observed, and named Cape North, from which the coast trended west, and though the horizon was clear, no land could be seen further to the north.

The ships now returned, the coast of Asia was explored, and then the American, and especially Norton Sound, in latitude $68^{\circ} 31'$ N. But Cook determined not to winter in these latitudes, and it was in



MONUMENT TO CAPTAIN COOK DWHYHEE.

Norton Sound that the fatal resolution was made. "No place was so convenient within our reach, where we would expect to have our wants supplied, as the Sandwich Islands. To them, therefore, I determined to proceed."

He set sail on the 17th September, 1778. Oonalashka was reached on the 3rd October, and the ships anchored in Samganoodha Harbour. Here he found some Russian traders, and one Ismyloff, a principal merchant, was specially entrusted with a letter to be sent to the Lords of the Admiralty.

They sailed from hence on the 26th October. We need not follow the details of this passage to the south. Latitude 20° 55' N. was reached on the 28th November, and land descried. That part of the group of the Sandwich Islands which had been seen on the northward progress lay further west than this newly-discovered land, and Cook was now certain the group had been imperfectly surveyed. This was Mowee; and on the 30th another island was discovered—this was Owhyhee. Seven weeks were employed in sailing round this island and seeking for a harbour. It was a lingering last look. On the 16th January, 1779, he saw the appearance of a bay, and on the next day he entered it. Karakakooa it was called by the natives. Here Cook was killed, on the 14th February, 1779.

The circumstances attending the murder of Captain Cook have already been narrated in these pages, in an article preceding these chapters;* and the writer now concludes with the lines by the poet Cowper:—

“God, ever working on a social plan,
 By various ties attaches man to man;
 He made at first, though free and unconfined,
 One man the common father of mankind;
 That every tribe, though placed as He sees best,
 Where seas or deserts part them from the rest,
 Differing in language, manners, or in face,
 Might feel themselves allied to all the race.
 When Cook—lamented, and with tears as just
 As ever mingled with heroic dust—
 Steered Britain's oak into a world unknown,
 And in his country's glory sought his own;
 Wherever man he found to nature true,
 The rights of man were sacred in his view;
 He soothed with gifts, and greeted with a smile,
 The simple native of the new-found isle;
 He spurned the wretch who slighted or withstood
 The tender argument of kindred blood;
 Nor would endure that any should control
 His free-born brethren of the southern pole.”

S. H. M.

* See the Number of this Magazine for April, 1879, p. 75, in the Annual Volume, No. xxvi.



THOUGHTS WHEN AFLOAT, ON NATURAL PHILOSOPHY, OR COSMICAL CHANGES.

[BY A FELLOW OF THE ROYAL ASTRONOMICAL SOCIETY.]



II.

(Continued from page 178.)



HE argument hitherto advanced has rested upon the earth as represented in Holy Writ: "And the earth was without form and void, and darkness was upon the face of the deep: and the Spirit of God moved upon the face of the waters."

During the fourth period embraced in our theory—with some remarks, regarding which period, this paper is to commence—we shall endeavour to show how that, by a retreat of the waters, we have the present arrangement of land and sea.

To favour the argument of the formation of an atmosphere by exhalation, I have considered it necessary to show that the earth was warmer in former ages than at present, or since man became an inhabitant. In this view I am supported by geology. Support, however, is not at all times explanation; and as my endeavour in this paper is to show how these cosmical changes have been produced, I must ask indulgence for any portion of my reasoning that may appear tedious.

The screen which covered the earth, caused by the exhalation from internal heat, being previous to the age of that which I have called electricity, would envelope the earth in deep gloom, to be broken or dispelled by a new agent, "the wind," called into being under the first struggles of nature for light. Of this agent more by and by.

In an earlier page, mention is made of the "eruptic period." Now,

volcanoes prove that the earth is largely impregnated with combustible material ; suppose, then, during the ages in which the embodied heat of the earth assisted to sustain our atmosphere, a large portion of the surface waters were imbibed by the earth, and, searching their way inward, came into contact with combustible matter, which in time generated heat, and heat expansion and agitation, until, in the throes of unrest and convulsion, it burst its shell, threw continents apart, and left the waters in unfathomable beds rolling between them, making land and sea.



"UNREST AND CONVULSION."

In proof of this, I will ask reference to any chart which, after making due allowance for "scaling" under such convulsion, will show that, if the two sides could again close they would fit into each other. It will also be found to be the rule that where we find the mountains lofty the sea in their vicinity is deep.

The continents and islands thus exposed to atmospheric influence soon became cool, and invited vegetable production. The order of vegetation does not affect this argument, further than that, during

certain ages, electricity became very active—a natural result of the rank vegetation shown by geology to have existed in the ages immediately preceding the carboniferous period.

The existence of electricity, previous to the age or era of vegetation, may be accounted for as arising from decomposition of animal life, teeming in the stagnant waters yet unswept by the faintest breeze. Also, by these waters, doubtless salt, but without wind to ruffle them, surface decomposition was encouraged, and gas, thus generated, pierced



"THE UNFATHOMABLE WATERS."

through the dense gloom pervading, and, thereupon challenging the sun's ray, forthwith produced light upon the face of earth.

I have already explained how these gases, mingling with moisture in the process of evaporation, produced heat.

Hitherto, there had been no place for fresh water on the earth, but now, with a large portion of its surface clear for vegetation, and with the atmosphere complete in self-sustaining power, evaporation (still partially aided by the process of exhalation) became excessive. The

earth, receiving all redundant supply, secreted it in its cavities, sent it forth in its streams, and the land, alternating between vivifying heat and fructifying showers, waited the Creator's fiat to become the abode of another stage of animal and vegetable life.

It will have been observed, that my arguments favour the view that the seven days' work of creation were periods, rather than natural days, or seven diurnal motions of our earth. I may state my views on this point are, that the mystery of the creation was revealed to Moses as occupying distinct periods, which he has represented as days, but whether natural days, or periods of ages, God, in wisdom, has left for disclosure to the advancement of man's knowledge.

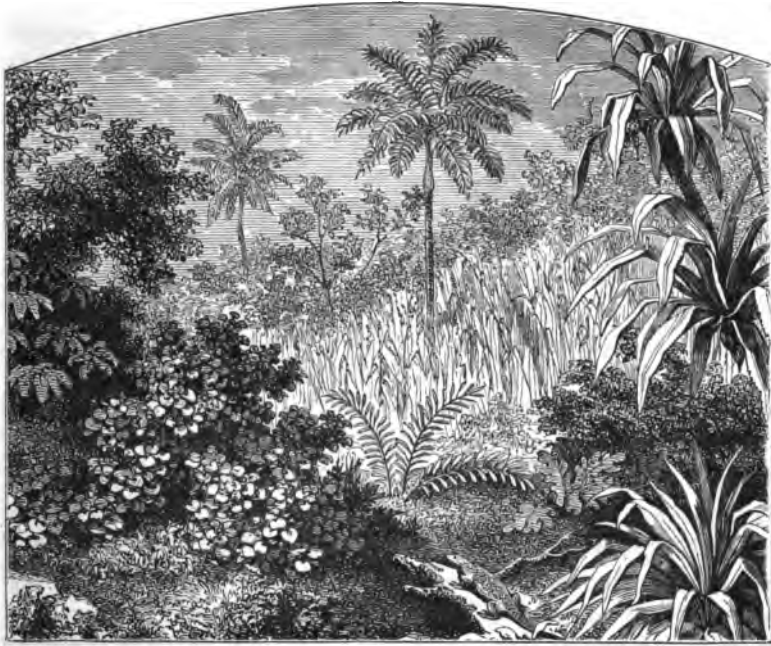
In the variety of production, during our passing seasons, we see a gradual working towards higher development. Also, in the silent expansion of intellect in man, we find that he possesses his most abiding, if not keenest, sense of enjoyment. Instead of carping, then, as to the Bible not having made more satisfactory disclosures, have we not cause for thankfulness that God has left man to search for knowledge, through the exercise of faculties so necessary to his enjoyment, revealing that only which is necessary to his soul's salvation? Holding in view, then, the fact that, in the various cosmical changes through which the earth has passed, God's working is towards a higher development, we again see a changed earth, clothed with vegetation, and tenanted by creatures capable of securing to themselves the greatest amount of enjoyment. As the first efforts of a new soil, vegetation would soon become rankly luxuriant, and animal life would hold a proportionate tendency to increase; but, as there can be no increase in either animal or vegetable kingdom without proportionate decay, the dead, decaying, would in turn oppress the atmosphere with gas, which, in its struggles, became ignited, and, enveloping the earth in flames, has left in our abounding coal measures one of the most useful ingredients in the present economy. Ages would, however, transpire in producing the changes here recorded in a few brief sentences, which I shall consider as ending the fifth series of events, and the second period.

The infant "wind," creeping in doubt, at the end of the first period, had not in this second period passed its childhood. During the ensuing or third period, greater demands will be made upon it.

Nursed into vigour by a purified atmosphere, it will be called upon to waft supplies, wherever there are symptoms of aqueous exhaustion,

and thus maintain an equilibrium necessary to recover vegetation on the earth, and to exercise the sanitary influence required to prevent a repetition of the catastrophe ending the last era. In the exercise of this sanitary influence, recourse will be necessary to those unwelcome accumulations of elemental force, the squall, storm, and hurricane.

With the wind, as already stated, in "leading strings," the vegetation of the last era required little root, or fibril structure, to withstand its force. In the present, strength above ground, and deep-searching



"LUXURIANT VEGETATION."

root, will be demanded to withstand the tempest blast. Thus, in the new era, we find the massive trunk, the spreading branch, and fibrous root, combined in the denizens of our forests, and altogether a more solid structure of vegetation.

During ages of this era, the earth in all its parts would possess equal warmth, probably similar to that now within the Tropics.

The purer atmosphere, existing and expanding in challenge of the sun's ray, would soon make great demands upon water, not only for

atmospheric sustentation, but to enable the earth to yield the increase suited to the necessities of the new creation of which man was to be supreme. Ocean, lake, river, and spring, are called upon to contribute, and, for ages we cannot measure, may have been equal to the demand ; but the lesson taught by all things terrestrial was not to fail here. Atmospheric exhaustion, arising from the absence of inherent heat in the earth, and the absence of friction at the Poles, enabled the cold ray of the sun to pierce the thin atmosphere, and, as already stated, cold commenced first at the Poles.

The gradual decrease of water, on the earth, has also received previous notice in this paper ; and as, in water, we have endeavoured to show the sustaining elements of our atmosphere, and, through water, light, and heat, it must follow that, with the decrease, a comparative reduction in density of the atmosphere, and consequent encroachment of cold towards the Equator, must take place, eventually leaving man and his attendants void of necessary sustenance for supporting life.

It may not be out of place, in concluding this paper, to examine the opinions of those from whom we have dared to differ, while holding them in the highest respect. First, we may take the advocates of the theory that the earth is a cooling mass of liquid fire, and ask, on what reasonable hypothesis does this theory rest? If the sun be solid or liquid heat, and the earth, as supposed, a portion of that sun thrown off by some shock or convulsion, to find its position in space according to the law of gravity—this, I think, cannot be admitted without setting aside the principles on which the law of gravity rests. Or, if the earth has been an agglomeration of fiery particles flying through space, how does it arise that, the higher we ascend in our atmosphere, the colder it becomes ; and how, and when, were the laws of gravity released, to enable these particles to separate from their parent body and fall together as a compact whole? It is scarcely reasonable to ask a breach of nature's laws to suit any line of argument. Or, again, had liquid heat or fire been the original state of the earth, whence its atmosphere, and from whence the water upon it? Heat, while it lasted, would repel or consume moisture, and, when exhausted, could not draw moisture from beyond our atmosphere, proved by its lightness to be void of moisture. If the fleecy cloud obscures our view of the heavenly bodies, moisture beyond our atmosphere, acted upon by heat direct from the sun, would effectually hide them from view.

It is also said, that meteors are heavenly bodies falling upon or towards the earth.

According to the theory advanced in this paper, all meteors seen by us belong to our atmosphere, and owe their origin to the gases lifted from the earth in the process of evaporation, and, piercing the upper atmosphere, there accumulate, like the squall and storm of the lower atmosphere; when released, they blaze before us in stellar brilliancy, and, when two or more come in contact, they form the *ærolite*.

Other writers, again, at a loss to account for loose stones, and shells, found in unlikely positions, have advanced a theory enormously elaborate, called the "great ice age," in which glaciers or field ice are made to deposit these stones, &c., during their remarkable travels.

I have failed in my object in this paper if I have not made clear how that, by a very natural process, these stones and shells are so found; and, by a sequence of event, shown that the "great ice age" has not yet overtaken this earth. J. S.



THE TREASURES OF THE DEEP.



W^HAT hidest thou in thy treasure caves and cells,
 Thou hollow-sounding and mysterious main?—
 Pale glistening pearls, and rainbow-coloured shells,
 Bright things which gleam unrecked of, and in vain—
 Keep, keep thy riches, melancholy sea!
 We ask not such from thee.

Yet more! the depths have more! What wealth untold,
 Far down, and shining through their stillness lies!
 Thou hast the starry gems, the burning gold,
 Won from ten thousand royal Argosies.—
 Sweep o'er thy spoils, thou wild and wrathful main!
 Earth claims not these again.

Yet more! the billows and the depths have more!
 High hearts and brave are gathered to thy breast!
 They hear not now the booming waters roar,
 The battle-thunders will not break their rest.—
 Keep thy red gold and gems, thou stormy grave!
 Give back the true and brave!

HEMANS.



GREAT GALES.

(BY A FELLOW OF THE METEOROLOGICAL SOCIETY.)



“Never was known a night of such distraction,
Noise so confus'd, and dreadful.”

DRYDEN.



IV.

(Continued from page 196.)



IN the present chapter we purpose to give a summary of what has been recorded respecting the storm of November, 1703, and which has been correctly and emphatically called “THE GREAT STORM.”*

1703. The state of the weather in the early part of this year, and during this storm, was specially recorded by Dr. W. Derham, in the “Philosophical Transactions,” No. 289. There was much rain from April to July, and again from September to November. The temperature of the air was high, and the conclusion arrived at, viz., that “the preceding disposition of the year, as to wet and warmth, might have great influence in the storm,” was no doubt a correct one. The falling of heavy rain just before the storm—the direction and veering of the wind, and the low atmospheric pressure, all accord with the conditions attending a terrific cyclonic storm; and it is noted that “about ten (p.m. on 26th November) the barometers gave infor-

* For the details here recorded we are mainly indebted to “The City Remembrancer,” London, 1769. The account there given is attributed to Daniel De Foe, the author of “Robinson Crusoe.”

mation that the night would be very tempestuous, the mercury sinking lower than had been observed before."

In those days there were no means of ascertaining the approach of a storm from the Atlantic till it actually struck our shores; and so it is reported that "our island first received the impressions of the violent motion and its terrible effects." We learn that this cyclone—like many others whose paths have been accurately traced and laid down on charts in recent times—travelled from west to east; it traversed



THE STORM IN THE DOWNS.

England, France, Germany, the Baltic Sea, and Sweden, and passed over to Finland and Russia.

But it had been preceded by very boisterous weather; in fact, by a series of cyclones, for several days, which would have been "accounted intolerable tempests, had not the elements on the night between the 26th and the 27th November o'ertopped in fury all that had been experienced before."

We glance first at what occurred *before* the terrible night of the 26th November.

“For a fortnight no ship stirred out of harbour ; and all vessels out at sea endeavoured to make some port, or other shelter.” Of outward-bound vessels, seventeen were known to have foundered in ocean, many were driven back to Portsmouth and Falmouth—others took shelter in the ports of Ireland—they “had been a hundred and fifty leagues at sea.”

Homeward-bound ships were hurried furiously before the gales, “so that the sea was, as it were, swept clean of all shipping. . . Those who attempted to put to sea were driven back again, in spite of all their skill and courage.”

Our ports were filled “with unusual fleets, just come home or outward bound : the loss and havoc among them was very terrible, such as no circumstance had paralleled or age experienced.”

A man-of-war was lost off the port of Harwich, but most of her men were saved.

The Russian fleet of nearly 100 sail, then on our coasts, was dispersed : some got into Newcastle, Hull, or Yarmouth Roads ; two foundered at sea ; some were stranded, and a convoy, *The Reserve*, sunk in Yarmouth Roads, all hands lost—no boat could put off.

Four hundred laden colliers, leaving the Tyne, encountered the storms : some ran into the Humber and were lost there ; others took shelter off Cromer ; many reached Yarmouth Roads, where at least 400 sail of colliers, coasters, or men-of-war, anchored.

At the Nore lay twelve sail of the Queen’s hired ships, but only two men-of-war.

At Gravesend five outward-bound East Indiamen were riding.

Sir Cloudesley Shovel had arrived with his fleet of the Royal Navy, from the Mediterranean : part lay at St. Helen’s, part in the Downs ; twelve of the largest ships rounded the Foreland, but before they could reach Chatham, the great storm came on, and they anchored at the Gunfleet ; one ship, *The Association*, was driven to the coast of Norway. In the Downs lay 106 outward-bound merchantmen, besides part of Sir Cloudesley’s fleet of eighteen men-of-war, and traders.

At Portsmouth and Cowes there were three fleets—one of transports, with forces from Ireland, which were to accompany the king of Spain to Lisbon ; a fleet of store-ships, &c., with forty merchant ships,

and some of the fleet from the Mediterranean—in all, about three hundred ships.

In Plymouth Sound, Falmouth, and Milford Haven were several fleets of merchant ships, “from the islands and colonies of America.”

The Virginia fleet, Barbadoes fleet, and some East Indiamen, lay scattered in all our ports; and at Kinsale, in Ireland, there lay nearly eighty sail, homeward-bound, and richly laden.

Twenty home-bound West Indiamen reached the port of Bristol.

“Hardly was there a juncture of time when an accident of this



IN THE THAMES AT WAPPING.

nature could have happened, that so much shipping, laden out and home, ever was in port at one time.”

THE LIMITS OF THE STORM.

The crowding of so many vessels in our roadsteads and harbours was looked upon as a misfortune, as it was supposed that, if the outward-bound ships had got well southward, they would not have felt the severity of the storm. Certainly, the vessels in Milford Haven fared badly, and many in Yarmouth Roads had to slip their anchors and

run north; and we learn that "by all relations, the storm was not so violent further northward."

We have no account of disasters far north of the Humber, but the consequences were very bad in North-west France (at Dunkirk, Havre, Calais, and Dieppe), and in Holland.

Taking all these circumstances into the account, we think that if a line were drawn from the "chops of the Channel" to the river Elbe, we should not be far wrong in judging that to be *the path of the storm centre* on and after the 26th November. Of course, the effects of the revolving storm would be felt on either side of the line within the limits of the cyclone.

During the fourteen days, from about the 10th to 24th of November, much damage was done on sea and land; and on the night of the 24th there was so much mischief, that it would have been recorded as a *great wind*, had it not been for what followed afterwards, on the 26th and 27th.

THE DIRECTION OF THE WIND.

As might be anticipated, from the usual progress of a cyclone, the storm was felt at Milford Haven before it was experienced in London. Commodore Soanes, who commanded a fleet then riding at Milford, reported that at 1 p.m. on the 26th there was a hard gale from S. by E., that the wind veered to N.W. by W., and "at three the next morning was the violentest weather."

At St. Keaverne, in Cornwall, the storm began between 8 and 9 p.m. on the 26th, was most violent at midnight, and abated at 5 a.m. on the 27th November.

In the neighbourhood of London, the wind blew all day on the 26th from S.W., and it was thought to have veered at 2 o'clock the next morning to west, and at 6 o'clock to W. by N.; and the storm then increased in force from 2 to 5 o'clock on the 27th, and blew with the greatest violence from 5 to 6.30 a.m. "The fury of it was so exceeding great for that particular hour and half, that had it not abated, nothing could have withstood its violence much longer." Thus there was an interval of about three hours between the greatest force felt at Milford and that felt in London. So that the *storm travelled eastward*, in fact, at the rate of about seventy or eighty miles per hour.

It is noted that this storm blew from the same direction as that of February, 1661.*

EFFECTS OF THE STORM.

The wind was not so high in London, at 12 at night of the 26th November, as to prevent most families retiring to bed; but between 1 and 2 a.m. on the 27th, all people capable of feeling any sense of danger were aroused. They could not lie in bed, as they expected their houses to fall on them, "and yet, in this general



THE OLD TEMPLE STAIRS.

apprehension, nobody durst quit their tottering habitations;" bricks, tiles, stones, pieces of timber, iron, sheets of lead, were blown about in vast confusion.

It was about the time of a new moon, so the night was dark. The shipping in the Thames was in a deplorable condition, and the spring tides (about 4 a.m.) added to the disasters. Vessels were blown from their moorings. From Execution Dock to Limehouse Hole only four vessels rode it out; the rest were driven into the Bite, from Bell

* See the preceding Number (July, 1832) of this Magazine, p. 194.

