

**On the comparative infrequency of urinary calculi among seafaring people / by A. Copland Hutchison, Esq., ... From the ninth volume of the Medico-chirurgical transactions, published by the Medical and Chirurgical Society of London.**

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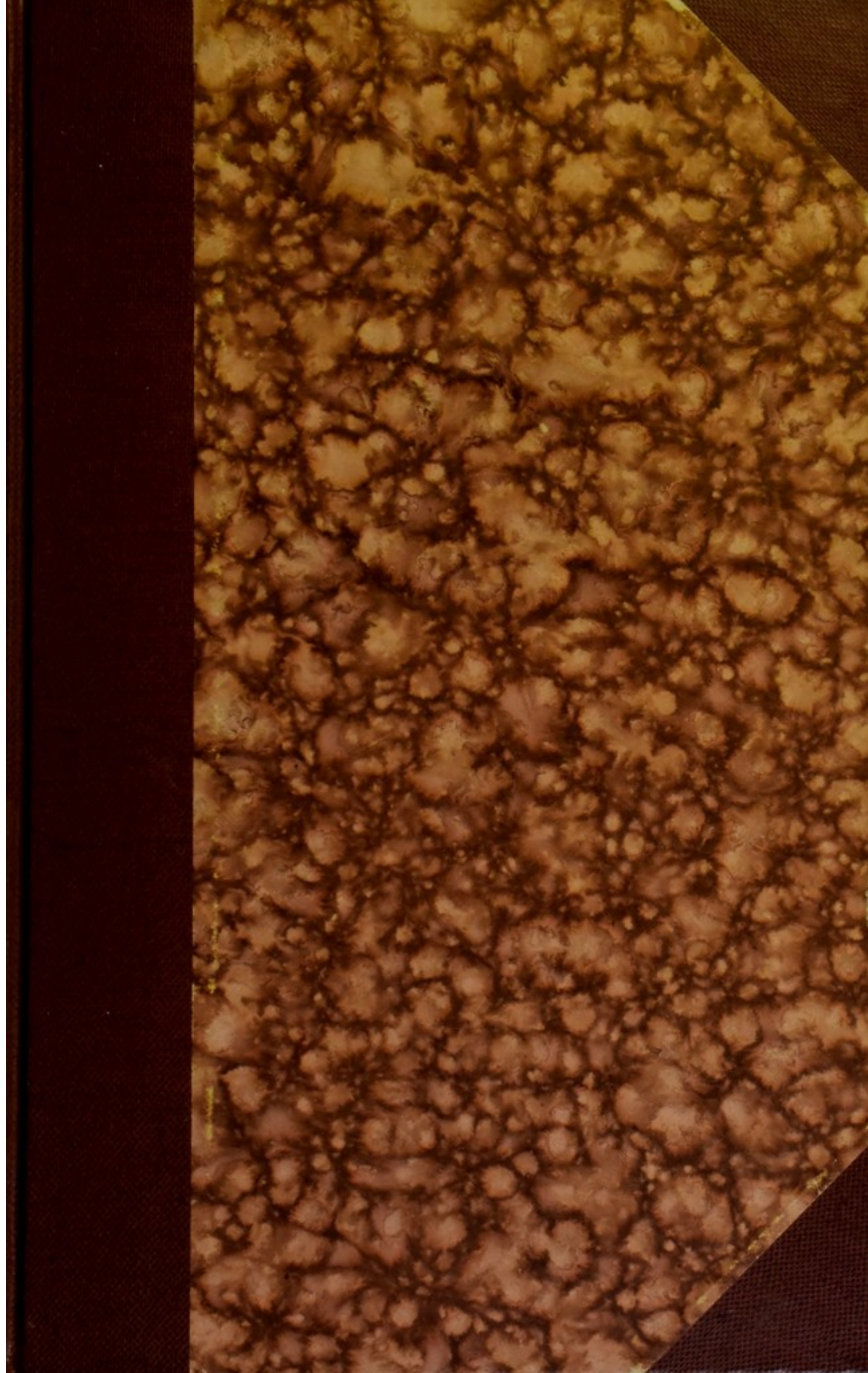
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ON THE  
COMPARATIVE INFREQUENCY  
OF  
URINARY CALCULI  
AMONG  
SEAFARING PEOPLE.