Wharf to Limehouse, and huddled together on the shore, heads and sterns, one upon another, in terrible disorder.*

The storm abated about 8 o'clock on the morning of the 27th, when people ventured to peep out of doors, only to be witnesses of great destruction. "And the first business was to visit and inquire after friends and relations."

The weather continued squally, and on the afternoon of the 27th the wind was so high that people feared a repetition of the previous night's disasters. On the 28th and 29th the wind was high enough to blow down chimneys, and to destroy ships that had escaped on the 26th; indeed, the weather continued boisterous till the 1st December. From Wednesday, 24th, to Wednesday, 1st December, were gales of great force; "in all which time there was not one interval in which a sailor would not have acknowledged it blew a storm."

The sea spray is said to have been felt far inland; and at Cranbrook, in Kent, 16 miles from the sea in a straight line, and 25 miles from that part of the sea from which the wind blew, "the grass was so salt the cattle would not eat it for several days." Many other instances are recorded to substantiate this phenomenon. †

DAMAGES.

In London the havoc was very great: Christ's Hospital, the Temple, Ask's Hotel, &c., were all of them unroofed, and, indeed, they remained still merely boarded over for years after.

Leads on the tops of churches, and other buildings, were rolled up like skins of parchment; and at Westminster Abbey, St. Andrew's Church in Holborn, Christ's Hospital, and abundance of other places, they were "carried clear off from the buildings." The roof of the guard-room at Whitehall was quite blown off. ‡

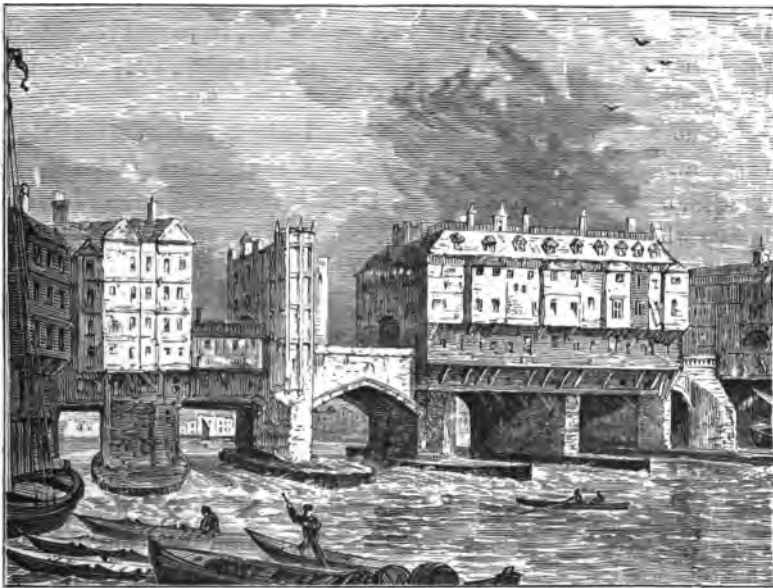
* The *Paris Gazette* affirmed that 30,000 seamen, and 300 sail of ships, were lost in the several ports of England. This was an exaggeration, but it was excused as "no improbable conjecture . . . considering the multitude of shipping . . . and the prodigious fury of the wind."

† The same effect is stated to have been felt at Richmond Park, during a gale on 29th April, 1882. Mr. Whipple, of the Kew Observatory, mentions that salt was deposited on the leaves of trees, and that it withered them.

‡ Sufficient tiles could not be procured to repair the damage for long after, and the price of materials and labour rose very high. "The rise of the price of tiles, from 21s. to £6 per thousand for plain tiles from 50s. to £10 a thousand for pan tiles. Bricklayer's labour rose to 5s. a day."

St. James's Palace was injured, pinnacles and turrets, and weather cocks, were blown down from several churches, and a spire of St. Saviour's, Southwark; about 2,000 stacks of chimneys were demolished, gable-ends blown in, several houses near Moorfields were levelled, and about twenty whole houses in the out-parts of London. Garden walls at Greenwich, Battersea, Putney, Clapham, Deptford, and on every part around the city, were laid flat to the ground.

Many trees in Moorfields (some said to be 9 feet round), 100 elms in St. James's Park, some of full growth (these trees were



OLD LONDON BRIDGE.

reported to have been planted by Cardinal Wolsey), besides others in different parts, were either blown down or broken off in the middle.

“This direful blast not only destroyed churches, palaces, and houses, diverted tides, and made an universal devastation; but, to add to the unparalleled misfortune, many persons lost their lives: London bore her share in that part of the horrible and tremendous judgment.”

The bill of mortality showed that twenty-one persons were beaten to pieces, or buried in rubbish, besides those drowned in the river. Fourteen were drowned in a wherry going to Gravesend, five coming

from Chelsea ; two hundred persons were much wounded, nine soldiers were hurt by the falling of the guard-house at Whitehall, but none of these died. Some of the narratives of individual disaster are altogether appalling.

It is noted that the houses on Old London Bridge received but little damage, though they were lofty buildings, and were supposed not to be more strongly constructed than other London houses of that period, and were not sheltered as houses in streets are. De Foe had his theory as to the escape of these houses, and it may be worth quoting :

“ It may not be absurd to suppose, that the indraft of the arches, underneath the houses, giving vent to the air, it passed there with more than common current ; and consequently relieved the buildings, by diverting the force of the storm.”

We do not know that engineers would admit this as a sufficient explanation of the Old Bridge remaining comparatively unscathed ; and yet, if the direction of the wind has been correctly recorded, the storm, when at its greatest height, must have swept the Thames from the bend below Westminster down to Wapping, and we may infer this, too, from the fact that so much damage was done at Westminster, St. James's, and Whitehall.

One other fact may be noted, that the lee-sides of houses were observed to have received the most damage, that is, those which stood north and south, and presented a slanting roof to west and east. It was the east side that was found stripped, and the case of Christ's Hospital is cited : the west and south sides of the cloister were 25 feet higher than the east side, and yet it was the lower roof on the east side that was untiled, and remained boarded over for long after.

The disasters which occurred in the provinces, and by sea, as also a summary of the damages arising therefrom, will form the subject of the next chapter.

S. H. M.





MARITIME NOTES.



“The Sea! the Sea! the open Sea!
The blue, the fresh, the ever free!”

PROCTER.



“Thou glorious mirror, where the Almighty's form
Glasses itself in tempests!”

BYRON.



THE NEW EDDYSTONE LIGHTHOUSE.



THE Eddystone Lighthouse, as now newly constructed, was inaugurated by the Duke of Edinburgh, in his official capacity of Master of the Trinity House, on the 18th of May last; and from that night the rays from its magnificent dioptric lantern will radiate over the open sea, as a warning beacon for seventeen and a half miles around to mariners. There is no more dangerous reef in the world than the Eddystone—none on which there runs a more terrific sea.

A survey of the old lighthouse was made in 1877, by Admiral Sir Richard Collinson, Deputy Master, and the Elder Brethren of the Trinity House, with their Chief Engineer, Mr. James N. Douglass, C.E., and in 1879, just 120 years after the erection of its predecessor, the first foundations of the Douglass Lighthouse were laid, on the 24th of February, the spot chosen for the new tower being about forty yards S.S.E. of the old one. Since then, the work has progressed so well that the world has hardly known of its going on, and there have been no serious accidents to record. The preliminaries had been previously settled in the winter of 1877 and the spring of 1878, and the coffer-dam was commenced on the 17th July in the latter year, the operations being

continued until late in December, when they were suspended for the winter season, 1,500 cubic feet of rock having been scarpod to receive the masonry of the tower walls. The making of the coffer-dam was resumed in February, 1879, and completed by June. The ceremony of laying the foundation-stone was performed on the 19th of August, by the Duke of Edinburgh, in the presence of the Prince of Wales, the Deputy Master and Elder Brethren of the Trinity House, and other high personages. By the end of that year, 518 hours of work had been accomplished, and on the resumption after the winter, on the 25th of February, it was found that no damage whatever had been done to the masonry which had been laid. The tower was now above high water, and 657 hours of work were accomplished by the 9th of November, 1880. The third resumption was on the 18th of February last year, and the tower was rapidly completed from its 38th course, until the 1st of June, when the Duke of Edinburgh again attended and laid the top-stone.

The new tower does not start from comparatively so broad a base, rapidly diminishing to a lesser curve above, like the old one. Its base is circular; and there is a gallery all round. It is taller than the old lighthouse; and, admirable as was the dovetailing and iron cramping in the masonry executed by Smeaton, the masonry devised by Mr. Douglass is, compared with Smeaton's, as superior as Smeaton's was to his predecessor's. The stones in the old masonry are dovetailed at the sides with each other; the stones in the present structure are not only dovetailed at their sides, but also at top and bottom, and, moreover, both in front and back, except, of course, upon the external and internal surfaces of the tower. The new tower, up to 25 feet above the level of high water, is absolutely solid, except for the water-tanks, the stones being of the best qualities. Many of the individual stones weigh over three tons. The masonry is set in cement. The height of the tower, above high water, to the middle of the lantern, is 130 feet; and in this elevation there are ten stories of rooms and chambers, the lowest being the water-tank; the second the entrance and hall. Above this are two oil-rooms; and, going on in order of ascent, the store and coal room, the crane and store room, the living room for the lighthouse keepers, the low-light room, bed-room, and service room for the upper great light. Above this last level is an overhanging parapet, on each side of which there is pendant a two-ton bell, with striking hammers, to serve for signals in times of fog—that bell being sounded which is on the windward side to warn approaching ships when the light cannot be seen. All the rooms have domed ceilings, and in dimension are 14 feet in diameter and 9 feet 9 inches in height, except the two lower ones, the entrance hall being 12 feet

9 inches, and the water-tank 11 feet 6 inches across. A hollow iron column passes down the centre of the tower, within which are the chain and weight which set in motion the clockwork that regulates the rotation of the glass apparatus round the burners, and with which the strikers of the two fog bells can be connected at pleasure, so that they work automatically, striking at the same intervals as the periodic flashes of the light. The clockwork requires winding up every hour for the light alone, and every forty minutes, when the bells are likewise in use. The entrance doors are made of gun-metal, and each weighs a ton. The entrance is reached on the outside by a ladder formed by metal rungs let into the stonework. The windows throughout are in gun-metal framings; and every provision is made for the safety of the three keepers.

The new lighthouse is furnished with a splendid first-class dioptric light, or, in technical terms, it is a white double flashing light, giving two flashes in quick succession every half minute. Each flash is two and a half seconds in duration, divided by an eclipse of four seconds, and then follows an interval of 21 seconds before the next flashing signal commences. The light will be supplied by a Douglass six-wick oil-burner, the situation of the rock, and the limited space available, not permitting the use of electricity, stores of coals and space for engines being required for that more brilliant illuminator. In addition to this greater and higher light, there is a smaller and lower catoptric light, marking the "Hand Deeps" rocks, and which consists of two 21-inch reflectors, the light being fed by a Douglass three-wick oil-burner. The estimated cost of the new lighthouse was £78,000. It is believed the actual cost of erection is well within that estimate.

The demolition of the Smeaton Lighthouse has for some time been effected as far as it is intended to carry it; the lower half of the tower being allowed to remain on its original rocky site.

It will be a matter of interest here to state, in connection with a name more than once mentioned in the foregoing account, that Her Majesty has since been pleased to confer upon Mr. James N. Douglass, the Engineer-in-Chief of the Corporation of the Trinity House, the honour of knighthood. This distinction has been accorded to him more particularly as the builder of the new Eddystone Lighthouse; but it must also be regarded as a well-merited recognition of the achievement of similar and even greater engineering works, which have contributed so much to the safety of the mariner, he having either superintended or taken part in the erection of the Bishop, Smalls, Wolf, and other well-known lighthouses on the coast of England, and those of the Great and Little Basses, off Ceylon. By his improvements in lighthouse illumination he has, it may be added,

also materially aided this country in attaining the exalted position of being probably the first lighthouse authority in the world, and in acquiring for the Corporation of the Trinity House a distinguished reputation, for efficiency and progress, in the beneficent work of providing those aids to navigation by which the danger of shipwreck is diminished, and the safety of the seaman better ensured.



MARINE FAUNA OF LIGHT, AND FAUNA OF DARKNESS. — It is remarked by Herr Fuchs, in a recent memoir, that while the littoral or shore animals inhabiting the banks of sea-weed, coral, and shells, do not extend much beyond 30 fathoms, one finds at about 100 fathoms, over the whole earth, that deep sea fauna whose similarity of composition everywhere is so easily recognised, the chief types being deep sea corals, lampshells, glass sponges, feather-stars, sea-urchins, glasmopodia, and flat fishes. At about 50 fathoms generally (it is proved by observation in the most diverse seas), the first of the deep sea fauna are met with, and that depth may be taken to indicate the critical zone between the two fauna. In the tropics the two are separated by a very sterile region, reaching from about 30 to 80 fathoms; in temperate and cold seas, they mix in abundance in the critical region. Now, it can be shown that neither the temperature, nor the chemical composition, nor the movement of the water, will account satisfactorily for this vertical distribution. One factor remains to be considered, viz., light, and it is remarkable that the depth to which light penetrates in sea water is stated by Secchi, Pourtales, and Bougner (on basis of experiments) to be between 43 and 50 fathoms. Herr Fuchs infers that the shore fauna are fauna of light; the deep sea fauna, fauna of darkness. This view

gains support from the fact that in some places, where the light limit is higher, the deep sea fauna extends higher, and in fresh water lakes, where the light penetrates to greater depths, the shore fauna reaches further down. Again, many deep sea animals have either uncommonly large eyes, like nocturnal animals, or are quite blind. They are mostly either pale and colourless, or entirely of one colour; and many have strong luminosity, while none such are found among shore animals. The so-called pelagic animals, which spend their life swimming in the open sea, and never need to visit the ground, have much similarity to the deep sea fauna. The great majority are animals of the darkness; remaining in the dark depths by day, and only coming to the surface at night, and they are largely phosphorescent. The conception of the deep sea fauna, as fauna of darkness, accounts simply for their presence being wholly independent of temperature, and for their being found at nearly the same depth over the whole earth. There are also interesting points of similarity between them and the fauna of grottoes and caverns. The view under consideration has important bearings on geology and palaeontology. Off the Brazilian coast, in the Red Sea, and elsewhere, there are, at depths of six to eight fathoms, extensive catacomb-like formations of coral, in the dark recesses of which, on the above

hypothesis, a fauna of the deep sea character may be looked for, which, in such a position, might perplex some future geologist. Experience shows (according to Herr Fuchs) that the difference between littoral and deep sea fauna, now found in seas, can be traced, in a quite similar way throughout past formations.

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CHINESE SHIPPING.—It will probably come as a surprise to most people to hear that China, the land of pigtailed and of mystery, is laying the foundations of a commerce which bids fair to outstrip that of all other nations, on the continent of Asia, before long. Not only is the export and import trade advancing almost by leaps and bounds, but there is a series of Chinese Yellow Books which are probably unequalled in the whole world as pieces of statistical work; and it is curious and significant to find that trade statistics and the science which marshals them together, and draws deductions from them, are very far from being unknown in Shanghai and other centres of the Chinese trade. When, however, we said that the trade of China is in some departments increasing by leaps and bounds, we use the phrase in a Chinese rather than in an English sense of the term. Great as the progress has been, it does not look very large to British eyes; but the significant circumstance is that the growth has been steady and unbroken. Take, for example, Chinese shipping. The China Merchants' Steam Navigation Company was formed in 1872, to engage in the coasting trade. Its fleet consisted of two small vessels, the *Aden*, of 507 tons, and the *Yunching*, of 661 tons. After the lapse of ten years, it possesses twenty-nine steamers, with a gross tonnage of 20,747. Not content

with its original programme, the Company has embarked recently upon the Trans-Pacific trade, and its operations have been so successful, that a host of rivals are pouring into the field. A new line of tea ships has been called into existence, and Mr. Acheson, in the latest Blue Book, makes this remark:—"I am fully persuaded that, before many years have passed, Chinese vessels will possess their legitimate share in carrying the produce of the Empire to foreign countries, and the manufactures of foreign countries to China, and that the Chinese flag will be seen flying over ships in every important seaport of the world."

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UNSEAWORTHY VESSELS.—A return recently issued of the ships ordered to be detained by the Board of Trade, as unsafe under the provisions of the Merchant Shipping Act, 1876, shows that, of the total number of vessels detained since the commencement of the Act, for alleged defects in hull, equipments, or machinery, by far the greatest offenders were wooden sailing ships, no fewer than 416 of these having been reported as defective, against 54 iron steamers, two wooden steamers, and five iron sailing ships. In the case of the majority of defective vessels, the ships were reported by the Government officers, there having been 408 vessels so reported, while 59 were reported by the crews, and 15 by other persons. Of the 48 iron steamers reported by the officials of the Board of Trade, all but one were found unsafe, and the six reported by the crews were found in the same condition. The two wooden steamers, and the five iron sailing ships, provisionally condemned, also, on investigation, justifi-

fied the report. Of the total number of wooden sailing vessels reported, eight were found safe, six were considered to have been improperly detained, on three the survey was pending, and 899 had been condemned as unsafe. The second cause of detention under the Act was overloading, or improper loading, and for this cause, since the Act has been in operation, 281 vessels have been detained. Of this number it is to be noticed that all but one, in which the crew made the report, were reported by Government officers. The greatest number of vessels detained for improper loading consisted of iron steamers, of which there have been 197, against 28 wooden sailing ships, one wooden steamer, and four iron sailing ships. Of the total number (280) of vessels detained in respect of loading, all but two were found to be unsafe.

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SIGNALLING AT SEA.—Mr. John Cran, of the firm of Messrs. Cran & Co., Albert Engine Works, Leith, has just patented a new invention, in the shape of a steam whistle, which is likely to prove of incalculable benefit to navigators in foggy weather. The importance of the introduction of a system of effective signalling, in thick weather, will at once commend itself to seafaring men, and those acquainted with the dangers accompanying the navigation of a ship in a fog. Of course, attempts have been made, more or less successfully, to secure a recognised mode of signalling by a series of successive blows from a whistle; but, with the exception of two methods invented by Messrs. Smith, of Nottingham, these call for only passing notice, as unsuitable to effectively fulfil the purposes for which

they were intended. The invention of Mr. Cran, however, is admirably adapted to suit the requirements of a fog signal. It may be briefly described as an organ whistle with a piston in the tube, moved up and down at the will of the operator, and so arranged that with one hand on the lever all the notes through an octave and a half, or even two octaves, may be consecutively sounded with perfect clearness, from high to low, low to high, or in any order, or long or short. It is completely under control. It will thus be seen that here is an instrument far ahead of the old "one note," and capable with a code, such as Sir Wm. Thomson's adaptation of the Morse or other method, if only made general, whereby vessels may at all times, by day, night, or in foggy weather, intimate to each other, not only their courses, but any other information they desire with the greatest facility. For instance, how many accidents and misadventures might be avoided, if only the one vessel knew what the other vessel was doing, or intended to do. Again, in the Royal Navy, the admiral of a fleet might employ it in giving orders to the vessels under his command, and its musical compass would suit it for making bugle calls. On our railways, too, one would think there is a field for this whistle. It is undoubtedly a step in the right direction, and if its extended application lessens the chances of collision, and increases the security of travelling by sea and land, the whistle will become a public benefactor.

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DIMINUTION OF CASUALTIES AT SEA.—At the recent meeting of the British Association at Southampton, in the Section of Economic Science and Statistics, Don Arturo de Marco

artu read a paper on a proposed International Congress for diminution of casualties at sea. He said:—Science must fight against the enormous losses of life and wealth, occasioned by shipwreck, by the promotion of an International Congress to investigate the means of diminishing casualties at sea. This Congress asks for the co-operation of meteorology, telegraphy, the building industry, and navigation. Meteorology could improve, extend, and make more perfect the system of storm warning and meteorological reports. It was now an undoubted fact that the storm warnings from the meteorological offices in Europe and America had diminished the casualties at sea. From the 1st of the month of August this year, until the 31st of August next year, in pursuance of a circular from the British Meteorological Office, the masters of ships crossing the ocean were taking daily observations, to be sent to the London Meteorological Office, of the state of the sea and of the atmosphere. These observations were important in enabling them to issue more perfect warnings, and in any case prepare the way for more valuable inquiries. It was most important to improve oceanic telegraphy. At the present time ships kept the primitive system of flag and rocket signals; but now it was possible to introduce electrical, acoustical, and optical telegraphy, to communicate between the ships themselves, and with the coasts. More perfect maritime telegraphy would avoid, or, at least diminish, collisions; and ships would have knowledge of the state of the seas and of the atmosphere, wherever they went, by the telegrams sent to and fro from the coast, or from the ships which proceed from those seas. Ships, with a

more perfect telegraphic system, would be able to demand more easily saving appliances from the coast, or from other ships. In regard to the building industry, it had been remarked that modern iron steamers offered, in wrecks, less floating sections, and less floating bodies, than old wooden ships. The painful history of some wrecks gave an illustration of how rapidly iron steamers sank. The ever increasing speed of modern navigation certainly meant increased and more frequent danger, and increased loss of life and property. Therefore, great reform was needed in the building system, in order to diminish the number of collisions and of casualties, and to supply at the same time more rapid and powerful implements to save life and cargo. Finally, as regarded navigation, the "track," or road, at sea must be fixed by police rules, as on the railway it was necessary to make a compulsory track for each different direction. This principle was observed for the transatlantic steamers of the Cunard Line, to avoid collisions either with icebergs or with vessels from an opposite direction. Especially in the most frequented passages, as for instance the crossing points of the lines from England to Gibraltar, and from Europe to America, police rules of navigation by international conventions must be established. In order to study practical means to diminish maritime casualties, an International Congress was intended to be held in Spain. Some valuable prizes would be offered for inventions and for essays dedicated to the Congress. A small part of the insurance paid for the annual losses would be more than sufficient for studying with success the practical means to diminish such losses of life and wealth.

BEST METHOD OF RESCUING FROM DROWNING.—The almost daily occurrence of cases of death by drowning, leads one to put the question again and again—Can nothing be done to prevent this loss of life? It would seem that it must be put in vain, so long as persons unable to swim venture into water capable of immersing them. Whilst the art of swimming is becoming more and more one that recommends itself to the community, it is to be feared that a considerable time must still elapse before it is largely practised; but even if those now able to swim were to set about learning how to save a drowning person with the minimum of risk to themselves, a vast amount of good could be done by such an acquisition, and that this is a great need no one will question. Some years ago the London Swimming Club, or clubs, offered a gold medal for the best method of saving human life in cases of impending drowning. Many competitors came forward, and exhibited in the Thames their methods, practically, by bringing ashore swimmers who simulated drowning persons. The competition resulted in the gaining of the medal by an Edinburgh gentleman, who appears to have brought an expert and powerful swimmer ashore against his will. The mode was very simple, and, as it proved, a very effective one; and any swimmer may learn it by a few practical experiments. It consists in getting behind the drowning person, grasping him firmly with both hands under the jaws, throwing yourself on your back, and swimming by means of leg stroke. No effort is needed to keep up either party, and the drowning one cannot do his rescuer the slightest harm. This method—the Crichton—was

exhibited by the Beckwiths at the Westminster Aquarium last spring, and the consideration of its simplicity and of its scientific basis may lead it to be pronounced perfect. Perhaps some may be induced to learn the method, and if so, it is certain the saving of life will not suffer in consequence—confidence being attained, where, without this method, timidity prevails with those who have been once in the clutch of the drowning, and, in the case of the inexperienced, rashness, which unfortunately very often leads to the loss of both lives.

 **Submarine Detector.**—The importance of being able readily to discover the locality of a submerged torpedo or a metallic obstruction in time of war, or of lost anchors, chains, or electric cables in time of peace, can hardly be overestimated, and hence the value of a submarine detector, the working of which we have recently seen demonstrated. This instrument is the invention of Captain M'Evoy, who is well known in connection with submarine engineering and torpedoes, in which he has from time to time introduced some very marked improvements. The apparatus consists of a small mahogany box, in which there is a pair of coils or bobbins, a vibrator similar to that employed in electric bells for making and breaking contact, and a telephone. To this box is attached a given length of flexible cable, with four conducting wires in it. To the other end of this cable is attached a flat wooden case, in which there are two coils. This case is weighted, so that it will readily sink when placed in the water. There are also terminals on

the box for attaching battery wires, and an arrangement for putting on and cutting off the current is provided. There are two complete circuits through the box, cable, and wooden case, the one primary and the other secondary. The battery, the vibrator, one coil in the box, and one coil in the wooden case are in the primary circuit, while the telephone, one coil in the box, and one coil in the wooden case, are in the secondary circuit. When the battery is on, the coils in the box are adjusted so that little or no noise from the make-and-break action of the vibrator is heard in the telephone. When thus adjusted the instrument is ready for work, and if the wooden case is then brought near a metallic body a loud

noise is heard in the telephone, thus indicating the proximity and locality of such a body. The principle upon which this invention is based is that of the induction balance of Professor Hughes. In Captain M'Evoy's apparatus, the application of the principle to the detection of the presence of metallic bodies, through the sense of hearing, has been worked out in a very ingenious and equally practical manner. The instrument cannot fail to prove invaluable in discovering and locating the position of the objects we have mentioned, as well as in indicating the whereabouts of sunken ships, helping to recover buried treasures, and in assisting generally the investigations and operations of divers.



VOICES OF THE SEA.



A GAIN I linger by the Langland shore,
 And listen to the music of the sea,
 For some familiar voice to speak to me
 Out of the deep, sweet, sad, harmonious roar;
 Whose murmuring cadences sound like a store
 Of loving words, treasures of memory,
 Once breathed into the ambient air, to be
 Vibrated through the ages evermore.
 The infinite tides environ us; no strain
 That e'er awakened human smiles or tears
 Is lost; nor shall we call it back in vain.
 Beside the shore, amid the eternal spheres,
 Hark! the beloved voices once again
 Rise from the waves and winds to soothe mine ears.

HERBERT NEW.





THE SEA AND ITS PERILS.



“Oh, many a bark, to that breast grappled fast,
Has gone down to the fearful and fathomless grave;
Again, crash'd together the keel and the mast,
To be seen tost aloft in the glee of the wave!”

SCHILLER.



WRECKS AND CASUALTIES.



AMONGST the various Maritime Disasters which have recently occurred, in numerous instances involving the total destruction or abandonment of vessels, with, unhappily, much terrible privation and loss of life to crews, &c., the following cases, exemplifying some of the many “Perils of the Sea” to which both Ship and Sailor are at all times so imminently exposed, may be specially recorded:—*

THE “BROTHERS.”—The schooner *Brothers*, of Lancaster, near Walney Island, left the Duddon on Monday, July 17, about noon, laden with iron ore for Saltney, and having on board the captain, Peter Jones his wife, and two seamen. The

weather was then fine, but as the evening closed in the wind increased. The *Brothers* was last seen about six o'clock, when she was standing out to sea. Soon afterwards the steamship *Ardeer* left Barrow, for Bowling, with a cargo of iron ore, and about one o'clock on the morning of the

* The timely aid and relief to the shipwrecked sufferers, or the suddenly bereaved and distressed dependents, directly or indirectly afforded, almost without exception, in these and similar cases, by the SHIPWRECKED MARINERS' SOCIETY in London, and its local Honorary Agents at Home, Abroad, and in the Colonies, will be found included in the General Statistics of the Society's Work, as given, under the Society's Heading, at the end of each Number of this Magazine.

18th July, as he was crossing Piel Bar, about four miles from Barrow, the captain noticed a vessel's port light about a mile away. When the *Ardeer* was between two and three hundred yards away, the schooner suddenly put her helm to starboard, almost instantly showing her green light. The captain of the *Ardeer* and the second mate, realising the critical position of the schooner, at once had the engines reversed, but as their vessel was going at full speed this had no effect. She crashed into the starboard side of the schooner with terrific force, cutting her almost in two, and sinking her in less than two minutes, with all on board. The men on the *Ardeer* did what they could to endeavour if possible to save life, but could see no one. At low tide, the ill-fated schooner, lying in nine feet of water, proved to be the *Brothers*, of 150 tons burden.

THE "COLOMBO."—The British barque *Colombo*, of Singapore, 384 tons net, Captain Henry Scharlau, left Singapore on April 9, on a voyage to Ternate in the Molucca passage. The vessel was then tight and well fit for the voyage, and the cargo consisted of 300 tons of coal, 1,000 Serayah planks, 1,000 cases of paraffin oil, 50 tons of bricks, 30 tons of tiles, 200 cases of crockery, 200 cases of arrack, and 75 tons of salt. The steamer *Borneo* towed the *Colombo* to just off Labuan, where, on April 13, in lat. 5 15 N., long. 114 28 E., she cast off, when sail was set and the barque proceeded on her voyage. Nothing unusual occurred until the morning of May 17, when smoke was found issuing from the after hatch. The mate went below, but failed to find out the precise direction from

which the smoke was coming—the precise part of the cargo which was burning. It was considered prudent at once to batten down everything, with a view to smother the fire if possible, and this was done. The longboat was lowered alongside, provisioned, and otherwise made ready, and two sick men were placed in it. The hatches were afterwards reopened and cases of oil were passed on deck, but the heat and smoke after some time drove the men from the work. There was no force-pump on board, so that the only means available for flushing the hold was passing buckets of water drawn from over the side. The hatches were again battened down, and every crevice caulked; and the ship's course was shaped for the nearest land, which was Menado. A consultation was held, and it was agreed that the vessel should be abandoned, as it was impossible to remain on board of her any longer. The men were all mustered on the poop, as the deck was too hot to stand upon. At 10.30 the hatches blew up with a loud explosion, and shortly afterwards the vessel became enveloped in flames. The *Colombo* was then abandoned, thus burning, in lat. 2 44 N., long. 122 17 E., about 11 o'clock on May 18; and the officers and crew, 18 in all, set out in the two boats for Menado, the master in his gig with six men, and the mate in charge of the longboat with ten men. The two boats kept together, and they reached Menado at 4 p.m. on the 21st, when the captain reported himself to the harbour-master of the port. The seamen were mostly Malays. A Marine Court of Inquiry, subsequently held at Singapore, found that the fire originated from spontaneous combustion amongst the coals, after they had become saturated with kerosine oil,

which had leaked from faulty or broken tins in the cargo.

THE "CONSTANTINE."—The British barque *Constantine* was a wooden sailing ship of 506 tons register. At the end of August, last year, she left Cardiff with a cargo of coals for Bahia, and, after discharging there, proceeded in ballast to Pernambuco. Thence she proceeded to a port called Natal, a little to the north of Pernambuco, where she took on board a cargo of cotton and sugar to the extent of 425 tons. After remaining there for a fortnight, waiting for a high tide, she left in charge of a pilot on the 31st March, bound for Liverpool. She was then drawing 13 feet 8 inches forward, and 15 feet 6 inches aft. She grounded twice on the bar, which was very shallow, but got off again; and, the pilot having been discharged, proceeded on her voyage. During the evening the pumps were sounded, and it was found that the vessel was making six inches of water per hour. The master thought, notwithstanding that, that he could get safely home; but the leak got worse, and on the 1st April the carpenter reported nine inches per hour. The pumps were kept going, but on the 7th April there were six feet of water in the hold, and, the crew being tired of pumping, the master decided to try to get into Maranham, a port somewhat further north. The starboard pump, however, got choked with sugar, and on the 8th there were seven feet of water in her. Being then off the entrance to Paranahyba River, signals of distress were hoisted, and a pilot came off, who recommended that, considering the depth of water in her, the vessel should be run ashore. His

advice was followed, and on the 10th the crew left the vessel, which ultimately became a total wreck, only a small portion of her cargo and equipments being saved.

THE "DOURO."—The *Douro* was an iron screw steamship belonging to London, of 1,808 tons net register. She was built at Greenock in 1865, and was regularly employed by her owners, the Royal Mail Steam Packet Company, in carrying passengers and mails between this country and Brazil. She left Lisbon, under command of Captain Kemp, on the 31st of March, with a crew of 80 hands, 60 passengers, and a general cargo, bound for Southampton, having come from the West Indies. On the evening of the next day the weather was clear and squally, with a strong breeze from south-west, and a heavy groundswell. About 10.30 the lookout man forward reported the bright light of a steamer, which afterwards proved to be the Spanish steamship *Yrurac Bat*, three or four points on the starboard bow. He was answered by the chief officer, whose watch it was. Some little time afterwards the red light was seen. Nothing was done. The vessel continued her course at full speed, and, when the two vessels had approached much nearer, the chief officer ordered the helm of the *Douro* to be starboarded. The steersman put the helm over as hard as he could, but the vessel did not pay off. The chief officer gave orders to hard-a-starboard; the man at the helm, finding he could not get the helm over by himself, called for assistance. Two or three hands came, and they had just got the helm over when the *Yrurac Bat* struck them on the starboard side, at right

angles, a little forward of the after hatch. The *Yrurac Bat* rebounded, and came into them again, smashing the two after boats on the starboard side, the gig and the dingy. The *Douro* went ahead full speed, the *Yrurac Bat* passing under her stern. The captain came up on deck, and finding the vessel still going at full speed; ordered the engines to be stopped, and that was done. The captain at the same time ordered all the boats to be got out. About 20 minutes after the collision the *Yrurac Bat*, which had sustained very considerable injury in her bows, went down head foremost, the *Douro* following her in a few moments, sinking stern foremost. The boats from the *Douro* had in the meantime pulled towards a vessel which had come up, the *Hidalgo*, and were taken on board, but the captain, three of the mates, the purser, the boatswain, two engineers, six of the crew, and six of the passengers of the *Douro* were drowned. How many were drowned on board the *Yrurac Bat* is not quite known; but there would seem little doubt that there were a great many more drowned from her than on board the *Douro*.

THE "FLEURS CASTLE."—Particulars have recently been received of the wreck of the steamship *Fleurs Castle*, from Hankow for London, which went ashore on July 9, near Cape Guardafui, on the north-east coast of Africa. The ship struck heavily, and the next sea threw her broadside on the beach. The crew endeavoured to get two boats out, but they were smashed, and some of the men were washed overboard. About 11.30 p.m. the ship broke in two, and heeled over. Some few

climbed on to the outside, others were swept into the sea. The captain was washed overboard, but he got hold of a couple of tea chests, which served as a life buoy, and was washed ashore. On gaining the beach he found the second and third officers, the latter with his leg broken; the third engineer, one European passenger, two quartermasters, and ten Chinese sailors. They watched for any others who might be washed ashore, and rescued another quartermaster with both legs broken and greatly bruised; he died two hours afterwards. When daylight broke, the natives came down, and treated them kindly, supplying them with rice and dates. The drinking water was bad, however, and they suffered much from the heat and want of clothing. About July 23rd, a Russian flag and letter were sent from Ras Hafon, five days' journey to the south, with news that the Russian steamship *Moscow*, of the volunteer fleet, from Hankow for Russia, with tea, had gone on shore, and had become a total wreck, the passengers and crew, numbering 120, escaping with their lives only. The flag was to be used as a signal of distress, and the chief of Ras Asir, near Cape Guardafui, was requested to send the letter to Aden to their agents. On July 27 the steamship *Antenor*, Captain J. T. Bragg, was seen rounding the Cape. The Russian flag was waved in a prominent place on Ras Asir as a signal of distress. This was seen on board the *Antenor*, and answered by hoisting the British ensign and blowing the steam whistle. To the west of Ras Asir there is a bay, into which the *Antenor* steamed. She then let go anchor, and sent a boat towards the shore. There being a very high surf, the boat could not land, so

one of the quartermasters of the *Fleurs Castle* swam through the surf. He was taken on board the *Antenor*, and told Captain Bragg that the captain and fifteen of the crew of the *Fleurs Castle* were on shore, about ten miles distant. Preparations were at once made to rescue the shipwrecked men, and early the following morning they were all got on board. A letter from the commander of the steamship *Moscow* had been sent to the chief of the Ras Asir tribe of Samalies. This letter was sent on board by the Sultan and delivered to Captain Bragg, who gave it to the agents in Aden, when he landed the survivors of the *Fleurs Castle*.

THE "LOUISE SCHELLER."—Advices lately received from the Cape report the particulars of the wreck of the German barque *Louise Scheller*, at Hanglip, and the marvellous escape of the captain and crew. The vessel left Simon's Bay on the 6th of June, and severe weather being afterwards experienced, the captain, who in consequence of illness had taken a pilot on board, suggested putting back to False Bay for shelter, but was overruled by the pilot. Early next morning the ship got amongst the breakers, and, in spite of all precautions, she drifted on the fearful rocks which fringe the shore at Cape Hanglip. A line was secured to the mizzen-top, but so strong was the gale that the crew refused to venture ashore in order to make it fast. A lad eventually volunteered for the dangerous task, and succeeded; and the captain followed in order to give confidence to the men, but was so exhausted, that he lay flat on the first rock he came to, and remained there helpless, while successive break-

ers washed over him. He afterwards reached the shore in safety, and the crew followed. They had to walk ten miles inland before obtaining shelter. The vessel, whose cargo consisted of 18,000 cases of kerosine oil, broke in pieces, and 1,000 cases of oil were afterwards washed ashore. The pilot said he never before experienced such a fearful night. Nothing could be seen, and it was impossible to tell where the ship was. It was surprising that a single man on board escaped.

THE "MILBAY."—The schooner *Milbay*, of Swansea, on her voyage from Cardiff to Dungarvan, with coals, was overtaken by the heavy gale of Friday night, the 1st September; and on the following morning, as the vessel was riding well through the gale, a tremendous sea came on board, about 8 a.m., tearing away all the bulwarks, washing off the galley, and smashing the boat. In a moment the vessel became completely unmanageable, and, as she now commenced to leak, the pumps were manned, and the crew worked hard at them; but it was evident the schooner was sinking. At this moment a large steamer was seen approaching, and the ensign was hoisted, Jack down; but the passing steamer never answered their signal, nor came to their assistance, although she was so close that she could not fail to have seen them, as the schooner had fallen into the trough of the sea, and all her canvas was flying loose. About half an hour afterwards, another steamship, the *Comeragh*, Captain John Coffey, from Liverpool to Waterford, came up, and at once proceeded to the rescue. Captain Coffey, by careful manœuvring, placed the *Comeragh* to windward of the sink-

ing schooner, and had several lines thrown to her, asking the shipwrecked men to make them fast on themselves and they would be hauled through the surf. The men, however, were afraid, and only one of the distressed crew, a boy of fourteen years, ventured at all to utilise a rope, and he was successfully hauled on board the *Comeragh*. The chief officer of the *Comeragh*, Mr. Nicholas Sinnott, and four of the steamer's crew, now volunteered to launch the port pinnace and endeavour to save the remainder of the jeopardised crew, a daring feat, which they successfully accomplished, and saved the captain and remaining two men from the sinking schooner. Every kindness was shown on board the *Comeragh* to the shipwrecked men, clothes being lent to them by the steamer's crew, as the unfortunate fellows, intending to be drawn through the surf, had parted with most of their own clothing for the final effort to save their lives, until their courage failed them, and in the end they had to be rescued as described. The steamer had been some hours delayed by the storm, and a considerable time also was occupied in the above heroic effort, the position of the vessel when the crew were saved being with the Tuskar light bearing E.N.E. about five miles. On the arrival of the *Comeragh* at Waterford, the shipwrecked men were at once taken care of, and forwarded to their homes.

THE "OBERON."—The *Sydney Mail*, of the 1st of July, says: "One of the original China clipper ships, the *Oberon*, arrived at this port a day or two ago from London, and the voyage out appears to have been attended with a melancholy incident in the loss of Captain England, who

was washed overboard, on May 18, during a terrific gale. On May 17 there were indications of a coming storm early in the day, and towards mid-day it became exceedingly rough, remaining so until dusk, after which the wind came on with increasing fury, the seas attaining enormous proportions until midnight. Just before 1 a.m., on the 18th, Captain England came on deck to direct the shortening of sail, and while the foresail was being furled a mountainous sea broke over the vessel with shocking force, carrying away almost everything. Just before the vessel was struck, and literally submerged for a time, Mr. Cowell, the first officer, perceiving the danger, jumped from the forecabin to the house on deck, seizing the mainstays, in order to escape from the invading waters. He was hanging on the topmast stays for some time before the vessel came again to the surface and righted herself. After noticing that the force of the sea had first swept over the waist of the ship, he made all haste to the poop, seeking Captain England, but the captain was not to be found, and it soon became apparent he had gone overboard. The man at the wheel had a vivid recollection, just before being struck, of seeing Captain England apparently in the act of holding fast to the poop rail. The same wave also smashed and carried away every lifeboat on the vessel. Had more hands been engaged on deck the loss of life would certainly have been much greater. The mate made good his escape in the way already indicated; all the hands were out of harm's reach on the foreyard, while the man at the rudder was too firmly lashed to his post to be carried away. It was not until 4 a.m. on the 18th that the ship was

got into a position of safety. The vessel was kept hove-to on the 19th and following nights, when the storm lessened considerably, and the *Oberon* then proceeded again on her course."