By A. COPLAND HUTCHISON, Esq.

SURGEON EXTRAORDINARY TO HIS ROYAL HIGHNESS THE DUKE  
OF CLARENCE, SURGEON TO THE WESTMINSTER GENERAL DISPENSARY,  
AND LATE SURGEON TO THE ROYAL NAVAL HOSPITAL AT DEAL.

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FROM THE NINTH VOLUME OF THE MEDICO-CHIRURGICAL  
TRANSACTIONS, PUBLISHED BY THE MEDICAL AND  
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PRINTED BY G. WOODFALL, ANGEL COURT, SKINNER STREET.

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*Read May 12, 1818.*

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ON perusing Dr. Marcet's valuable essay on the chemical history of the different species of Urinary Calculi, and the medical treatment of the diseases consequent thereon, I was pleased to find that he had embraced the subject of the comparative frequency of calculous disorders in certain countries and districts, although he candidly acknowledges, that it still remains for future inquirers to discover, whether the frequency of stone cases in one particular district over that of another, be imputable to some peculiarities in the habits and occupations of



its inhabitants, or to locality of situation and climate.

Impressed with the importance of the subject as it regards a knowledge of the disorder, its pathology, and treatment, which such an inquiry cannot fail materially to promote ; and feeling it to be the duty of every professional man to contribute the result of his observations in aid of an investigation so ably commenced ; I beg leave to submit to the attention of the Society a few remarks on the comparative infrequency of calculous disorders among seafaring people. I feel myself the more strongly impelled to the task from having noticed the circumstance many years ago, and from the distinguished author of the above essay not having devoted any portion of his work to the consideration of a class of men, to the treatment of whose diseases my attention has been principally directed for a period of sixteen years.

The number of seamen and marines annually voted by parliament to man the British navy, from January 1800 to the 31st of December 1815, has on an average amounted to 132,000 ; now if we take into consideration the vast expenditure of human life by battle, disease, and various other casualties, and which unavoidable loss is necessarily required to be constantly replaced, the total number cannot be estimated at less than 162,000, making an annual fluctuation of 30,000 new raised



men to supply the deficiencies; but we must bear in mind, that nine-tenths of this number were men who had served at sea from a very early period of life, or, in other words, were old and experienced seamen\*.

I have taken considerable pains to ascertain the prevalence of calculous disorders in the naval service, and the result of my inquiry is, that out of the mass of individuals of which it is composed, only *eight cases* have occurred in the period of the

\* The number of men lost to the service from various causes during three of the last years of the war I procured at the Admiralty Office, and is as follows :

In 1811.....	33,898
1812.....	27,009
1813.....	26,049

Seamen and marines voted by Parliament } for each of these three years.....	145,000
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The average loss of these years gives only about 29,000 in place of 30,000 as stated in the text, and according to the number voted it makes a waste of about one in five; but in these three years the war was chiefly conducted at home, the number of ships serving on unhealthy stations was considerably reduced, and during this period no general action had been fought at sea. There is another circumstance which caused a greater waste in the earlier years of the war than has been here stated from documents, namely, the very little prospect that appeared to the seamen of any termination to hostilities, which certainly influenced the men to desert in greater numbers than in the last years of the war, when the probability of a speedy termination of their labours and consequent liberation was at hand.