THE "PELTON."—This iron two-decked steamship, rigged as a schooner, registered at the port of Newcastle, left Newport on the 25th of March, with a cargo of coal, and a crew of seventeen hands, bound for Havre. About thirty tons of coal were stowed on the lower bridge, immediately above the bunker hatchways. Upon leaving Newport heavy weather was encountered, and the vessel was brought up; but shortly after she proceeded on her voyage down Channel. The wind, however, increased until a heavy gale from the north-west set in, and the steamer had a strong list to port. All hands were called to throw the coal on the bridge overboard, but the efforts of the men proving unavailing, the mate ordered the boats out. Eight of the crew got into the port life-boat (the starboard boat being full of water) and shoved off from the sinking ship. In lowering the boat the tackle became jammed. One of the men thereupon got out. Before he could get in again, the boat fell into the sea and immediately drifted. About an hour afterwards the steamer was observed to heel over on the port side and go down. Nothing more has been seen of the remainder of the crew on board. The boat containing the survivors encountered heavy seas, the water dashing completely over the boat. The chief engineer and the fireman were washed out of the boat and not seen again, and three seamen were drowned. After being in the boat for about three hours a vessel

was observed bearing down, which proved to be the schooner *Uzziah*, of Salcombe. The mate of the *Uzziah* jumped into the boat of the *Pelton* and took in his arms one of the men in it, named Hogg, the only person saved. Hogg was helpless, and had to be lifted out. At the same time another seaman was lying in the boat in a state of great exhaustion, and Smith, one of the crew of the *Uzziah*, jumped also into the boat with the intention of saving the dying man. Smith, however, did not take the precaution to make a rope fast round him, and, as the *Uzziah* drifted on to the boat, the boat turned over, and Smith got on to the bottom of the boat. A life-buoy was thrown, to which he swam. The brave sailor caught it, and returned to the capsized boat, which drifted astern. The master of the *Uzziah* wore his vessel and endeavoured to pick Smith up, but as the *Uzziah* was nearing the rocks, he was obliged to abandon the attempt.

THE "ROSENEATH."—Mr. J. Sampson, late mate of the Glasgow barque *Roseneath*, who has just arrived in England from South America, relates a sad story about the fate of some of his shipmates, he being the only survivor of a boat's crew, all the rest having been murdered. The *Roseneath*, commanded by Captain Hall, whose wife also was on board, was abandoned, while on a voyage from Mexillones to the Channel for orders, on the 12th of April last, in lat. 34 30 S., long. 74 40 W. The disaster happened off Cape Horn, Sampson, the carpenter, and three others, having to leave their vessel before the captain or his wife and the remainder of the crew could get away, as their boat was

being stoved against the side of the vessel. After being a day and a night in their small craft, Sampson and his comrades were met by a party of natives of Tierra del Fuego, in three canoes, who appeared to be very friendly. After obtaining several articles which were in the boat, the natives suddenly attacked the unarmed sailors, except the mate, with huge clubs. Upon killing the mate's companions, they divested the bodies of the clothing, and then pitched them into the sea, contrary to all expectation not attempting to eat them. The natives afterwards made for the shore, taking with them the boat and the mate. Sampson was allowed to go about the beach and rocks at pleasure. The natives gave him no food, but, like them, he had to subsist on the shell-fish which was to be captured on the rocks. He was not allowed to sleep in the native tents, but had to sleep in any sheltered spot he could find. While he was with the islanders, he saw two whaling boats intercepted by the natives, and in each case the whole of the crews were murdered. He remained in captivity for fifty-five days, and was then rescued by some Patagonians from an adjacent island. The latter had visited Tierra del Fuego, and had managed to steal the boat which the Fuegians had taken from the mate, and, after getting a short distance off, beckoned the mate to follow. This he did, and got away with the Patagonians. During his stay on the island, Sampson on several occasions saw vessels pass by, but his captors would never allow him afloat when any ships were in sight. They themselves would go off to the vessels, if they could get up to them. The day after Sampson escaped from

the Fuegians, the Pacific Steam Navigation Company's steamer *Aconcagua* was spoken, and the mate was received on board, the Patagonians receiving tobacco, &c., for their kindness. The *Aconcagua* took Sampson to Valparaiso, where he was received on board the same company's steamer *Galicia*, which brought him home. Sampson, who does not seem much worse for his exposure, belongs to Portsmouth. The captain, with Mrs. Hall, and some of the crew of the *Roseneath*, had previously arrived at Southampton in the Royal Mail Company's steamship *Minho*, from Montevideo. They left the ship in a sinking condition, and were nine days in an open boat. During the time they were in the boat, they suffered fearfully from cold and exposure, and one man died. When picked up by the German steamer *Narda*, in the Straits of Magellan, they had to be lifted out of the boat, their feet being swollen and numbed. They were landed at Montevideo on the 28th of May, without hearing anything of the other boat which had quitted the *Roseneath*, with the mate Sampson and portion of the crew, as above described.

THE "ZIZINE."—The wooden barkentine *Zizine*, of about 171 tons, built at Wivenhoe in 1861, was overhauled and repaired at Plymouth in the present year, and took out from that port a cargo of 284 tons of pitch. In the course of the outward voyage she made a considerable quantity of water, the pumps being used about every two hours. At Santander she took on board a cargo of 235 tons of iron ore. No leak was observed while she was in har-

hour, until the last 20 or 30 tons of cargo were being put on board. The rigging of the main and mizzen masts were then observed to be slack, but the master attributed this to the great heat of the weather, and not to the ship having been strained by the weight of the cargo. The *Zizine* left Santander on the 16th of May, at 4.30 p.m., with a fair wind from the east and all her plain sails set. At 8 p.m. the ship was pumped dry, and again at 10 p.m. The weather becoming very rough, the master was called at 11 p.m. He ordered sail to be shortened, and the crew were engaged at this until about 1 a.m. on the 17th. The pumps were then set to work; but one of them soon became choked. A list having been noticed to leeward, the hold was examined, and about 5 ft. of water found in the vessel. A passing steamer, the *Marchioness of Londonderry*, was signalled, by the captain dipping his clothes in naphtha and setting fire to them. The deck was by this time partly under water. The crew managed to get into a boat, and to reach the steamer, which took them back to Santander. About five minutes after the crew had left the *Zizine*, she sank stern foremost.

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LIFEBOAT SERVICES AT WRECKS, &c.—The Boats of the Royal National Lifeboat Institution have been recorded, at recent meetings of the Institution, as having been instrumental in saving life, &c., amongst other instances, as follows:—

The lifeboat stationed at Poole, Dorset, had saved the crew, con-

sisting of nine men, of the brigantine *Otto*, of Höganas, Sweden which had stranded on the Milkmaid's Bank, in Studland Bay. The Rye (Sussex) lifeboat had saved the yacht *Spider*, of Ramsgate, with nine persons on board, which had stranded off Rye. The Caister No. 1 and Winterton No. 2 lifeboats had rescued the crew, numbering seven men, of the brig *Aglæ*, of St. Servan, which had stranded on the Middle Scroby Sand. The Ramsgate lifeboat had assisted to save the brigantine *Swift*, of Rye, and crew of five, on the Goodwin Sands. Also, the Wicklow lifeboat was launched on the occasion of the steamship *Lake Nepigon*, of Montreal, stranding on the Arklow Bank, and brought to shore, through a heavy sea, thirty-two persons who had left the steamer in two of her boats. The lifeboat also took in tow another of the steamer's boats, containing twenty persons, and brought it to land. The Lizard lifeboat landed twenty-seven persons from the steamer *Mosel*, of Bremen, ashore at Bass Point. The Portrush lifeboat was launched during a gale, in reply to signals of distress from the schooner *Ocean Child*, of Belfast, and ketch *Happy Return*, of Padstow, and took from them the crews, numbering six men, and the wife of the master of the ketch. The Dungarvan lifeboat went out to the brigantine *Ariel*, of Youghal, and brought off her crew of seven men. The Blackpool lifeboat performed a very prompt and gallant service in saving the crew of ten men from the barque *Arethusa*, of Liverpool, ashore to the northward of Blackpool, in a heavy sea.





MISCELLANEOUS JOTTINGS.



“Here a little, there a little.”



“O Reader! had you in your mind
Such stores as silent thought can bring,
O gentle Reader! you would find
A tale in everything.”

WORDSWORTH.



FISH CULTURE IN A MANUFACTURING TOWN.*



MANUFACTURING town does not seem the best place for the cultivation of fish, but in the northern districts we are apt to develop industries in an unexpected way, and that this has been the case at Huddersfield may be shown possibly in a manner that will be interesting to some of your readers.

Huddersfield is a pleasant town. It does not quite come up to the ideal of Edwin Waugh, the Lancashire poet, who desired to

“Lounge i’ th’ market-place,
And see the meadows mown;”

but from any of the main streets of the town—clean and neat, and built of a coolish graystone—green hills can be seen, some bordering on the distant moorland, and most of them plentifully sprinkled with the dwellings of persons engaged in the woollen industry, and further “ornamented” here and there with large factories, though edifices of that kind are generally to be found in the valleys where the water supply is abundant.

A good supply of water, and of good water, is an essential in the woollen industry, so largely developed in Huddersfield, and a good supply

* This interesting account appeared as a letter, in *The Times*, July 10, 1882.

of good water is also an essential in another industry, lately introduced into Huddersfield and flourishing at present near the Old Cloth-hall, in the heart of the town—the culture of fish. The good supply of water has been procured by the energetic and intelligent action of the Huddersfield Corporation, and the unexpected use to which a portion of that water has been put is due to the equally energetic and intelligent action of one of the members of that Corporation, Mr. Byram Littlewood, whose place for pisciculture was recently visited by the writer.

Three rooms in Littlewood's-buildings are devoted to pisciculture. Each room is about 80 ft. long, and they are ranged in three stories. In the uppermost story there is a range of reddish earthenware tanks, strongly made, each about 82 in. long, 9 in. wide, and 4 in. deep, inside measure, and having a broad lip on one side near the end. These tanks are arranged in lots like a flight of stairs, and into the top tank of each flight there pours a stream of water, supplied from the Corporation's mains. Taps regulate the flow from the pipes and control the quantity of water that runs into the top tank. Thence, in a steady stream, gurgling and murmuring as it passes down the broad lips of the tanks—oxygenised by each fall and by a special device placed in the lip of each tank, most effective, but very simple—the water passes from tank to tank, flowing gently and steadily over the ova (or the fish) placed therein, until the bottom tank is reached; having in its course travelled first to right and then to left in each pair of tanks as it makes its way downwards. From the first flight of tanks the water is conveyed to a second, then to a third set, and then into the drain. By a simple but effective siphon arrangement, any tank can be cleaned out, without any interference with the flow of water through the other tanks.

The ova of salmonidæ, when placed in these tanks, greatly resemble a mass of carnelian beads. The eggs of the fish lie in the tanks like peas in a box, sometimes two, three, or four deep. When they have been in the water a few days, the eyes of the future fish can be seen as two dark specks. Later on the embryo fish can be seen through the thin shell, curled round so that its tail comes in front of its head, and in the central part of the egg there is visible what is commonly called the umbilical sac, a portion of the egg which is not fully absorbed when the young fish comes forth into the water, but which afterwards becomes gradually incorporated. When placed under the microscope at this stage, the eyes of the embryo appear enormous, and project greatly from the head. The heart can be seen moving regularly and sending at each pulsation a rush of blood through the body, which is snugly curled up around the central sac. The mark-

ings on the skin, the arteries, and veins can be distinctly made out, the hurried rush of the red corpuscles of the blood witnessed, and globules of various sizes, probably globules of fat, seen in the sac. A microscopical examination of the ova at this stage is exceedingly interesting.

But it is more interesting still to watch the fish hatching out. Standing by one of the tanks the writer watched the hatching of hundreds of Windermere char. About 4,000 eggs had been in the tank for eighty days, and the young fish were coming forth every minute. Some of them burst the shell and swam forth clear of it at once, others dragged the shell after them for a time, it being caught on their tail or being held by the umbilical sac, or in some instances cowering the head. Few of the fish remained still after coming forth from the egg. Generally they went off with a rush, as if rejoicing in liberty, and then instinctively darted about to find a place of concealment; but a few took matters easily, and, having shaken off the egg-shell, rested from their labours. The shell, after the fish had vacated it, looked like a thin film, more or less globular as it was more or less torn—a thin gray film remotely resembling the outer coating of a pea. One little fellow that had got his shell fixed to his head rushed about the tank frantically. Mr. Littlewood took up a glass tube, stopped one end with his thumb, put the other near the little fish which, on his thumb being removed, was instantly drawn into the tube. Then the tube, having been stopped at each end, was placed in various positions, and the flow of water—resembling the action of the water in a stream—soon removed the encumbrance. Then the little fish was replaced in the tank, where similar small fish lay in hundreds among and underneath the eggs. The action of the flow of water and the movement of the fishes formed these eggs into clusters and heaps. Suddenly one of a heap of eggs would split, and out would come a little char, that instantly swam about to try the strength of its fins. This process was repeated over and over again. One of the little fellows was subjected to examination under a microscope, and a splendid view was obtained of the circulation of the blood, traced bit by bit from the heart to the tail. The ingenious apparatus by which this was effected need not be described. To show the small chance of living that young fish have if hatched where larger fish come, or if turned into a brook among larger fish, some half a dozen were dropped into a tank, where larger char (five to six inches long) were swimming; in less than a minute they were all swallowed.

Seeing the difficulties which lie in the way of the natural production of fish, and the importance of augmenting the supply of food for our ever-increasing population, we ought to hail with pleasure extensions of the art and science of pisciculture, such as those made by Mr.

Littlewood, who has within the last few years gratuitously sent scores and scores of thousands of trout, char, and grayling to suitable places in Yorkshire, Lancashire, Cheshire, Derbyshire, and the Thames valley. The recent Fisheries Exhibition at Edinburgh will no doubt have tended to the further development of fish culture. Let us hope that the Great International Fisheries Exhibition, to be held next year in London, may in that respect prove eminently successful.

T. S. YATES.



GREENWICH OBSERVATORY STATISTICS. — The Astronomer-Royal (Mr. W.H. M. Christie), in lately presenting his annual report, stated, amongst many other interesting matters, that the course of observation which his predecessor in office, Sir G. B. Airy, had carried out for so many years, has been continued without essential alteration in the main features. No alteration has been made in the subjects of observation, which continue to be the sun, moon, planets, and fundamental stars, with other stars from a working catalogue of 2,500 stars. It is proposed soon to prepare a new working list, extending the catalogue to stars of the sixth magnitude. About 1,000 stars were observed in 1881. A few sketches of Mars were made last December with the south-east equatorial, and on December 30 a measure was obtained of an object supposed to be Deimos, the outer satellite. The sun's chromosphere has been examined with the half-prism spectroscope on 36 occasions, and each time prominences were seen. On one day a detailed examination of the whole spectrum of the chromosphere was made at 24 points of the sun's limb. Several prominences have shown great changes in the course of two or three minutes, and large displacements or contortions of the

bright lines have been noted. Photographs of the sun have been taken on 200 days, and 352 have been selected for preservation. There were only two days, out of 200, on which the sun's disc was observed to be free from spots. There has been a large increase in the number and size of spots and faculæ, the mean of the daily arrears for each, in 1881, being nearly double those for the year preceding, and the increase is still continuing, though with well-marked fluctuations. A very remarkable outbreak of spots occurred in April last. On September 12 and 13, and April 16 and 19, magnetic storms have occurred, the latter being of more marked character than any that have taken place since the great storms of the year 1872, and it is a significant fact that exceptionally large spots made their appearance on the sun shortly before. Smaller magnetic movements are now also much more frequent, exhibiting a marked contrast to their general appearance some two or three years ago. The mean temperature of the year 1881 was 48.7° , being 0.6° lower than the average of the preceding 40 years. The highest air temperature was 97.1° on July 15, and the lowest 12.7° on January 17. The mean temperature was below the average 6.7° in January, and 4.8° in October; and above the

average 5.9° in November. In other months the temperature differed little from the average. On four days in July the temperature rose above 90° . The mean daily motion of the air in 1881 was 291 miles, being 12 miles greater than the average. In January, and September, the mean daily motion was 70 miles and 72 miles below the average, respectively; in April, August, and November it was 70 miles, 60 and 71 above the average, respectively. The greatest daily motion was 999 miles, on October 14, the day of the great storm, and the least, 59 miles, on May 25. A velocity of 61 miles an hour was recorded on October 14, and one of 58 miles on April 29, these being both greater than any recorded in previous years. The greatest pressure was 58lb. on the square foot, on October 14; on April 29 a pressure of $49\frac{1}{2}$ lb. was recorded at a time when the hourly velocity was 50 miles. The number of hours of bright sunshine recorded by Campbell's sunshine instrument, during 1881, was 1,301, which is more than 100 hours above the average of the four preceding years. There has been only one case of accidental failure in the automatic drop of the Greenwich time-ball. On four days the ball was not raised on account of the violence of the wind. The Westminster clock has continued to perform well, its errors having been under one second on 40 per cent. of the days of observation; between one second and two seconds on 44 per cent.; between two seconds and three seconds on 14 per cent.; and between three seconds and 4 seconds on 2 per cent. Time signals, originating in the Observatory, are distributed at 10 a.m. and 1 p.m., to all parts of the country, through the medium of the Post Office telegraphs.

MECCHANICAL INVENTION. — Mr. Frederic Harrison lately delivered a lecture before a large audience, at the London Institution, on "The Real Value of Mechanical Invention to Civilisation." No century, he remarked, had ever been so bepraised as our own for its marvelous mechanical inventions. But, after all, our century was undeniably the heir of great and worthy predecessors. Was it in point of civilisation a head and shoulders taller than the rest? Before this question could be answered, civilisation must be adequately defined—a task too large for that occasion. But it was at least certain that the triumphs of invention were not of the essence of civilisation, but belonged to its externals only; so that, heartily as we might hail material progress, we could not regard mechanical improvements as of altogether incalculable worth. For 4,000 years and more men could travel only as fast as their legs could carry them; now they were carried by rail. In our days news was flashed in a minute, which not so long ago would have taken a year to arrive. Ten thousand shirts were now woven by steam in as short a time as the fingers took to make one. Gas and electricity had superseded tallow and oil. But these and other like achievements of invention were merely signs of material, physical, visible, and external life. Were we so much the happier for these things? The answer must be, No. This age enjoyed a thousand times as many advantages as its forerunners. But until we used those advantages aright we should be none the better for them, and for this we must look to the future. The nineteenth century was not an age of complete achievement, but of expectation and hope. A detailed comparison

was instituted between this and former centuries in science, philosophy, and the arts. In summing up the result, Mr. Harrison reminded the audience that we are apt to be bewildered by the vast multiplication of our materials and our books, and be-take ourselves to specialisation. This, too often, ended in trivialities. As no man could do everything, each in-quirer staked off his little plot from the vast field, warning off all others. Hence we had naturalists who knew nothing of nature, and monographs on the spots on the wings of a butterfly found on a particular island. Our millions of books and our billions of facts could not help us, and we were shamed by the noble life revealed in Plato's Dialogues and the Odyssey. The moral sores of our age were probed, and though it might be urged that there could be no causal con-nection between these and our me-chanical progress, yet there was un-deniedly an historical connection. Mr. Harrison felt no sympathy with Car-lyle and Ruskin in their indiscrimi-nate depreciation of mechanical in-ventions; but the worth of such things must not be exaggerated. What was wanted was to turn them to the best account as means of civilisation, though they were not civilisation itself.

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PROTECTION OF HUMAN LIFE.—
 An international exhibition was held in the months of June and July last, at the Alexandra Palace, of "means and appliances for the protection and preservation of

human life," under the patronage, among others, of the Duke of Con-naught. The number of exhibitors extended to nearly 800, and the list in-cluded the Board of Trade, the Medical and Surgical Department of the War Office, the Shipwrecked Fishermen and Mariners' Royal Benevolent Society, the Royal Na-tional Lifeboat Institution, and the Royal Humane Society, &c. The more notable and interesting of the exhibits were those having reference to the prevention of fires and railway ac-cidents, and to the saving of life at sea, with innumerable devices of various kinds for the prevention of any dan-ger to human life. Thus, there were apparatus for preventing boiler ex-plosions, ingenious inventions for reducing catastrophes in mines, in-struments for detecting the presence of fire and choke-damp, and many types of safety-lamps. Boat-lowering and detaching gear were shown in several parts of the exhibition; while mea-sures for obviating the slipperiness of the roads and pavements, and pro-protective devices for markers at rifle butts, were also to be seen by the visi-tor. One of the chief features of the exhibition was that of railway and safety appliances, which occupied an area of over 2,000 square feet, and included a full-size pair of facing points, with locks and appendages, and a railway junction, illustrating the extension of the interlocking system to points, signals, and cross-ing-gates, practical illustrations of various automatic and continuous brakes being likewise given.





QUIET THOUGHTS FOR QUIET HOURS.



“ Alone with Thee, my God ! alone with Thee !
Thus would'st Thou have it still,—thus let it be !—
Alone with Thee, my God ! alone with Thee ! ”

HYMNS FOR THE CHURCH ON EARTH.



“ OVER THE SEA.”



HAT a dreamy echo seems to float around those three little words rung out together, “ Over the sea ” ! As we say them there seems to arise before our mind the sight of the dear old waves, dashing about in their wildest wrath, or still and calm in their peaceful rest.

Who does not love looking over the sea ? How many fitting thoughts are wafted over the moving waves—thoughts of hope and joy, and all thoughts that stir the heart.

And as many different thoughts are breathed over the sea, so how many different lives are carried thereon. Some voyaging on business, some for pleasure alone ; others, many others, just at this season of cold bleak winds, sailing over the sea in search of health.

And with this thought we recall the feelings that arise when it is for strength's sake that we go passing over the waves. How the hopes are beating within ! It is not the sea that is thought of then the most. It is not even the grand new sights and scenes that may be met with on the way. No ; it is the question as to how those warmer shores in the distance may give the renewed power to life itself. A lonely feeling arises as we quit our native shores to view those lands unknown. But a few days may pass, and the chill air may be changed as it were

to gentle warmth, but the joy of that is overlooked in the present. It is the thought of those dear faces and loving friends we leave behind that is dwelt upon—thinking of how and when we may meet again. We know, even though the brightest words of parting may be murmured, yet there is but the one desire within, that the good expected may be by this means fulfilled.

And oh, if that joy be realised! If it is with renewed strength our steps land once again amid the happy ones around, what thankful gladness then reigns! It is then we are ready to tell of all the glory we may have beheld, of the never-to-be-forgotten days we may have spent, over the wide water's space.

As we think of a voyage like this, we think also of another sea we all must know.

There are some who like best to stand on the shore looking over the sea rather than taking a sail on the same. But, if a dearly-loved one was calling to that timid heart across the waves, would it not be ready to face all dangers, if only at the end it could feel the tender greeting on that far-off shore?

There is one voyage we all must go. We are all sailing over this sea of life.

“The swelling heart heaves,
Moaning like the ocean
That cannot be at rest.”

Some have reached the distant shore; some are only just starting on the way. But to this sailing there is no return. It is a sailing that only ends with life itself.

To many this sea of life may be as a voyage of pleasure, of delight, of healthful joy. To others it may be that the strength feels the waves too keenly, as though it was too tired to do more than long to be amid the calm of lasting peace.

There are some who like to greet the battling tempest of life. There are some with whom there is that yearning for the rest that scarcely knows the form of words.

But for every one, whether the voyage may be long or whether it may be short, there is a loving tender voice calling gently over the billows, with kindly words of cheer—

“Jesus calls us, o'er the tumult
Of our life's wild restless sea.”

LIZZIE JOYCE TOMLINSON.



“WHAT MUST I GIVE UP?”

THE Christian is not stopped in his course by any outward barrier which warns him to go no further, but he keeps back because he has something better to engage his mind, and because he no longer hankers after the world's things. Having Christ in his heart, he finds now no enjoyment in or drawing toward the pleasures that formerly delighted him. Hence, that in his conduct, which seems to others to be self-denial, is in his own heart felt to be the gratification of the new self which Christ has formed within him.

Still, as the question, “What must I give up?” is often pondered by many perplexed minds, it may be well to see whether we cannot find some principles by which to get at its solution. It is plain that everything *sinful* must be abandoned. That needs no argument. But when we turn our attention from things positively sinful to the consideration of the Christian's general intercourse with the world, and ask, “What is he, then, to do or to avoid?” perplexity begins. In general, however, there are two extremes to be guarded against. On the one hand, we must not set ourselves to be the very opposite of the world in everything, for the opposite of wrong is not always right. On the other, we must not try how near we can approach, in everything, to the customs of the world without committing positive sin. The safe mean is between these two extremes, and the following principles may help us to find where that mean lies.

“But where,” it is asked, “does this common ground end and the realm of the world begin?” We may be helped to an answer if we look first at the opposite boundary, and ask where the common ground ends and the domain of the Church begins. What is the gate through which everyone passes who enters the Church? Is it not the confession of subjection to Christ? Within that enclosure Christ is rightfully recognised as supreme. His word is law. His authority is paramount. His sovereignty is undisputed. The man who enters there pledges himself to honour Christ everywhere; and so long as he is where he can be recognised and understood as being loyal to Christ, everything is well. Now, with that thought in mind, pass to the other side, and where now do you find the world begin? It commences at the point where another than Christ is recognised and acknowledged as ruler. Call it fashion, pleasure, or whatever else. The moment you pass into a place where

not Jesus, but another, is recognised and reputed as the sovereign, you are guilty of conforming to the world. Wherever the world is acknowledged as ruler, there, even though, in the abstract, he might think the place indifferent, the Christian should not enter. Gesler's cap, in the abstract, was nothing at all—a mere thing of cloth and feathers—and, in the abstract, it was a small matter to bow to it; but bowing to that cap meant acknowledging allegiance to Austria, and William Tell showed his patriotism by refusing so to honour it. The question, therefore, is not whether, in other circumstances, the things done in the world's enclosure might not be done by the Christian without sin, but whether he should do them there where his doing of them is recognised as homage to the world. Whose flag is over a place of amusement? Whose image and superscription are on a custom or practice? Christ's, or the world's? These are the testing questions. That which a Christian renounces, when he makes confession of Christ, is the supremacy of the world; and every time he goes where he is understood as *acknowledging that*, he is guilty of treason against the royalty of Christ.

REV. W. M. TAYLOR, D.D.



NO THOUGHT FOR THE MORROW.

(Matt. vi. 34.)



HAVE nothing to do with TO-MORROW,
My Saviour will make that His care;
Should He fill it with trouble or sorrow,
He'll help me to suffer and bear.

I have nothing to do with TO-MORROW,
Its burdens, then, why should I share?
Its grace and its strength I can't borrow,
Then why should I borrow its care?



STORMY DAYS. — Do the winds and storms of life blow fiercely about you, shattering the sails of your little bark, so that you can neither keep steady or make any way? The sea is too rough for you to cross. Good sign this; for it will lead you to seek help, out of yourself, in One "mighty to save." Do as

poor Peter did—he *tried* to walk the waves, but could not; when he found he was beginning to sink, forth from his frightened heart came the cry, "Lord, save me!" Jesus is at hand; begone, unbelief. He will catch you, as He caught Peter, and manage all your affairs a thousand times better than you can manage them yourself.

Only try this recipe; give to the winds thy fears; trust the Lord Jesus, and all will be well.

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GET THE MEANING.—The Bible is indeed a deep book when depth is required—that is to say, for deep people. But it is not intended particularly for profound persons; on the contrary, much more for shallow and simple persons; and, therefore, the first and generally the main and leading idea of the Bible is on its surface, written in the plainest possible Greek, Hebrew, or English, needing no penetration or amplification, needing nothing but what we might give—attention. But this, which is in every one's power, and is the only thing that God wants, is just the last thing that anyone will give Him. We are delighted to ramble away into day-dreams, to repeat pet verses from other places, suggested by chance words; to snap at an expression which suits our particular views, or to dig up a meaning from under a verse, which we should be amiably grieved to think any human being had been so happy as to find before. But a plain, intended, immediate, fruitful meaning, which everyone ought to find always, and especially that which depends on our seeing the relation of the verse to those near it, and getting the force of the whole passage in due relation—this sort of significance we do not look for, it being truly not to be discovered, unless we really attend to what is said, instead of to our own feelings.—
Professor Ruskin.

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OBTAINED PROMISES.—Have you ever thought out all that is contained here? Have you ever looked at these words, as amongst the


most inspiring evidences of the power of believing prayer? You have heard the promises, repeated the promises, perhaps loved the promises, possibly pleaded the promises; but have you ever *obtained* them? Can you turn over the leaves of your Bible, and put your finger upon one after another, and write a receipt underneath it? Can you recall distinct transactions with the Author of these promissory notes, and certify that He has made them good. I can hardly imagine a more distinct achievement of that faith, without which it is impossible to please God, than a grappling on one's knees with the difficulties which oppose faith—with unbelief and self-will—and a strong, earnest, undaunted presentation of a promise with the determination that it shall be turned into gold. Such transactions leave marks in our spiritual life, and are of the sort which bring glory to God. I like to think of the story of a Bible in which, beside many a promise, the letters "T. P." were written—a Bible, whose humble owner, when questioned as to their meaning, made the simple answer, "Tried and Proved."

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MEN OF ACTION.—Observe what St. Paul did at Athens. He did something. He was not the man to stand still and "confer with flesh and blood" in the face of a city full of idols. He might have reasoned with himself that he stood alone; that he was a Jew by birth; that he was a stranger in a strange land; that he had to oppose the rooted prejudices and old associations of learned men; that to attack the old religion of a whole city was to beard a lion in his den; that the doctrines of the Gospel were little likely to be effective on minds steeped

in Greek philosophy. But none of these thoughts seemed to have crossed the mind of St. Paul. He saw souls perishing; he felt that life was short and time passing away; he had confidence in the power of his Master's message to meet every man's soul; he had received mercy himself, and knew not how to hold his peace. He acted at once, and what his hand found to do he did with all his might. Oh that we had more men of action in these days!—*Bishop Ryle.*

“**A** BIDEETH FOR EVER.”—When the great traveller, Baron Humboldt, was journeying in South America, there came one day a sudden stillness in the air, which seemed like a hush over all nature. But this was followed by a fearful convulsion of the earth, which made all hearts quake; and Humboldt tells us that the earthquake within his soul was as great as that in the world without. All his old views of the safety of the earth were destroyed in a moment. Should he fly to the hills for safety? The mountains were reeling like drunken men, the houses were no refuge, for they were crumbling and falling, and the trees were overthrown. Then his thoughts turned to the sea; but, lo! it had fled. Ships which just before were floating securely on its surface were now left rocking in the sands. Thus at his wits' end, he tells us he “looked up, and observed that the heavens were calm and unshaken.”

How grateful to the fearful and trembling heart is it to know that, “though the mountains be removed and carried into the midst of the sea,” there are some things which cannot be moved! These are some of the things which cannot be shaken: “Even from everlasting to everlasting Thou art God;” “Thy kingdom is an everlasting kingdom;” “The mercy of the Lord is from everlasting to everlasting.”

 **CHRIST'S VOICE.**—The grandest element of a personal religious experience is this, that it makes a consciousness of loneliness impossible. “Lo, I am with you alway,” is a fact. The genuine Christian not only thinks of, but speaks to Christ. More than this, he listens for Christ's answer. “Listens,” do you say? Yes, listens. He does not, indeed, expect a voice to fall upon the outer ear, a voice which proceeds from the body and floats upon the vibrating air. But he pauses as he prays, and from the depths of his soul rise thoughts and feelings not less, but more clearly, from Christ, because they seem to come from a heart which, without Christ speaking in it, is like the troubled sea, which cannot rest, but is continually casting up mire and dirt. When others would feel alone, whether in the silent night, or in the greatest loneliness of a crowded street, or at the death-bed, such a disciple hears, “It is I, be not afraid,” and he knows the Master's voice.





SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY.



“The stately ships go on
To their haven under the hill;
But O for the touch of a vanish'd hand,
And the sound of a voice that is still!”

TENNYSON.



THE SOCIETY'S PROCEEDINGS.

ANNUAL GENERAL MEETING.



THE Forty-third Anniversary of this Royal National Benevolent Society was held in the Saloon of the Mansion House, London, on Friday, the 21st July, 1882. The Right Hon. the LORD MAYOR, a Vice-President of the Society, hoped to have taken the chair, but, in his Lordship's unavoidable detention, Captain the Hon. FRANCIS MAUDE, R.N., V.P., the Chairman of the Committee of Management, presided.

Amongst those present were—The Earl of Ducie; Lord Ashley; Admiral Sir Claude Buckle, K.C.B.; Admiral E. G. Fishbourne, C.B.; Captain Vincent Budd (Deputy Chairman, and Chairman of Finance Committee); Captain E. S. Adeane, R.N., C.M.G.; Captain W. Arthur, R.N., C.B.; Captain J. J. Holdsworth; Captain D. Mainland; Captain W. Spratt, R.N.; Captain H. Shuttleworth (Trinity House); J. H. Crossman, Esq.; T. A. Denny, Esq.; A. Eames, Esq., R.N.; W. T. Evans, Esq.; W. W. Glenny, Esq.; J. H. Lydall, Esq.; H. W. Maynard, Esq.; H. Simmons, Esq.; R. Williams, jun., Esq. (Treasurer); and many other officers, &c., with several clergymen of note, and a large number of ladies.

Letters of apology, regretting inability to attend on the occasion, were received from the Duke of Marlborough, K.G. (President of the Society), Admiral of the Fleet Sir Alexander Milne, G.C.B. (a Vice-President), the Hon. and Rev. Adelbert Anson, Edward Birkbeck, Esq., M.P., the Rev. Charles Bullock, B.D., the Rev. Harry Jones, John MacGregor, Esq., Monsieur Emile Robin (Paris), and the Rev. Canon Wilkinson, &c., &c.

Captain the Hon. FRANCIS MAUDE, R.N., in the absence of the Lord Mayor (who, it was understood, was being detained by his duties as Chief Magistrate), then, the time announced for the commencement of the proceedings having arrived, undertook the presidency of the meeting, as follows :—

My Lords, Ladies and Gentlemen,—In the unavoidable absence of the Lord Mayor, who has kindly lent us this Saloon for the occasion, I am asked, as the Chairman of the Society's Committee of Management, to take the chair here temporarily, until his Lordship can come; therefore, if you will allow me, I will ask the Rev. Burman Cassin, M.A., Rector of St. George-the-Martyr, Southwark, to open the meeting with prayer, and to ask God's blessing upon our proceedings.

The Rev. BURMAN CASSIN then read the subjoined form of prayer, authorised and adopted for the use of the Society :—

FORM OF PRAYER.

Used at the opening of the General and Committee Meetings of the Shipwrecked Fishermen and Mariners' Royal Benevolent Society.

ALMIGHTY, everlasting, and merciful God, our Father in Christ Jesus, Thou hast created, and Thou upholdest all things; the heavens and the earth are Thine, and the great and wide sea is the work of Thy hands. At Thy command the "stormy wind riseth," the "waves lift up their heads," and they that "go down to the sea in ships" are exposed to shipwreck and to death. We acknowledge Thy supreme right, O Lord, to order all things according to Thy will; and we bow with resignation to those dispensations which often render the seaman destitute, the wife a widow, and the children fatherless.

But we know Thy mercy and love; Thou art revealed to us, in Christ, with the attributes of saving power and loving-kindness; we humbly pray Thee, therefore, to bless our efforts, and those of all kindred Institutions, while we endeavour to be the humble instruments in carrying out Thy purposes of mercy towards suffering humanity.

Bless us, and all connected with us, with courage, energy, skill, and liberality in our attempts to save the lives of our fellow-men; and, when all human means may fail, enable us to alleviate calamity and loss by timely and sufficient relief to the objects for whom we labour.

Forgive, we pray Thee, our sins and transgressions; vouchsafe to us and to our seamen Thy heavenly grace; and accept our prayer, for Jesus Christ's sake. Amen.

Captain the Hon. F. MAUDE, as Chairman, then said :—

My Lords, Ladies and Gentlemen,—I am hardly prepared to make any introductory remarks, having fully anticipated that the Lord Mayor would

have been present and have done so ; but, in his Lordship's absence, I must, I suppose, just say a few words. I look upon this Society as a child of ours—that is to say, of myself and the few remaining members of the Committee who were my contemporaries at the time of the Society's first establishment. It is now forty-three years of age, and a very full-grown, valuable boy, indeed, it has become. It is not only a son, but a father ; for we are the grandfathers of the Royal Alfred Aged Merchant Seamen's Institution, at Belvedere, the Shipwrecked Mariners' Society having started that Institution a few years ago. There we have a great number of old men, older than most of us ; therefore, our grandchildren are, so to speak, older than their fathers. The amount of good the Society has done during these forty-three years is really not to be told ; the hundreds and thousands who have been saved, not only from shipwreck, but from what is far worse, soul-wreck on shore afterwards, are almost innumerable. I must just hark back, and refer to what I have said again and again in public, and which I wish to be impressed upon the minds of all, namely, the extraordinary way in which we have got rid of the sham shipwrecked seamen, that were the pest of our lives forty years ago, calling upon our pity, and upon our purses, too, throughout the country. There were at that time numbers of either shipwrecked mariners, or, what is ten times worse, sham shipwrecked-men, begging their way all over the country ; while now there is not such a being to be seen—at least, if there is, he is an impostor. This Society takes up the case of every shipwrecked person—man, woman, or child—whether a foreigner or one of our own countrymen, and it sees each of them sent to their homes at the Society's expense ; and can you imagine a greater benefit, not only to the sufferers, but to the country at large, than that ? We might perhaps have had here to-day the half-crown which we first started with, as faithfully preserved, framed and glazed, in the Society's Chambers ; it is not here, but instead of that we have a few medals, which are produced to show what we give for the saving of life, and to those who assist us in the Society's great cause ; and when I say that we have, I think, some 1,200 Honorary Agents and Representatives throughout the country, and abroad, both in the colonies and elsewhere, who are working gratuitously from one year's end to the other, either collecting money or relieving individuals, can you imagine a greater benefit to a country than that ? It ought, and it does, bring a blessing from Almighty God, I have no doubt. The blessing is manifest in one respect : the enormous sum we are obliged to distribute every year—representing, for years, from £20,000 to £30,000, and, during the past year, exceeding even this latter amount. How could we, unless we had the blessing of God, raise such a sum as that ? Doubtless, it is His blessing which has enabled us to do so. I ought scarcely to go into particulars just now ; but when I tell you that between £8,000 and £9,000 of that money is raised from the men themselves, what does that show, but that we have upwards of 50,000 thrifty men who are thus helping themselves by enrolling as members of the Society, small though the individual payment may be ? I was at Broadstairs some time ago, and fell in with an old boatman, and I said to him, “Do you belong to the Shipwrecked Fishermen and Mariners' Society ?” “Oh yes, sir,” he said, “and have done for the last five and twenty years.” “And

have you ever regretted it?" I asked. "No, sir," he said, and stamped and clapped his hands, "and never shall."* That is the feeling, I hope, of every one of the upwards of 50,000 men who are members. That is a glorious trait in the character of the Society. However, as already mentioned, I was not expecting to have had to speak at this stage of our proceedings, and I beg now to call upon the Secretary to read the Annual Report, though, before he does so, I may just add one word of apology for calling you together at so late a period of the year. It has been unavoidable on this occasion, from one cause or another connected with the special consideration of the Society's increasingly important interests, and various other delays which have prevented our assembling at an earlier date. But there may perhaps be some comfort, to those who are here, in knowing that this is the last meeting that will take place this summer, probably, of any of our Charitable Institutions, and we ought therefore to rejoice that the list of them is ended by that of so admirable a Society as the Shipwrecked Fishermen and Mariners'.

The SECRETARY then read the Annual Report, which was as follows:—

THE ANNUAL REPORT.

IN presenting, to the many friends and supporters of this great NATIONAL CHARITY, the Annual Report of its proceedings and operations during another year—being the forty-third year of the Society's existence and beneficent labouring on behalf of our vast seafaring population—the Committee of Management desire again to give expression to their feelings of deep thankfulness to Almighty God for the continued blessing vouchsafed to the Society and to its noble national work.

Truly memorable as the preceding year, 1880, only too sadly proved to be, more memorable still, alas! in the annals of the sea and its perils, has been the year 1881, just past. Irrespective of every prior storm and casualty of the year, it is stated, of the one single month of October alone, that its woful experiences seem to have exhausted all the varieties of maritime horrors—the violent and protracted gales of the same and succeeding months being literally terrific on various parts of the coasts of the United Kingdom, and in the Atlantic blowing for days together with the force of hurricanes, while the reports which reached Lloyds', of the recurrent disasters to ships were probably the most melancholy and numerous on record.

Referring, more particularly, to these "Shipping Losses, and Storms, in 1881," some telling facts and figures have already been quoted, from authoritative sources, in the Society's quarterly maga-

* A Hand-bill Leaflet, issued as a copyright publication of the Society, setting forth the full advantages of belonging thereto, and entitled "*Do you belong to the Shipwrecked Fishermen and Mariners' Society? If not, why not?*" can be obtained from the Society's Central Office, Hibernia Chambers, London Bridge, S.E., for gratuitous distribution amongst the Seafaring Classes generally.

zine, "THE SHIPWRECKED MARINER." It thereby appears that no less than 2,089 actual shipwrecks (including an excessive proportion of vessels of large tonnage, with cargoes of exceptional value, and involving the great loss of 4,134 lives) occurred throughout the world during the year, or an increase of 859 as compared with the previous year, 1880. The British-owned sailing ships and steamers, amongst those wrecked, are duly noted, further, as having aggregated 1,048 of the yearly total named; with, also, as many as 826 vessels, of which the British-owned formed three-parts, accounted for as entirely lost off the shores of England, Scotland, and Ireland, only. To this grievous tale of more formally recorded destruction and death, there yet remains to be still added the long and harrowing story of the several special calamities which, likewise within the past year, well-nigh completely overwhelmed whole fishing communities in the Shetland Isles, on the east coast of Scotland, and at Eyemouth, &c.; besides, too, the almost innumerable isolated and minor casualties of the year to smaller craft and their crews.