*sixteen years* before specified, all of whom had been operated upon in the naval hospitals of Haslar, Plymouth, or Deal, and of whom one only died. In the other royal hospitals, namely, Yarmouth and Peignton, no patient labouring under Urinary Calculus having been admitted, I have purposely omitted taking them into the account, as well as the foreign hospitals of Halifax, Jamaica, Antigua, Barbadoes, Gibraltar, Malta, the Cape, and Madras; being satisfied, after the strictest examination, that the operation of lithotomy had never been performed at any of these establishments. If cases of this kind had occurred abroad, and owing to the unfavourable nature of the climate or other causes, the surgeons had deemed it not advisable to operate, the patient so circumstanced would have been forwarded to the great naval hospitals at home; and, therefore, we shall be fully warranted in concluding, that eight cases of stone only had really occurred among the vast mass of seamen and marines composing our naval force at home and on foreign stations during that eventful era, that is, between January 1800 and December 1815.

The commissioners for conducting the sick and wounded department of the navy, with their accustomed liberality, directed that I should be furnished with the subjoined document, shewing the total number of seamen and marines received into the three hospitals during the above sixteen years,



exclusive of soldiers, Russians, and prisoners of war, making the grand total of 96,000, which, on deducting in round numbers 10,000 for gunshot wounds, accidents, &c. admitted into the hospitals beyond the average number of such cases received into the London and provincial hospitals on account of the peculiar service to which the naval hospitals are appropriated, gives only one calculous case in 10,750 patients.

VICTUALLING OFFICE, 23rd MARCH, 1818.

## AN ABSTRACT

Shewing the number of sick and wounded seamen received into Haslar, Plymouth and Deal Hospitals between the 1st of January 1800 and the 31st of December 1815.

YEAR.	1800	1801	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	TOTAL.
HASLAR. ....	4835	2781	1925	1144	1496	1727	1900	1892	1907	2521	3236	3273	3018	2890	3056	2442	40,043
PLYMOUTH	6028	4683	2111	1420	3596	3490	3137	1897	2453	2624	3019	2660	2806	2917	3644	1967	48,452
DEAL.....	965	538	92	226	548	554	391	357	562	781	625	347	658	585	584	389	8,202
GRAND TOTAL.....																	96,697

By order of the Board, (signed) J. T. LEE.



Dr. Marcet states the proportion of stone cases received into the different British and Continental public hospitals, Norwich alone excepted, to be *one* for every *three* or *four hundred* patients of all descriptions admitted. In the Norwich hospital it appears to be *one* in every *thirty-eight* cases, a proportion prodigiously great, and which places in a striking point of view the untoward prevalence of this afflicting malady in the Norfolk district over that of every other throughout Europe, as far, at least, as our present knowledge extends, from whatever cause that extraordinary circumstance may arise. The paucity of stone cases occurring in tropical climates has also been remarked by Dr. Marcet; and as far as the fact already stated goes, of no patients labouring under the disease in question having been admitted into our foreign hospitals, it tends to strengthen the observation.

Of the eight cases of calculous concretions before mentioned as having occurred out of the vast mass of patients admitted into our naval medical establishments in England, two were boys about fourteen years of age, who had laboured under symptoms of stone for some years previously to their admission into the service, and into which they had recently entered expressly for the purpose of deriving benefit from our magnificent institutions; one was a marine, about twenty-two years of age, who had been at sea a few months only; three were adult seamen, and the seventh



a marine; but their length of service afloat *could not be at all* ascertained\* : the eighth and last case was a warrant officer, advanced in years, who had been serving in ordinary, that is, in a ship in harbour, for a considerable time previously to the operation, and the only case which terminated fatally.

For these short historical particulars I am chiefly indebted to my friend Dr. Baird, inspector-general of naval hospitals, who with his wonted zeal for the public service, furnished me with the above facts†.

In the admissions into naval hospitals, both officers, under the rank of captain, and privates are included; and excepting the case of one warrant officer, whose diet differs not materially from that of the seamen, it will be found that no officer has undergone the operation of lithotomy in any of these establishments. It is but just, however, to notice the cases of two naval gentlemen, the one a captain, the other an hospital surgeon, who were operated upon in London, as I have been since

\* Since this paper was sent to the press, the author has ascertained that one of these patients cut by Dr. Veitch at Plymouth Hospital, was a Prussian by birth.