As the inevitable result of so unprecedented a series of combined mishaps to ship and sailor, with all the consequent distress and woe for widow and orphan, unprecedented, also, have been the urgent claims upon the Society's prompt and benevolent aid, through its Executive in London, and Local Honorary Agents, as stationed, to the number of 1,200, at every port, and fishing town, &c., in the United Kingdom, as well as Inland, Abroad, and in the Colonies. From the following summary of the augmented numbers thus helped and relieved, here subjoined by the Committee, the continued great increase in the Society's work, during the year ending 31st December, 1881, will be fully evident, viz:—

"Number of shipwrecked fishermen and mariners (including
 "foreigners of all nationalities) boarded, lodged, clothed, medically
 "cared for, and forwarded to their homes; and also of fishermen
 "and mariners (of every class and every circumstance of accident
 "and need) pecuniarily helped in their extremity, or assisted to
 "restore their lost boats, clothes, &c.—5,510; being 706 more
 "than in 1880.

"Number of widows and orphans, &c., of fishermen and mariners
 "succoured in their sudden bereavement, or further aided with
 "annual grants, &c.—8,725; exceeding by 395 those in 1880: and

"Total number of distressed fishermen and mariners, and their
 "destitute dependents, &c., thus relieved, for the year—14,235;
 "giving, altogether, an increase of 1,101 upon the number for
 "1880, or a grand total of 325,046 recipients of relief, since the
 "Society was first instituted, in 1839."

As rewards for saving life, six silver medals, besides various testimonials and pecuniary grants, were given within the year—placing the number of medals already awarded at 88 gold, and 284 silver medals, respectively, and raising the total number of lives saved, for which recognition has been granted by the Society, to 7,145, in all. Under this same head, the Committee have the satisfaction of once more bringing to notice the most generous gift to the Society, from a philanthropic French gentleman, Monsieur Emile Robin,* of a sum of money, in trust, for the founding of two special life-saving rewards, to be allotted to the Captain and Chief Officer of the British vessel saving a ship's crew from imminent peril, during the year immediately preceding each Annual Meeting. The Committee, however, again have to add that, up to the present moment, they have no eligible claimant or sufficiently exceptional recommendation to report, in regard to this newly-instituted reward for English seamen; but they desire to state their intention of forthwith taking steps for still more prominently, if possible, promulgating to those concerned, the terms and conditions of a trust much valued by the Committee, in the interests of humanity, and on behalf both of the Society and of the British sailor.

Amongst other matters embraced within the wide scope of the Society's most comprehensive functions, the important national duty of relieving and re-patriating distressed colonial seamen, as entrusted to the Society by Government, under defined arrangements with regard to repayment of the cost in each instance, has again been satisfactorily carried out, with most advantageous results, in various pressing cases of great need, during the past year. The Committee, too, in connection with such national duties, have, also, again had the gratification of seeing the Society's organisation utilised as a medium for receiving, and safely handing over for due disposal, a benevolently subscribed sum, amounting to £111 15s., remitted from residents at Shanghai, for the benefit of a disabled seaman, lately a patient in the local hospital of that port, and himself forwarded home to his family in this country from the same charitable source. And, in further reference to such additional beneficent action, always most willingly undertaken by the Society's Executive, and its Honorary Agents, the Committee have gladly to allude to the material assistance, which it was happily in the power of the Society to render, by the collection of

* The provisions of these newly-instituted "EMILE ROBIN LIFE-SAVING REWARDS," for English Seamen, as notified in *The Times*, &c., under date of November 26, 1880, will be found fully described and explained at page 63 of a previous Number (January, 1881) of this Magazine, in the Annual Volume, No. xxviii.

special contributions for relief of the great distress occasioned amid the poor fishing population of the Shetland Isles, through one of the exceptionally disastrous gales of the last year. The fund thus raised, under the Committee's auspices, reached the total amount of £776, the list of donors including, amongst numerous others, the names of Her Majesty the Queen (Patron of the Society), £25; His Royal Highness the Prince of Wales (Vice-Patron), £15; His Grace the Duke of Marlborough (President), £5; The Most Hon. the Marquis of Cholmondeley, £10; Sir J. W. Copley, Bart., £100; The Worshipful Company of Goldsmiths, £50; with, also, a special donation of £100 from the Society itself, for general needs, in addition to all immediate and prospective relief, &c., by the Society's Honorary Agents on the spot.

As directly bearing upon the Society's earnest and prolonged efforts, from its very first institution, for the amelioration of the condition of our immense Fishing Classes generally, by the inculcation of habits of thrift and self-help, the Committee would here record the fact that, following up the precedent of the late Fisheries Exhibition in Norwich, where it was locally represented, the Society was specially entered as an Exhibitor at the recent International Fisheries Exhibition, in Edinburgh. The Exhibition was held under the presidency of His Royal Highness the Duke of Edinburgh, a Vice-Patron of the Society, and thereat the Society has been awarded a Diploma of Honour, in respect of its Exhibits of Medals, Publications, and Statistics of Objects and Working Results.

The Committee have now to state that, in view of the greatly increased and still yearly increasing field of the Society's labours, with all the varied demands and enlarged operations involved thereby, they have, in conjunction with other points, taken under consideration the more correct and stricter definition of the terms of eligibility of Fishermen and Mariners for beneficiary membership of the Society, and as to which a Resolution, embodying the amendments required in Rule II., will be put before the Annual Meeting. The Committee have, likewise, directed their attention to the revision of the issues of Annual Grants of additional relief to the Widows and Orphans of deceased members, that the yearly proportion of this wholly extra aid may, with due regard for the Society's other specific objects, be as far as possible more certainly regulated, within the limits prescribed by the Society's Rules. And the Committee have, further, after very full inquiry, come to the conclusion that, while the inauguration and management, under the Society's auspices, of the Mariners' National Mutual Pension Fund, has amply secured an advantageous provision for the contributors thereto, the subsequent creation, and existence at

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this date, of many similar facilities, open to the Seaman, renders any continued extension of the number of insurers in the Fund unnecessary.

With respect to the important matter of Finance, the Committee, in referring to the Statement of the Society's Receipts and Payments,* as duly audited, have here to record their satisfaction that, notwithstanding the many depressing influences peculiarly affecting the past year, the amount of the Society's ordinary Income, therein, has still maintained its continued advance upon each preceding year. While the total receipts, for 1881, through a diminution in the fluctuating item of Legacies, stood at £30,648, as compared with £38,110, for 1880, the Society's standing Income, irrespective of Legacies, showed the not inconsiderable increase of £3,674—happily enabling the Committee in part to meet, from this source, the many augmented claims of the year for urgent relief, as already specially alluded to. The pressing demands thus made upon the Society's benevolence, resulted in a total issue of £30,174 in relief, for the entire year, exceeding, by nearly £5,000, that for 1890—these figures representing, beyond all precedent, the largest amount of charitable aid ever dispensed by the Society in any one year, and necessitating the Society's funded reserve being further drawn upon, from time to time, to the extent of no less than £7,500.

* STATEMENT OF THE RECEIPTS AND PAYMENTS OF THE "SHIPWRECKED FISHERMEN AND MARINERS' ROYAL BENEVOLENT SOCIETY," between the 1st January and the 31st December, 1881.

£ s. d.		£ s. d.	
Balance due to Bankers (overdrawn account) 1st of January	168 4 8	Balances, 1st January.—	
Relief distributed by Central Office and 1,155 Agents and Auxiliaries to 16,235, Fishermen and Mariners, their Widows, Orphans, &c.	30,174 1 5	Disbursements account	234 16 11
Rewards for Saving Life at Sea	10 16 0	Auxiliaries (including the value of Tickets and Medals on hand)	3,064 16 9
Office Rent and Incidental Expenses at Central Office and 1,155 Auxiliaries	1,108 1 3	Less Mariners' Pension Fund Trust	3,319 13 8
Freights and Postages at Central Office and Auxiliaries	220 3 3	Contributions to Central Office and Auxiliaries—	
Printing and Stationery at Central Office and Auxiliaries	515 13 6	Mariners' Subscriptions	9,067 5 0
Advertising, Central Office and Auxiliaries	375 19 3	Less—Cost of Medals supplied them	192 9 4
Salaries	1,559 6 8	Honorary Subscriptions	8,864 15 8
Travelling Expenses and six Travelling and Visiting Secretaries	1,670 13 3	Donations	6,065 8 11
Commission, Travelling and Visiting Secretaries and Auxiliaries	1,179 19 9	Legacies (including transfer of £190 Three per Cent Consols)	1,654 2 6
Interest on Loans	14 16 3	Interest—Savings' Bank and Auxiliaries	0 14 8
Transfer to Society of Legacies of £190 Consols	189 2 9	*Dividends on Stock	2,312 0 9
Balances—Williams, Deacon, & Co. 24 11 3		Relief returned by Consuls, Railway and Steam Packet Companies, &c.	2,358 6 10
Disbursements, &c. 348 11 4		Dividend on M. Kingle Robins Trust Fund	20 0 0
Auxiliaries	3,615 19 11	Sale of £7,500 Consols Stock	7,517 7 0
Less Mariners' Pension Fund Trust	1,803 19 11		
	2,814 13 7		
	£39,371 9 7		£39,371 9 7

Examined and found correct,

(Signed) R. WALKER, } Hon. Auditors.
H. GLANVILLE, }

* These dividends are devoted to the distribution of small Annual Grants to the most necessitous Widows and Orphans.

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The Committee thankfully acknowledge the following Special Contributions of £15, and upwards:—

HER MOST GRACIOUS MAJESTY THE QUEEN, £25 (Annual).

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G., &c., £26 5s.

HIS GRACE THE DUKE OF MARLBOROUGH, K.G. (President of the Society),
£15 15s. (Annual).

	£	s.	d.		£	s.	d.
Aberdeen Harbour Commissioners	21	0	0	Henderson, R., Esq. (annual)	20	0	0
Aberdeen Town Council	21	0	0	Henderson Bros., Messrs., Glasgow, being collections on "Anchor Line" Steamers	54	17	5
"A. M. L.," in reverent memory of H.R.H. the late Princess Alice, "who lost her own life in minister- ing to others"	105	0	0	Hoare & Co., Messrs.	21	0	0
A'lan, Messrs. C. Gow & Co., Glasgow, being collections on "State Line" Steamers	15	5	6	Hull Trinity House	20	0	0
Annesley, Right. Hon. Countess Dowager of (collected by)	20	10	0	Jones, Mrs. Ann	15	0	0
Anonymous	20	0	0	Lambton Office (Sunderland)	26	5	0
Ame., E. L., Esq.	25	0	0	Lewis, Miss S.	20	0	0
Barclay, J. G., Esq.	25	0	0	Lloyd's Register of British and Foreign Shipping	105	0	0
Baring Brothers, Messrs.	21	0	0	Maulani, Captain David (Member of the Committee)	52	10	0
Belfast Harbour Commissioners	20	0	0	National Fisheries Exhibition, Nor- wich (per W. O. Chambers, Esq., Hon. Secretary)	25	0	0
Bevan, Charles J., Esq.	50	0	0	Northumberland, The Dowager Duchess of (per Captain the Hon. Francis Maude, R.N., Chairman of the Committee)	25	0	0
Budd, Vincent, Mrs. (per Captain Vincent Budd, Deputy-Chairman of the Committee)	21	0	0	Patten, John, Esq.	25	0	0
Campbell, A. E., Esq.	25	0	0	Rhodes, Miss	50	0	0
Clothworkers' Company, The	21	0	0	Rothschild, Baron F. de	25	0	0
Cughlan, H. T., Esq.	21	0	0	Salters' Company, The	21	0	0
Cooper, Hall & Co., Messrs. C.	54	10	0	Shrewsbury, The Dowager Coun- tess of	20	0	0
Corwainers' Company, The	21	0	0	Smith, Heathfield, Esq.	20	0	0
Courtenay, Miss L. B.	20	0	0	Stock Exchange, Collected on the, by W. Kingsbury, Esq.	62	5	0
Dalgety, F. G., Esq.	21	0	0	S. W.	25	0	0
Delhousie, The Right. Hon. the Earl of	20	0	0	Thorngate, Trustees of the late Wm. Esq.	70	0	0
Dent, W., Esq.	50	0	0	Trustees of the Clyde Navigation	50	0	0
Drapers' Company, The	21	0	0	Turner, Mrs.	100	0	0
Dundee Harbour Trustees	30	0	0	Vigoureux, Frank, Esq.	15	0	0
Ditto	21	0	0	Waterford Harbour Commis- sioners	20	0	0
Dundee Town Council	20	0	0	Wood, Mrs. B.	20	0	0
Ditto	20	0	0	Yarborough, The Right Hon. the Earl of	20	0	0
Fishmongers' Company, The	105	0	0				
Goldsmiths' Company, The	200	0	0				
Grocers' Company, The	100	0	0				
Henderson, James, Esq.	20	0	0				

The following Legacies have been received or announced since the last Annual Meeting, viz:—

Edward Baker, Esq., £200; Brian Bates, Esq., £500; Christopher Russell Brown, Esq., £1,000; C. H. Childers, Esq., £10; Mrs. Christian Chivas, £58 17s.; Admiral H. E. Coffin, £50; Miss H. E. Carbin, £47 14s. 8d.; C. R. Craddock, Esq., £100; Edward Cushee, Esq. (Consols), £449 18s. 9d.; Mrs. A. Davie, £5; Miss M. Dockray, £100; Mrs. Jane Draeger, £90; Mrs. A. Fooks, £19 19s.; Miss M. E. Green, £210 16s. 6d.; H. Gregson, Esq., £139 12s. 6.; Mrs. M. L. Griffith, £99 5s.; Mrs. Mary Gunston, £1,000; Thomas Hall, Esq. (balance), £142 0s. 8d.; Miss M. E. Hitchman, £19 19s.; Miss E. G. Hollis, £150; Alexander Johnston, Esq., £19 19s.; Captain John Monk, R.N., £100; Captain William Moore, £148 7s. 8d.; J. N. Paterson, Esq., £500; John Platt, Esq., £89 17s. 9d.; John H. Reed, Esq., £19 19s.; Miss Silly, £219 9s. 8d.; Captain William Smithett,

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£25; Mrs. A. Sutherland, £19 19s.; Miss E. W. Sutton, £10; Mrs. J. Wait, £19 19s.; Miss Matilda White, £25; Mrs. E. J. P. Wickman, (Division of Trust Fund); Mrs. Anne Williamson, £100; H. W. De Winton, Esq., £100.

The Committee regret to have to record the loss, by death, of the following gentlemen, who acted as Honorary Representatives and Agents of the Society:—J. Thompson, Esq., Armagh; Mr. Edward Stammers, Brightlingsea; J. Walsh, Esq., Dublin; Mr. W. Lloyd, Dumfries; Rev. A. C. McLatchy, Enniskillen; Rev. D. Webster, Fetlar; Mr. Thomas Smith, Inniscrone; James Walls, Esq., Kirkwall; James Bishop, Esq., Looe; Mr. John Swan, Muchals; William Liddersdale, Esq., Newbury; Frederick Symonds, Esq., Oxford; William Stewart, Esq., Peebles; Lieut. Fletcher, R.N., Ripon; C. Middleton, Esq., Sligo; Captain John Rendell, R.N., Steyning; Captain James Pottinger, Westray; and Captain H. B. Davis, R.N., Worthing.

Adverting to changes which have taken place in the list of Vice-Presidents, and amongst their own body, the Committee have, with extreme regret, to record the very recent decease of The late Most Hon. the Marquis Conyngham, enrolled in the number of Vice-Presidents of the Society; and, also, the further loss sustained by the Committee itself, and the Finance Committee, through the enforced withdrawal of the very constant services and personal co-operation of William Toller, Esq., on change of residence to a distant part of the country. The Committee have, however, the gratification of recording, at the same time, the addition of the names of The Right Hon. the Earl of Dalhousie, K.T., and of The Right Hon. the Earl of Erroll, to the list of the Society's Vice-Presidents; as well as the election, to seats at the Committee, of the Right Hon. Lord Ashley, Edward Edwards, Esq., lately Prime-Warden of the Fishmongers' Company, and James Hiscutt Crossman, Esq., lately Master of the Brewers' Company.

The Committee, as in previous years, now, again, with more especial regard to the very arduous duties involved throughout the past exceptionally disastrous year, most heartily acknowledge their obligations to the Society's Honorary Officers, for their kind co-operation; to the Travelling and Visiting Secretaries—Messrs. James Bancks, Lindon Saunders, C. K. McAuliffe, S. H. Miller, Lovell Pennell, and Captain Ivey—who have most zealously laboured to advance the Society's interests; and to the several Honorary Agents and Lady and Gentlemen Collectors, without whose invaluable aid the benevolent work of the Society could not be carried on. Also, to the Clergy and Ministers, of various denominations, who have advocated the cause of the Charity from their pulpits; to the Superintendents

of the Training Ships; to the various Sailors' Societies; to the Scottish Board of Fisheries, whose Agents act for the Society; to the Officers of the Coastguard and Customs; and to the Railway and Steam Packet Companies, who still continue to promote the Society's objects by reducing the expense of forwarding shipwrecked men to their homes.

In conclusion, as the Committee thus take into review all the details of the Society's immense operations and world-wide organisation, here publicly presented for but the one year of this Annual Report, they find themselves unable to refrain from recording their feelings of fervent gratitude that, by the Divine blessing, amidst every other Benevolent Institution of this great Empire, there exists, for the distressed sailor and his dependents, such an one as the SHIPWRECKED FISHERMEN AND MARINERS' SOCIETY. Truly national as are the Society's whole scope and objects, the Committee, with no little pride, recall to mind the fact that truly national, too, are the Society's vast labours, and their beneficent results; and, year after year witnessing the Society's noble fulfilment, for the Nation, of these high national duties, the Committee have, during the year just closed, with peculiar satisfaction rejoiced to know that, as a fitting sequel to the philanthropic sentiments uttered by His Royal Highness the Prince of Wales on the occasion of the opening of the late Fisheries Exhibition at Norwich, the Society's special functions and extended work, as a NATIONAL FISHERMEN AND MARINERS' AID SOCIETY, were accorded the personal recognition of His Royal Highness, himself a Vice-Patron of the Society.

For this National Institution, then, and the still further development of its varied charitable benefits, amongst the whole fishing and seafaring community—on whose behalf the several Exhibitions in connection with their hazardous calling have recently aroused so sympathetic an interest—the Committee now once more claim, and very earnestly rely upon, the continued generous aid, and the increasingly sustained support, of all ranks and all classes, throughout this maritime Nation.

(Signed, on behalf of the Committee,)

FRANCIS MAUDE, Captain R.N.,

Chairman.

The CHAIRMAN: I have now the pleasure of calling upon the Earl of Ducie, F.R.S., to move the first Resolution.

The Earl of DUCIE: Captain Maude, Ladies and Gentlemen,—Two hours ago I little thought that I should find myself in this or any other public meeting. If at that time I had received one of your invitations, I have no doubt that I would have found an excuse for not coming; but I

met Lord Ashley in the street, and, with a considerable eye to business, he seized hold of me, and stated what was only too true, that I was the most recent shipwrecked mariner who had arrived in London, and that in common decency I could not stay away; and I had received such benefits from a similar Association to this one, only 800 miles away, that I could no longer resist coming here and saying a few words on this occasion. I am not going to weary you with a sad recital, but only eight days ago I was in that condition of not knowing what it was to possess a shirt. I was shipwrecked 25 miles off the coast of Bergen, and, although it was a perfectly fine day, and after a certain time there was no danger, there was all that amount of discomfort, and trouble, which attends such circumstances. Enough of that; I will only say that when I arrived in Bergen, with my crew, I was in a difficulty to know what to do. I believe that a swan upon a turnpike-road is looked upon as a very helpless creature; but a shipwrecked English sailor, in a foreign country, is about the most helpless creature you can imagine. When, therefore, I met the Vice-Consul, who told me there was a Seamen's Home, in which every one of them could be received, it was one of the greatest reliefs I have had for a long time. In coming here specially to acknowledge the benefits which I received, through my men, under circumstances of a very trying nature, I think I shall be saying, possibly, a good word for this Society. I trust you will accept it as such. I am too ignorant of the details of the Society to warrant me in saying any more. I have been asked to move—

“That the Annual Report of the Society, as now read, be adopted, and duly entered on the Minutes, and that it be printed and circulated, under the direction of the Committee of Management.”

I shall content myself with doing so, urging you to give a favourable consideration to the wants and the merits of this most deserving Society, The Shipwrecked Fishermen and Mariners' Royal Benevolent Institution.

The CHAIRMAN: I have to call upon Captain W. Arthur, C.B., of the Royal Navy, late Naval Attaché at Washington, to second the Resolution.