† Subsequently to the period embraced in these returns, viz. in May 1816, a boy was operated upon in Haslar hospital and recovered, who had been turned ashore from a merchant vessel at Barbadoes, and was by the captain of the *Espiegle* sloop of war humanely taken on board and brought to England for the purpose of undergoing the operation.



informed ; but whether the first contracted symptoms of the complaint at sea or while residing on shore, I have not been fortunate enough to discover.

It is necessary to observe, that the general food of the superior classes of officers is infinitely more acescent than that commonly used by the seamen and marines ; and also, that they command distinct apartments to sleep in, more cool, and consequently better ventilated than the parts appropriated to the men ; but the water for general use is common to every description of persons on board ships of war.

In well regulated messes of the principal officers, their diet differs but little from people on shore ; but with respect to other classes of the ship's company the difference is considerable, as they are unavoidably compelled to subsist often, for months successively, on salt beef and pork.

On the ship's arrival in port, the men are amply supplied with good fresh beef, vegetables, and sound table beer while victualling and watering, which, however, in time of war, is generally limited to a very short period, especially when commanded by an active and zealous captain. On those occasions, it is incredible to see what quantities of salt the seamen will use with their fresh beef. During their stay in port, and for some days after, each man is allowed a gallon of good beer ; and at other



times, when this wholesome beverage can no longer be procured, a pint of wine or half a pint of spirits in lieu thereof: the latter previously diluted with three portions of water, is served out daily to each man at two distinct periods.

The beef or pork commonly issued to the ship's company at sea is so highly salted, and frequently kept so long in its briny pickle, that its bland and nutritious juices are in great measure exhausted. Excepting in ships of war of the first and second rate, a portion of one deck only is appropriated to the whole ship's company to sleep in, and this is consequently so crowded with hammocks, and the men so impacted together, (fourteen inches in width being the total space allowed to each individual,) that some dexterity is requisite to obtain ingress and egress to and from their beds. The lower deck being always the part allotted for repose, the ports are for the safety of the ship necessarily closed all night, and the temperature of the surrounding air is thereby so exalted, that the place becomes a kind of steam-bath from animal exhalation, the men being literally immersed in their own perspiration\*.

Dr. Dobson remarks, that calculous disorders

\* See Sir Gilbert Blane's excellent paper on the comparative health of the navy, published in the sixth volume of the Transactions of this Society ; and also, some practical Observations in Surgery by A. Copland Hutchison, published in 1816, pp. 77 and 78.



are much more frequently met with in the cyder counties than in other parts of England\* ; and as it would appear from what has been here advanced, that seamen who have rarely opportunities of indulging in the use of malt liquors, are in great measure exempt from urinary concretions, it may therefore be asked, whether all kinds of fermented liquors be not favorable to the production and accretion of such disorders ?

From Dr. Marcet's and Dr. Prout's remarks it would appear, that an active and healthy state of the digestive organs is one of the most effectual preventives against the formation of Calculi. May it not therefore happen, in the instance of seafaring men, that the peculiarities of their regimen, and especially the great quantities of muriate of soda they habitually take with their food, contribute to produce this effect† ? or in other words, shall we be justified in imputing to the stimulus communicated to and maintained in the whole chylopoetic viscera by the muriate of soda, a power to counteract the aggregation of calculous matter in the urinary organs independently of any direct chemical agency ?

\* See Dr. Dobson's Commentary on Fixed Air, 3d edition, published in 1779.

† See Dr. Marcet's Essay, page 176. and Dr. Prout's valuable paper in the eighth volume of the Transactions of this Society, pages 543, 544, 545.