Captain ARTHUR: My Lords, Ladies and Gentlemen,—I have been asked to second the adoption of the Report, during the reading of which I have no doubt you have all been struck with the tremendous figures of loss and of disaster given to us. The numbers are too great for us to realise them; but, when we come to consider that 1,048 wrecks of British-owned vessels alone, during the year, averages very nearly three such wrecks a day, we may somewhat realise the trouble and distress we have to grapple with. It is also a well-known fact that every other day of our lives there is one vessel disappears. You will excuse me, having been two years absent from England, in the United States, if I deal more especially with a few American points which have struck me whilst the Report was being read. Our American cousins appreciate the noble institutions of England perhaps more than we do ourselves, and charity over there is distributed with an equally lavish hand. In every seaport town of any note, in America,

there is a "St. George's Society," more especially for bringing together a number of English people; but there are a great number who are truly Americans who do everything in their power to assist in the relief of any Englishman thrown in distress among them. The life-saving stations in America are organised and controlled by Government, and although they do not amount to the number we have already realised, those that exist are well organised and thoroughly efficient. The number of American seamen, of course, is proportionably small, and I think that for every American who receives any benefit from these life-saving stations there are five Englishmen. This Society met here to-day is connected with the fisheries, and although our fisheries are protected by men-of-war, we cannot say they are very much nursed by the Government. In America, it is a Government department that especially looks after the fisheries, and there are vessels constantly occupied in producing and distributing fish; and I think you will find, when the great London Fisheries Exhibition takes place next year, that they will be the most advanced exhibitors. I am glad to see that this Institution has taken up the subject to an extent, and that at the Exhibition of Edinburgh they were the recipients of Honourable Distinction. There is a subject, perhaps not entirely connected with the Institution, which I have long had at heart. For many years the seamen of the British Navy have been trying to establish some Institution which would allow them to pay a certain sum of money, so as to provide for their widows and orphans; and I must say I think this is a matter in which the Government might assist them, more especially as there are particular sums of money they have a certain claim to, which are now appropriated by the Government and directed to other purposes. However, I will not go into that topic, as it is not directly connected with this Society. After saying these few words, and believing that all who read the Report which has been submitted to us this day will feel bound to assist in every way this noble Institution, which is doing so good a work for the profession I have the honour to belong to, and for the whole country, I have much pleasure in seconding the Resolution.

The Resolution, as moved and seconded, having been duly put to the meeting by the CHAIRMAN, was carried unanimously.

The CHAIRMAN: The next Resolution will be moved by the Rev. Burman Cassin, M.A., Rector of St. George-the-Martyr, Southwark.

The Rev. B. CASSIN: Captain Maude, Ladies and Gentlemen,—The Resolution entrusted to me is to the following effect:—

"That this Meeting desires to express its gratitude to Almighty God for
 "having enabled the Society, through the liberality of its many supporters,
 "to continue, with increasing beneficence, during the past most exceptionally
 "disastrous year, its great work of charity as a National Fishermen and
 "Mariners' Aid Society—the one National Institution providing for every want of
 "the shipwrecked fisherman and mariner, relieving the distress of the bereft widow
 "and orphan, and specially helping all the maritime classes providently to help
 "themselves: and that this Meeting also desires to acknowledge the benevolent
 "labour of the Committee of Management, who meet weekly to dispense the
 "Society's funds on behalf of these National objects."

I suppose that all of us who can afford the privilege are about shortly to

proceed to one of our delightful watering-places, in order there to get a little fresh air, and renewed strength for the work of the coming winter. It seems to me, that the meeting of this afternoon will give us a very happy feeling, in entering upon our holiday, if we are able to take one, namely, that as we are looking at the waves in their grandeur, and standing at the end of the pier at Dover, perhaps, and watching the pilot-boats coming in and going out, whilst we are enjoying all the blessings surrounding us in our time of recreation and rest, we shall have had the happiness of helping, before we started, this most admirable Institution, which is affording encouragement to deserving persons, and which we feel it the greatest possible privilege to help to the utmost of our power. It struck me, in thinking over what I had to say, that the large-heartedness of this Society was a conspicuous element; it knows nothing of creed, nothing of nationality, nothing of religious persuasion or belief. This Society simply finds a sailor, belong to whatever nation he may, civilised or uncivilised—it finds him shipwrecked, and finds him in trouble, and with the large-heartedness which ought to characterise the creatures of a benevolent God, this Society stretches forth a helping hand. It seems to me that just at this time, when there are wars and rumours of wars, and such sad catastrophes and massacres taking place, a Society like this is specially pleasing to contemplate. We do not gather together to assist in destruction; even if a foe is landed on our shores a shipwrecked man, we forget he is a foe, and in a moment he finds in us a friend; he is provided for whilst here, and he is sent back to his own country, and we strive thus to imitate Him who causes His sun to shine upon the good and upon the evil, and sendeth rain upon the just and the unjust. And, then, a second characteristic of this Institution is its practical character—it helps persons who help themselves. It encourages thrift; it does not send about our streets a number of idle persons, singing whining songs to awaken mistaken sympathy, but, by the help which it affords them, it encourages persons, who have been willing to lay by something for the purpose, to help themselves in the times of necessity. And many a poor widow in distress, and many a poor fatherless family, have cause to bless God for the pecuniary benefits reaped through the labours of this Society. I most heartily commend it to your sympathy and to your aid. I am sure that such a distinguished gathering as this will not fall short in the assistance which they will render to this noble Institution. It has certainly given us a special interest to-day that a noble earl should have been a shipwrecked mariner, and should plead the claims of the Shipwrecked Mariners' Society in his own live person. I think it would have been a frightful loss to this country, and other countries as well, if the Earl of Ducie, and the shipwrecked crew of his yacht, had not been helped when in that sad predicament related by his Lordship; there is no telling what would have happened. Now that they have been assisted by a kindred Society to this, and that the Earl himself comes amongst us, in his usual health and strength, and says to us, as it were from the vasty deep, "I who have been shipwrecked ask you to rescue others," I am sure we shall gladly avail ourselves of the privilege. I have indeed much pleasure in moving the Resolution.

T. A. DENNY, Esq., was called upon to second the Resolution, and said :—

Captain Maude, my Lords, Ladies and Gentlemen,—The worst of having to second a Resolution proposed by the Rev. Burman Cassin is this—he leaves you nothing to say. Perhaps that is also the best of it; certainly it is the best for me. There is one very remarkable feature at these meetings to which I may call the attention of those who are strangers here at this meeting to-day. I believe that we are the best trusted society in London, if not in England; because you will find that, although we are distributing an amount of money equal to £30,000 per annum, scarcely anybody thinks it necessary to come here and ask us what we have done with the money. Well, now, I think that is about the highest compliment you can pay to a Committee of Management. You will always find a very small gathering at these meetings. I have no doubt we ought to take example by to-day, and always produce the latest shipwrecked mariner on an occasion of this sort; and I am rather thankful myself, as Lord Ducie had to be shipwrecked, that he was shipwrecked at such a convenient moment for us; it is a fortunate coincidence that he should have been saved just on the eve of this meeting. I had some very important matter on my mind, I wished to have communicated, but, somehow or other, it has taken its departure. I do not know whether you, ladies and gentlemen, ever feel like that, that at the moment when you want to say something practical you have forgotten it; that is my case to-day, and therefore I must throw myself upon the indulgence of the meeting. I do feel a little awkwardness in seconding this Resolution, because I am proposing a vote of thanks amongst other persons to myself, and I think that is hardly a proper thing for a man to do. I do not myself think that I deserve any thanks whatever, because I am about the least of the Committee's members, and perhaps the very worst in my attendances. But I do feel, and I am sure you also feel, thankful to Almighty God for our successes. I do not believe, myself, in any success apart from Almighty God. We all believe in God, and we all believe that none of these good works that are not begun, continued, and ended in Him, can prosper. I believe that this is the secret of our prosperity, that we are trying to do His will, that we are trying to benefit the creatures that He has made; and that, seeing the effort, and seeing the motive, He is blessing the work of this Society's Committee, and the work of the subscribers to this Society's funds. I have pleasure in seconding the Resolution.

The Resolution was put to the meeting from the Chair, and adopted unanimously; and the Right Hon. Lord Ashley was then called upon to move the next Resolution, as follows :—

“ That this Meeting desires to record its deep and heartfelt regret at the loss the Society has sustained by the death of The Most Hon. the Marquis Conyngham, a Vice-President of the Society; and of the following ladies and gentlemen who acted as Honorary Representatives and Agents:—J. Thomson, Esq., Armagh; Mr. Edward Stammers, Brightlingsea; J. Walsh, Esq., Dublin; Mr. W. Lloyd, Dumfries; Rev. A. C. McLatchy, Enniskillen; Rev. D. Webster, Fetlar; Mr. Thomas Smith, Inniscrone; James Wall, Esq., Kirkwall; James Bishop, Esq., Looe; Mr. John Swan, Machals; William Liddersdale, Esq., Newbury;

"Frederick Symonds, Esq., Oxford; William Stewart, Esq., Peebles; Lient. Fletcher, R.N., Ripon; C. Middleton, Esq., Sligo; Captain John Rendell, R.N., Steyning; Captain James Pottinger, Westray; and Captain H. B. Davis, R.N., "Worthing."

Lord ASHLEY: Ladies and Gentlemen,—However full of enjoyment or of happiness our cup may be, there always lingers some drop of bitterness at the bottom; and the Resolution which I have been desired to bring before your notice on this occasion records the Society's deep and heartfelt regret at the loss of those members of our body, who are not lost, but gone before, to reap, as we trust, the reward of their self-denying efforts in the cause of humanity, and more especially of the shipwrecked mariner. They always say that there is more hard work—real, hard, self-denying work—done in England than in any other country of the habitable globe, and I do believe it. And it is very gratifying to our feelings, as Englishmen and philanthropists, to know that we have more than one thousand Agents of this Society scattered abroad throughout the United Kingdom, without counting those who are far away in the Colonies, &c., all working as best they can to improve the condition of the sailor, and to rescue the unfortunate men who may be cast upon our shores. England is a very hard mother to her children: after weathering the gales and the bad weather of other climates, the unfortunate seaman sometimes arrives amidst fogs and gales which occasion his shipwreck upon the very shores of his native country. I am gratified to think that the hardness and rockiness of the coast is not reflected in the hearts of his fellow-countrymen. If you dwell upon the work this Society has been doing ever since 1839, and the number of people relieved, we have every reason to be pleased with the operations of the Society and their results. You know that, in round numbers, the total number of our merchant seamen is about 250,000, and the annual loss out of that, by death and shipwreck, amounts to 16,000 per year. Previous to the establishment of this Society, you all recollect—at least a great many of us recollect—how the highways and bye-ways of our country were crowded with the sham sailor, who had been caught by some gale of wind, and who had escaped with nothing but a shirt on his back, to tell a piteous story which was calculated to produce a most harrowing impression upon the hearts of the impulsive young ladies of England. Thank God, that is entirely done away with. No matter what his nationality may be, the distressed mariner cast upon the shores of this country is at once fed, clothed, and provided for, until he can be sent to his own home, or, if a foreigner, to the care of his Consul. Things were not quite so satisfactory in the old days. I do not know whether you have ever heard the story of, I am sorry to say, a Cornish clergyman, who was in the middle of a sermon, when, looking round, he saw the congregation disappearing, first by twos, then by threes, until at last the church was left very nearly empty. He asked what was the reason, and was told that a large wreck had come ashore and that his congregation were gradually going off to help to plunder her. "Oh!" says his reverence, "if that be so, at all events let us all start fair," and, shutting his book, he took his chance with the rest of the congregation. That is more than a hundred years ago. Thank God, I do not think such a scene could be found now, even on the wildest part of the west-coast of Ireland. That is largely owing to the excellent work of this Society and of

our Honorary Agents. Of one whom we have lost from the list of Vice-Presidents, the late Lord Conyngham, I could speak with feeling, as having been a personal friend of my own; he was a devout Englishman, and had the warmest heart, I think, of any man I ever came across: I hope we may find as good a man to take his place. The other ladies and gentlemen who have acted as Honorary Agents of the Society, and whom we mourn to-day, are as mentioned in the Resolution by name to you; and I hope that their works may be recorded in letters of gold upon the hearts of their fellow-workers in the Society, and of their fellow-countrymen, and the distressed seamen relieved by their untiring efforts. But for such Honorary Agents, working throughout the length and breadth of the United Kingdom, this Society would be stranded, and our hands crippled. But, then, as you know, we never want for volunteers; there are more than twelve hundred of them who are working for nothing save the blessing of their own good conscience, but who will have their reward hereafter. I have great pleasure in moving that this meeting desires to record its deep and heartfelt regret at the loss the Society has sustained by the death of those friends and Honorary Agents whose names are thus particularly mentioned.

The CHAIRMAN: Admiral E. Gardiner Fishbourne, C.B., will second the Resolution.

Admiral FISHBOURNE: It is unnecessary that I should say much upon the subject of this Resolution; the persons who are referred to therein were in reality your officers and representatives, and I am sure there will be no difficulty in recording the expression of your sincere regret at the loss of their valuable lives, although we know that their places will be filled. Therefore, I simply second this Resolution which has been proposed by Lord Ashley.

The Resolution being then put to the meeting by the CHAIRMAN, was carried unanimously.

The CHAIRMAN: The next Resolution I will call upon the Rev. James White, M.A., Head Master of the Royal Naval School, to move.

The Rev. JAMES WHITE: Mr. Chairman, my Lords, Ladies and Gentlemen,—I have great pleasure in moving the following Resolution, which has been entrusted to me:—

“That the following members of the Committee of Management, going out by rotation, agreeably to the Society’s Rules, be re-elected, viz. :—Thomas Anthony Denny, Esq., Captain John Penwick, Admiral E. Gardiner Fishbourne, C.B., The Right Hon. Lord Alfred Paget, Captain Thomas Laurie Porteous, Admiral James C. Prevost, Captain John Steele, F.R.A.S., and Captain R. O. Orme Webb, R.N.”

I do not think it necessary to enlarge upon the claims of this Society, for the cause of the mariner and sailor is bound up with all that is great in our national history. It is upon the seas that our world-wide Empire has been gained, and it is the power of our Navy and Marine at sea which preserves our commercial prosperity, our wealth, and our security. Therefore, I will not trespass upon your time. I will say a few words about the special claims of the Committee of Management of this Society; certainly they earn the grati

tude of those who support its cause. There are some committees who have to meet perhaps only once a quarter, or once a month, and in many cases their business is of a formal nature; this Committee of Management has to meet necessarily week by week, and to go into many practical heavy business details of the administration of relief to the numerous cases brought before the Society. I cannot, therefore, refrain from thinking that this Committee of Management, beyond that of any other Society perhaps, deserves the hearty gratitude and goodwill, and the thoroughly renewed confidence and respect of those who are supporting this nationally important and most useful Institution. I have very much pleasure in moving the Resolution.

W. W. GLENNY, Esq., J.P., being called upon from the Chair to second the Resolution, said :—

My Lords, Ladies and Gentlemen,—It is with great pleasure I rise to second this Resolution, because these names are all well known to everyone who takes any interest in this Institution. Having been myself a subscriber and an Honorary Agent of the Society for many years, I take particular pleasure in giving my support to it. After the speeches we have listened to I feel there is very little to be said. At the same time, I cannot help impressing upon all the great fact that the Institution, in rendering the benefits it does to poor helpless mariners cast upon our shores, is deserving of our warmest and heartiest sympathy. As already alluded to, there is to be taken into account not only the good which the Society does in aiding and assisting these helpless men, but the further great good of doing away with the beggars and tramps who used to wander about the country. None of these now come from the really shipwrecked sailors; for the shipwrecked sailors are all cared for and forwarded home, free of expense, and anyone, accordingly, who comes to our door in that way is only an impostor and a rogue. I think these two considerations ought to weigh with us, each and all, in heartily supporting this National Institution.

The Resolution, on being formally put to the meeting from the Chair, was unanimously adopted.

The CHAIRMAN: Admiral Sir Claude Buckle, K.C.B., will now move the next Resolution.

Admiral Sir CLAUDE BUCKLE: My Lords, Ladies and Gentlemen,—The Resolution placed in my hands is rather long, and I think, to save trouble, I ought to read it, namely :—

“ That this Meeting, as in previous years, now again, with more especial regard
 “ to the very arduous duties involved throughout the past exceptionally disastrous
 “ year, feels deeply indebted to the Society’s Honorary Officers for their kind co-
 “ operation, and to the several Honorary Agents and Lady and Gentlemen Collec-
 “ tors, without whose invaluable aid the benevolent work of the Society could not
 “ be carried on. Also, to the Clergy and Ministers, of various denominations, who
 “ have advocated the cause of the Charity from their pulpits; to the Superinten-
 “ dents of the Training Ships; to the various Sailors’ Societies; to the Scottish
 “ Board of Fisheries, whose Agents act for the Society; to the Officers of the Coast-
 “ guard and Customs; and to the Railway and Steam Packet Companies, who still

“continue to promote the Society's objects by reducing the expense of forwarding “shipwrecked men to their homes.”

Now, if I were to speak to the whole of this long Resolution, I should possibly detain you another hour; but as you have heard nearly everything that can be said about the Society, I will only make a few remarks. This Society is linked with other Sailor Societies; I may mention, for instance, the National Lifeboat Institution, the Sailors' Homes in London and elsewhere, the Orphan Homes, the “Dreadnought” Seamen's Hospital, all most valuable to us. To begin with the National Lifeboat Institution; they go and save the men, and a very arduous duty is that which they have to perform, and most heroically is it carried out. They succeed in bringing the poor fellows on shore. The next step devolves upon us; these Honorary Agents, about 1,200 all along the coast, &c., receive the shipwrecked mariners, clothe them, feed them, house them, all at the expense of the Society, and forward them, through the kind assistance of the railway companies, to their destination, wherever it may be. You have been told that the men becoming members only pay a small sum a year, and the whole amount of this, from some 52,000 of these fishermen and mariner members, only comes to £8,000 or £9,000. The Society's annual expenditure for relief, however, was over £80,000 last year, and you may imagine, then, where the rest comes from. The vast relief thus distributed is issued, through the Honorary Agents, to the members themselves, or their widows and orphans. Besides all the relief issued to meet destitution and loss through shipwreck or death, when old members of thirty or forty years' standing get into distress, as from accident, old age, or being from any cause unable to work, their cases are looked into, also, with the assistance of the Honorary Agents, who give the Committee a full report whether the man is deserving or otherwise. Very often the poor fellows are blind, or laid up with incurable diseases, and they say, “Will you give us something?” Happily, the Society's charter enables the Committee to give as much as the funds will admit of; of course, this costs a good deal of money, and we look to the public to aid us in these good works. In the Resolution, Lady Collectors are mentioned; I am glad to see so many ladies present, and to express the thanks of the Society for the assistance they give us in these charitable efforts. Without the help of the ladies, what should we do? We have Honorary Agents all over the country, but to none are we indebted more than to the many ladies kindly helping us by their willing exertions. It would take too long altogether to enumerate all the thanks which are due to the various persons mentioned in this Resolution, but I must say that we are very specially indebted to the Clergy and Ministers of all denominations who have advocated the cause of the Society from their pulpits, thus bringing us considerable sums of money, and who have also personally come forward, as the Rev. Burman Cassin and others have done to-day, to support us by their eloquence. But I am detaining you too much; an old gentleman is apt to run away with a slack rope sometimes. I have great pleasure in moving the Resolution.

HENRY WHEELER MAYNARD, Esq., in seconding the Resolution, spoke as follows:—

Captain Maude, Ladies and Gentlemen,—I think that Admiral Sir Claude

Buckle has given us a great deal of information in his last speech, and that this Resolution, although it is rather long, would have been of great interest if we had had it earlier; and for this reason, that anything like voluntary effort always appeals to our hearts and to our feelings. I can only say how heartily I feel my own interest increased and strengthened by what I have heard to-day, at the first meeting I have attended of this Society. The records of the past encourage us to hope that the Society will still hold its own in our sympathy and our support, and that we may go on increasing and prospering, and may do even something more of the work we might do than we are doing now, and which I trust by God's blessing we shall be enabled to carry out.

The CHAIRMAN having then put the Resolution to the meeting, as duly moved and seconded, it was passed unanimously.

The CHAIRMAN: Mr. J. H. Lydall, the Honorary Solicitor to the Society, who renders us great service in that capacity, will move the next Resolution.

J. H. LYDALL, Esq.: Captain Maude, Ladies and Gentlemen,—The Resolution I am asked to propose is more a Resolution of form than anything else; it has been alluded to already to-day, as you will notice, and is to this effect:—

“That, as mentioned in the Annual Report, the beneficiary membership of the Society be defined in Rule II. as follows:—‘MEMBERS OF THE SOCIETY.—
“‘Mariners and Fishermen, and all persons occupied on the sea, who at the time
“‘of joining have not passed their Fortieth birthday, and may be subscribers of
“‘Three Shillings annually.’”

That is to say, more fully to explain the meaning, the mariners and fishermen, thus eligible, may be partakers of the benefits referred to in the schedule following the first part of the Society's Rule No. II. It is purely a rectifying of the Rule. The actual practice of the Society has, for instance, for a long time virtually amounted to accepting as members those who are not more than forty years of age, the result of which should be to prevent an unfair burden being cast upon the funds of the Society, besides creating an interest in the minds of the men. This Resolution refers, then, solely and entirely to the defining of the conditions of membership; it has been very carefully considered by the Committee, and, so as to put the matter in strict order, it is formally submitted to this meeting. The three shillings paid by such members certainly does not by a long way compensate the Society for the amount of benefit conferred. While it is quite true that a large number of fishermen and mariners are, fortunately for themselves, subscribers of this three shillings, I think I am right in saying that a very much larger proportion of the cost of the benefit of membership is borne by the general funds of the Society. It is universally felt, therefore, that the exceptional inducements which are offered to all seafaring men, to come in and contribute something, should make them recognise the Society, and take an interest in its working. Not to detain you any longer, I have great pleasure in moving the Resolution.