It has been already stated, that seamen belonging to ships of war are so closely impacted whilst in their hammocks, that they continue suffused with perspiration during the whole period allotted to repose : and there is also such a perpetual mutation in the various stations appointed to ships of war to cruise in, that few seamen escape the performance of their round of duty in tropical and other hot climates, bearing an equal proportion to the time spent in the more temperate climate of Europe ; and consequently there must be a much more profuse discharge from the exhalants on the surface of the body of this class of men, than of those residing in Great Britain or in more northern latitudes.

I am the more particularly induced to notice these circumstances, because it has been ingeniously suggested among other causes, “whether there may not be some essential connexion between the state of the cutaneous functions and the greater or less prevalence of this class of disorders\*?”

That an intimate connexion does subsist between a particular state of the cutaneous functions and a tendency in the urinary secretions to form calculous concretions, I am inclined to believe ; but in this early stage of the inquiry into the grounds for such opinion, I deem it more con-

\* See Marcet's Essay, page 44.



sonant to the circumspection necessary to be observed in speculative medicine, to withhold the view which I have taken of this part of the subject, till confirmed by more certain and conclusive *data* than we at present possess.

With the view of ascertaining with every degree of accuracy, and through every possible channel from which information could be derived, the validity of the opinion herein maintained, of the almost total exemption of seafaring people from calculous affections, I made due inquiry of Sir E. Home and my friends Messrs. Cline, sen. and Astley Cooper, whether, in the course of their extensive practice, both private and public, they could recollect having performed the operation of lithotomy on any of the description of persons here alluded to? The two former gentlemen fully answered in the negative, to the best of their recollection at the time; and Mr. Astley Cooper informs me, that he had been consulted a few years back by Admiral B. D——s, then labouring under evident symptoms of stone, but that he had not been operated upon; the stone, however, was ascertained to be of that species called Mulberry, by a portion being broken off by the sound and passed *per urethram*\*.

\* Admiral B. D. died only about six months ago, and I learn at the Admiralty Office that he had *not* been employed at sea for the last twenty years of his life.



Excepting this solitary case, conjoined, however, to that of the captain and hospital surgeon before mentioned, Mr. Cooper stated that no other instance had occurred in the course of his practice. This eminent practitioner also asserts, that the surgeon here alluded to had been affected with calculous symptoms from his very *childhood*.

The circumstance mentioned by Dr. Dobson, page 153. of his work, likewise deserves notice in the present investigation, viz. the rare occurrence of stone cases in the Liverpool hospital, compared to that of other public institutions appropriated to similar purposes. May not this singularity arise from a great proportion of patients admitted into the hospital of this great emporium of British commerce, being composed of seamen or seafaring people?

The various and concurring facts already enumerated, tend to illustrate and confirm the position we are endeavouring to establish, namely, that there is something in the occupation, food, drink, and general habits of seamen, added to frequent change of climate, which render this class of men more peculiarly exempt from calculous depositions than any other.

The life of a seaman is one of great activity, and often of considerable labour and exertion. I have frequently observed in common with other



officers, that sailors never fail to empty the bladder on the first symptoms of distention; and the facilities afforded them as far as regards unmixed society and locality favour greatly this salutary habit. It is also of importance to notice, that no description of people are less subject to dyspepsia\*, or more prone to strictures in the urethra.

People of sedentary habits, on the contrary, offer great facility of aggregation and increase to any minute calculous depositions in the bladder, where they gradually acquire magnitude by continual accumulation of fresh matter, so as to render the distress and acute sufferings of the patient intolerable, and compel him to submit to the operation of lithotomy as the only mode of obtaining permanent relief: and hence it is, that lawyers and other studious men who sit much, and are in habits of retention, are said to be more subject to the disease in question, than those devoted to the more active scenes of life and greater muscular exertion†.

To these observations it may be objected, that Calculi are more generally formations of early youth than those of adult or of advanced age; and the men who enter or are impressed into the public service undergo an examination respecting

\* See various parts of Murray Forbes's work on Gravel and Gout.