The CHAIRMAN: Captain E. S. Adeane, C.M.G., of the Royal Navy, will be good enough to second the Resolution.

Captain E. S. ADEANE: I have much pleasure in seconding the Resolution. The Committee have, I know, given a great deal of thought to the subject, and I am sure they feel the Resolution necessary.

The Resolution being then put to the meeting from the Chair, was carried unanimously; when J. H. CROSSMAN, Esq., came forward to move the last Resolution, and said:—

My Lords, Ladies and Gentlemen,—The duty I have to perform is a very simple one; it is to ask you to pass this special Resolution:—

“That the best thanks of this meeting be given to the Right Honourable the Lord Mayor, a Vice-President of the Society, for so kindly having undertaken, if possible, to preside on this occasion, and for allowing the Society the use of the Mansion House; and to Captain the Honourable Francis Maude, R.N., V.P., Chairman of the Society's Committee of Management, for taking, and so ably filling, His Lordship's place.”

I think I may say that the Lord Mayor, from the commencement of his Mayoralty, has shown every desire to put himself at the head of everything which has for its object the good and the benefit of his fellow-countrymen; and the readiness with which his Lordship gave this Society the use of the Mansion House to-day is a proof that his sympathy is thorough and sincere with the objects of the Society which we are met to promote. We all regret his Lordship's absence; we feel that the influence of anything that he would have said would have been a great support to the Society, and have given great weight to it in its publicity to-morrow. However, in the Lord Mayor's absence, I am sure we are all delighted to have Captain the Hon. Francis Maude in his Lordship's place. The prosperity of any society depends in a great measure upon the influence and character of the person who presides over the management of it; and those who act upon the Committee of Management of the Shipwrecked Fishermen and Mariners' Society have weekly experience of the thoroughly sympathetic work which Captain Maude does to make this Society a success. There is no one perhaps in this room who has witnessed more changes in connection with everything that is naval than our friend Captain Maude. I believe I am right in stating that he was so long ago connected with the naval service of the country that I think he took out the news of the battle of Waterloo to India; that associates his name with nearly sixty-seven years of the naval history of England. In those days we had no steamships, and no Suez Canal, and it was a very long journey, to sail away to India. It was a truthful poet, I think, who said—

“Ye gentlemen of England, that live at home at ease,
Ah! little do you think upon the dangers of the seas!”

This Society has brought more fairly home to the people of England than any other society those dangers that seamen pass through from day to day; and it is our hope, as members of the Committee trying to make this Society a success, that Captain Maude may be spared many years to help us in carry-

ing this Society on in the most prosperous state, and to bring in every person, who takes an interest in the seamen of England, as a subscriber to the Society over which he so worthily presides. I have particular pleasure in moving the Resolution.

The CHAIRMAN: It is rather a remarkable feature on this occasion, perhaps, that this Resolution is to be seconded by the Rev. Josiah Spencer, M.A., Her Majesty's Director of Education in the Island of Cyprus, from which he has just arrived by way of Alexandria.

The Rev. JOSIAH SPENCER: I am very pleased and thankful to have had the opportunity of arriving thus in good time to be present at this meeting, and to learn so much as I have learned with a great deal of interest. I cannot claim the right to second the Resolution by virtue of being a shipwrecked mariner, because I have in years back had the good fortune to cross the seas to and from Australia, and have just now passed through them from Alexandria, immediately before the bombardment, in safety; but I have had great acquaintance, for the last fifteen years, with sailors, and am thankful to record my sympathy in every way with them, and am glad that so many efforts, and such successful efforts, are put forth, and are blessed by Almighty God, for their relief in trouble. I have very much pleasure, indeed, in seconding the Resolution,

The Resolution was carried by acclamation, and directed to be specially communicated to the Right Hon. the Lord Mayor, on behalf of the meeting.

The CHAIRMAN: I had personally hoped that I should have escaped my name being mentioned, in any way, in the Resolution of thanks. I feel that I have only filled the gap occasioned by the Lord Mayor's regrettable absence, and I would rather have had the thanks wholly devoted to his Lordship for his kind intentions—for nothing but the most unavoidable necessity has prevented him from being here—and for allowing us to meet in this very comfortable and well-adapted Saloon. I am sure we are very greatly obliged to his Lordship. I may say, for myself, in expressing my own thanks to all present, that I really feel much pleasure in these annual meetings; I have had, from the beginning of the Society, forty-three years of them, and some of my younger friends were not born then. You see how the Society has risen: we began with two shillings and sixpence, and we are now spending some £80,000 a year. I do not mean to say that we are rich for having that amount to spend; therefore, do not go away with the impression that we are so well off that we do not want any more. On the contrary, we are always inclined and obliged to beg, and, with ever-increasing claims for our help, have no annual income beyond the demands of the year. In conclusion, I will convey the thanks of the meeting to the Lord Mayor, who will, I am sure, be gratified at the way in which his Lordship's courtesy and kindly interest have been spoken of to-day.

The proceedings then terminated with the Benediction, pronounced by the Rev. F. F. STATHAM, B.A., Vicar of St. Peter's, Walworth.

THE SOCIETY'S WORK.

UNDER the subjoined Annual Statistical Return, as well as Quarterly General Summary, and following Tables, numbered I, II, III, IV, and V—respectively answering to the several specified Objects of the Society—will be found the interesting, and, in many respects, touching record of the Society's benevolent operations, on behalf of Mariners and Fishermen, their Widows, Orphans, &c., both during the whole of the past year, 1881, with those preceding it, from the Society's first Institution in 1839, and since the issue of the last Annual or Quarterly Statements :—

ANNUAL STATISTICAL RETURN OF THE SOCIETY'S OPERATIONS.

From the Institution of the Society in 1839, to 31st December, 1881.

RELIEVED LAST YEAR: 1881.

SHIPWRECKED PERSONS, INCLUDING FISHERMEN, MARINERS, PILOTS, BOATMEN, &c., FOR LOSS OF BOATS OR CLOTHES . . .	5,510
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF FISHER- MEN, MARINERS, &c.	8,725
	14,235

RELIEVED IN PREVIOUS YEARS: 1839—1880.

SHIPWRECKED PERSONS, INCLUDING FISHERMEN, MARINERS, PILOTS, BOATMEN, &c., FOR LOSS OF BOATS OR CLOTHES . . .	177,683
WIDOWS AND ORPHANS, OR DEPENDENT AGED PARENTS, OF FISHER- MEN, MARINERS, &c.	133,128
	310,811

TOTAL NUMBER RELIEVED FROM 1839, TO 31ST DECEMBER, 1881 325,046

GENERAL STATISTICS.

NUMBER OF LIVES SAVED, FOR WHICH HONORARY OR PECUNIARY RE- WARDS HAVE BEEN GIVEN	7,145				
MEDALS, FOR SAVING LIFE, AWARDED SINCE JANUARY, 1851, THE YEAR IN WHICH THE SOCIETY COM- MENCED GIVING SUCH REWARDS.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">GOLD MEDALS ..</td> <td style="width: 40%; text-align: right;">38</td> </tr> <tr> <td>SILVER MEDALS..</td> <td style="text-align: right;">284</td> </tr> </table>	GOLD MEDALS ..	38	SILVER MEDALS..	284
GOLD MEDALS ..	38				
SILVER MEDALS..	284				
AMOUNT OF PECUNIARY REWARDS, FOR SAVING LIFE, IRRESPECTIVE OF FRAMED TESTIMONIALS, &c.	£2,328				

ANNUAL NUMBER OF FISHERMEN, MARINERS, &c., CONTRIBUTING YEARLY
PAYMENTS, AS MEMBERS 52,000

QUARTERLY GENERAL SUMMARY OF RELIEF, &c.

THE total Number of Persons directly succoured by the Society's Executive in London, and by the Honorary Agents in all parts of the United Kingdom, &c., with the total Amount of Relief administered, as referred to in the subjoined Relief Tables for the past Quarter, ending 30th September, 1882, was as follows:—

TOTAL NUMBER OF PERSONS RELIEVED	2,614
TOTAL PECUNIARY AMOUNT OF RELIEF	£5,447

OF the numerous Agencies (appending also the names of the Society's Local Honorary Representatives) from which the more distressing claims embraced within these figures were received, the following, with the Amounts allotted to each, may be specially mentioned, viz. :—Aberdeen (Mr. D. Mearns), £81; Grimsby (Mr. B. Monds), £79; Hartlepool (Mr. S. Armstrong), £95; Hull (Mr. J. W. Day), £117; Lowestoft (Mr. W. Johnson), £48; North Shields (Mr. G. French and the Rev. C. M. Woosnam), £283; South Shields (Messrs. Crisp and Hails), £430; Sunderland (Mr. R. M. Hudson), £412; Yarmouth (Mr. G. T. Watson), £80; giving a total of £1,625 issued, during the past Quarter, at these Agencies and Seaports, &c., alone.

I.—RELIEF TO SHIPWRECKED CREWS.

The Crews of Vessels wrecked on various parts of the Coast, or foundered at Sea, have been boarded, lodged, clothed, and forwarded to their homes, &c., by the Society, between the issue of the last Quarterly Statement and the 30th September, 1882, as follows:—

NUMBER OF VESSELS, OF ALL CLASSES, WHOSE SHIPWRECKED CREWS WERE RELIEVED.....	119
NUMBER OF SEAMEN, &c., THUS RELIEVED (MEMBERS OF THE SOCIETY—123, AND NON-MEMBERS—261)	384

DURING the three months in question there have been numerous and heavy claims upon the Society's resources, for the Relief of the Shipwrecked Fisherman and Mariner, as the result of various maritime disasters and calamities.

It would be impossible to give any detailed list of all the numerous vessels or places, brought under the Society's notice throughout the past Quarter: but special references to the more recent storms, with accounts of some of the most notable cases of wreck, &c., will be found duly recorded under the Heading of "The Sea and its Perils," in the current Number of this Magazine.

II.—RELIEF TO FISHERMEN AND MARINERS, THEIR WIDOWS, ORPHANS, &c.

Relief was afforded by the Society to Fishermen and Mariners, &c., Members of the Society, towards replacing their Boats or Clothes, and to the Widows and Orphans, or Dependent Aged Parents, of the Drowned, &c., between the issue of the last Quarterly Statement and the 30th September, 1882, as follows:—

FISHERMEN, MASTER-MARINERS AND MARINERS, PILOTS, BOATMEN, APPRENTICES, &c., RELIEVED FOR LOSS OF BOATS OR CLOTHES	172
WIDOWS AND ORPHANS OR DEPENDENT AGED PARENTS, OF SEAFARING MEN, RELIEVED ON THE DEATH OF THEIR HUSBANDS, AND FATHERS, &c.	318

THE respective periods of Membership of the Seafaring Men, themselves relieved, or at whose death their Widows and Orphans, &c., were relieved, as above, may be classified as follows:—Members of the Society from one to ten years, 149; from ten to twenty years, 79; from twenty to thirty years 48; and from thirty to forty years, 32.

Of the Widows, in all 119, many of them suddenly reduced under most heartrending circumstances, to the greatest destitution, 24 were left with three children, 10 with four children, 7 with five children, 3 with six children, and 1 with seven children, while several of the 188 Orphans, now left fatherless, were already motherless.

The cases of the Dependent Aged Parents, numbering altogether 11, comprised amongst them instances of great distress and sudden reduction to poverty, through the loss of their sole, or almost sole means of support, these stricken parents, too, being often special objects for compassion and relief by reason of incurable diseases, and the many infirmities incidental to advanced years, &c.

III.—REWARDS FOR SAVING LIFE.

Awards of the Society's Gold and Silver Medals, and of the Society's Framed Testimonial, instituted in recognition of praiseworthy endeavours to Save Life from Shipwreck, on the High Seas, or Coasts of the Colonies, with other Honorary or Pecuniary Rewards.

UNDER this heading, no special Awards have been made during the Quarter ending 30th September, 1882. For the interesting particulars regarding the last grant of such Distinctions, see page 155 of a previous Number (April, 1882) of this Magazine.

ATTENTION is again particularly requested, likewise, to the provisions of the newly-instituted "EMILE ROBIN LIFE-SAVING REWARDS," for English Seamen, as notified in *The Times*, &c., under date of November

26, 1880, and fully described and explained at page 63 of a previous Number (January, 1881) of this Magazine, in the Annual Volume, No. xxviii.

IV.—RELIEF IN EXTREME AND SPECIAL CASES.

Money-Grants, to Old and Necessitous Members of the Society, in Extreme and Special Cases of Distress and Destitution, have been awarded, during the past Quarter, ending 30th September, 1882, as follows:—

TOTAL NUMBER OF PERSONS RELIEVED 14

THE above figures embrace 7 Old and Necessitous Members themselves—of whom some had been Members for thirty years and upwards—with their aged wives, and dependent or invalid children, &c., representing, in the peculiar needs of their several cases, various phases of misfortune, sickness and poverty.

V.—ANNUAL GRANTS TO WIDOWS AND ORPHANS.*

Special Additional Relief, to Widows and Orphans of Fishermen and Mariners, left in want with young children, and to Widows themselves, above sixty years of age, in needy circumstances, was awarded on the last occasion—namely, to those included in the second (or July) list, for the Year 1882—as follows:—

NUMBER OF NECESSITOUS WIDOWS AND ORPHANS RELIEVED—(WIDOWS—740, ORPHANS—986) 1,726

PECUNIARY AMOUNT OF RELIEF..... £2,560.


THE Relief thus awarded is, in every instance, in addition to that already given at the time of the drowned, &c., Husband's and Father's death, and forms what has been found to be a most important and most essential feature of the Society's benevolent work. A similar issue of Relief, to a like selection of other Widows and Orphans, as included in the previous (or January, 1882) list, was also specially awarded within the past twelve months—representing, in the aggregate, a total Annual Amount of more than £6,810, distributed to upwards of 4,890 necessitous Widows and Orphans.

The ages of the 740 Widows relieved on the last occasion, as above, may be classified as follows:—From thirty to forty years, 229; from forty to fifty years, 139; from fifty to sixty years, 114; from sixty to seventy years 111; from seventy to eighty years, 146; and over eighty years of age, 6.

The widowed mothers of the 986 Orphans relieved, omitting the few Orphans who are left motherless as well as fatherless, may likewise be classified, as to number of young children depending upon them, as follows:—100 with three children; 63 with four children; 29 with five children; and 4 with six children.

* See the special reference made to these Grants, in the Society's last Annual Report, at p. 311 of the current Number of this Magazine.

SPECIAL CONTRIBUTION LIST.

 COLLECTIONS, DONATIONS, LEGACIES, SERMONS, &c., ON BEHALF OF THE SOCIETY, RECORDED SINCE THE ISSUE OF THE LAST QUARTERLY STATEMENT.

	£	s.	d.		£	s.	d.
L ONDON.—Frederick Youle, Esq.	25	0	0	N ORTH BERWICK.—Congregational Collection, in Church, after Sermon by Rev. J. Dodds, of the Free Church, Dunbar, Life Governor (per T. R. Woodrow, Esq., Hon. Agent) ..	11	1	2
The Drapers' Company	21	0	0	R OBIN HOOD'S BAY.—Offer-tory in Parish Church of St. Stephen's, Fylingdales, near Whitby, after sermon by Rev. R. Jermyn Cooper, M.A., Vicar of Fylingdales (Hon. Agent)	2	7	3
A. G. Calow, Esq.	21	0	0	W HITBY.—Congregational Collection in Sneaton Church, on August 27th, 1882, after sermon by Rev. J. B. Broderick, M.A. (per Captain J. N. Lawson, Hon. Agent)	2	6	8
Readers of <i>The Christian</i> , per Messrs. Morgan and Scott	9	10	0				
Per Captain Thos. Alderton, SS. <i>Australia</i>	10	0	0				
Ditto ditto	3	8	2				
Collecting Boxes on board the SS. <i>Conway Castle</i>	0	6	4				
SS. <i>Drummond Castle</i>	5	5	7				
SS. <i>Lapland</i>	0	3	2				
SS. <i>Orient</i>	0	0	11				
SS. <i>Dublin Castle</i>	2	10	0				
Ditto—At Board of Trade Office, Victoria Docks, per H. C. Moore, Esq.	1	6	9				
T OWEY. — Congregational Collection, after Sermon by Rev. H. N. Purcell, B.A. (per Mr. G. H. Bate, Hon. Agent)	11	0	0				
H ARWICH. — Harwich and Dovercourt Industrial Co-operative Society (per O. J. Williams, Esq., Hon. Agent)	1	1	0				
H ULL.—Hull Trinity House (Annual)	20	0	0				
				L EGACIES RECEIVED:—			
				Admiral H. E. Coffin ..	45	0	0
				Mrs. A. Sutherland (in-cluding interest)	20	17	4
				Lady Martin	200	0	0
				Mrs. A. Williamson	100	0	0





THE YEAR, AND THE MONTHS.

1882.

GOLDEN NUMBER—2: SOLAR CYCLE—15: DOMINICAL LETTER—A: JULIAN PERIOD—6,595: EASTER SUNDAY—APRIL 9: WHIT SUNDAY—MAY 28: ADVENT SUNDAY—DECEMBER 3.

THE SEASONS.

*“ Spring—Showery, flowery, bowery:
Summer—Hoppy, croppy, poppy.
Autumn—Wheey, sneezy, freezy;
Winter—Slippy, drippy, nippy.”*

SPRING, March 20, Sun enters Aries, 5 P.M. | AUTUMN, Sept. 23, Sun enters Libra, 4 A.M.
SUMMER, June 21, Sun enters Cancer, 1 P.M. | WINTER, Dec. 21, Sun enters Capricornus, 10 P.M.
The EQUINOXES—at Spring and Autumn; the SOLSTICES—at Summer and Winter.
ECLIPSE OF THE SUN (TOTAL)—May 17th, visible as Partial Eclipse at Greenwich.
ECLIPSE OF THE SUN (ANNULAR)—November 10th, invisible at Greenwich.
TRANSIT OF VENUS ACROSS THE SUN'S DISC—December 6th, partly visible at Greenwich.

OCTOBER.

“ Then came October, full of merry glee.”

SPENSER.

SUN.

1st DAY Rises 6h. 2m. Sets 5h. 37m. | 15th DAY Rises 6h. 26m. Sets 5h. 6m.
8th DAY Rises 6h. 14m. Sets 5h. 21m. | 22nd DAY Rises 6h. 38m. Sets 4h. 51m.

MOON.

4th DAY Last Quarter 2h. 17m. A.M. | 19th DAY First Quarter 11h. 55m. P.M.
12th DAY New Moon 6h. 1m. A.M. | 28th DAY Full Moon 2h. 34m. P.M.

IN APOGEE, 9th DAY ... 5 P.M. IN PERIGEE, 25th DAY ... 5 A.M.

NOVEMBER.

*“ No warmth, no cheerfulness, no healthful ease—
No comfortable feel in any member—
No shade, no shine, no butterflies, no bees,
No fruits, no flowers, no leaves, no birds—
November!”*

Hood.

SUN.

1st DAY Rises 6h. 56m. Sets 4h. 32m. | 15th DAY Rises 7h. 20m. Sets 4h. 9m.
8th DAY Rises 7h. 8m. Sets 4h. 20m. | 22nd DAY Rises 7h. 32m. Sets 4h. 0m.

MOON.

2nd DAY Last Quarter 6h. 58m. P.M. | 18th DAY First Quarter 8h. 42m. A.M.
10th DAY New Moon 11h. 20m. P.M. | 25th DAY Full Moon 2h. 3m. A.M.

IN APOGEE, 6th DAY ... 6 A.M. IN PERIGEE, 22nd DAY ... 7 A.M.

DECEMBER.

*“ And, after him, came next the chill December;
Yet he, through merry feasting which he made,
And great bonfires, did not the cold remember;
His Saviour's birth his mind so much did glad.”*

SPENSER.

SUN.

1st DAY Rises 7h. 46m. Sets 3h. 53m. | 15th DAY Rises 8h. 2m. Sets 3h. 49m.
8th DAY Rises 7h. 55m. Sets 3h. 49m. | 22nd DAY Rises 8h. 7m. Sets 3h. 51m.

MOON.

2nd DAY Last Quarter 2h. 56m. P.M. | 17th DAY First Quarter 4h. 39m. P.M.
10th DAY New Moon 3h. 38m. P.M. | 24th DAY Full Moon 3h. 41m. P.M.

IN APOGEE, 4th DAY, 1 A.M. IN PERIGEE, 18th DAY, 7 P.M. IN APOGEE, 31st DAY, 10 P.M.

ILLUSTRATED] *“ The Shipwrecked Mariner.”* [MAGAZINE
OCTOBER, 1882.