† See also page 38 of the same work.



their state of health, and are rejected if found to be labouring under any serious complaint; but when we reflect on the manner of carrying on the surgical examination on these occasions, it will be acknowledged by those best acquainted with the nature of that service, that they are not *particularly* scrupulous as to admissions: besides, it has been shewn in the cases of the two boys operated upon, that they entered the navy for the express purpose of getting cured, and consequently took care to conceal their disease. The fact is, that boys are frequently embarked at the early ages of nine or ten years, and when we take into consideration the vast exertions made by officers, and the various impress gangs to man ships of war fitting in harbour, or to keep up their numbers in those already at sea, the validity of the above objections will be greatly lessened, if not wholly removed.

Again, in the number of patients received into the naval hospitals, as compared to the admissions into the different London and provincial hospitals, it must not be forgotten, that in the latter, those admitted are composed of both sexes, whereas in the former, the admissions are confined solely to the male sex; and it will be found on a reference to Dr. Marcet's report from the Norwich hospital, (page 26,) that the proportion of females operated upon, is to that of males as *one* to *seventeen*. It is therefore but just that these facts should also have their due weight in balancing the argument.



Moreover, it is not to be omitted, that out of the *eight* cases stated to have been admitted into the naval hospitals from 1800 to 1815, both years included, *three* out of the eight were known to have entered the service labouring under the disease ; so that in point of fact, *five* only are justly to be considered as having originated among the vast mass of individuals composing the British navy in the eventful space of sixteen years, and these years of unexampled efforts and more strenuous exertion than any in British annals\*.

In that magnificent and extensive asylum for decayed seamen, the royal hospital at Greenwich, Dr. Robertson, the physician to the institution, informs me, that during his professional attendance there for twenty-seven years, he cannot recollect a single instance of the operation of lithotomy having been performed, and only one case in which symptoms of Calculus were manifest. He states, however, that in dissecting he discovered small Calculi in the kidneys and ureters of some of the pensioners after death.

The number of mutilated or otherwise infirm seamen and marines accommodated in that noble institution, exclusive of officers, is 2710 ; and the admissions on an average annually to fill up the

\* *Five* cases of stone occurring out of 86,000 hospital patients give only *one* in 17,200.



vacancies occasioned by death or removal as out-pensioners, is about 213. All ages, from twelve years to the most advanced period of life, are eligible for admission.

From various parts of the preceding premises, then, we may with some degree of probability infer, that animal food, combined with a certain portion of the muriate of soda, in conjunction with farinaceous aliment, on which seamen principally subsist, are favourable to the prevention of calculous aggregation.

To acquire this prophylactic property, it may be essential that the animal food should be saturated with salt previously to its use, as we learn from Dr. Wollaston, that when free from saline matter, animal food favours the generation of lithic acid, at least in carnivorous birds\*: whether similar effects follow its application to the human stomach, has not yet been ascertained, I believe; but reasoning from analogy, we might be induced to conclude that such would be the consequence.

With respect to the practical inferences to be deduced from almost the total absence of calculous disorders in tropical regions, the exhibition of sudorifics would appear to be indicated, as offering a prospect of preventing the malady altogether, or

\* See Philosophical Transactions for 1810, page 229.

of alleviating its further progress when once established. It is well known that the cuticular exudations are vicarious with the renal secretions, and the most superficial observer must have witnessed, that when the cutaneous discharges are abundant or increased, micturition is proportionably diminished. Dr. Wilson has remarked, that Dover's powder and tartarized antimony, (which are powerful sudorifics,) when administered to individuals, invariably lessen the quantity of lithic acid in the urine\*.

From the foregoing observations it would appear, that exercise is not only conducive to general health, but acts as a preventive to the disease in question, and probably may be used with material advantage even when Calculi are known to exist, the *quantum* of course to be regulated by the magnitude or irritation produced by the Calculus on motion.

It is generally believed, that acid and the acescent fluids, such as cyder, malt liquors, and French wines, favour the generation of lithic gravel: if similar results arise from the use of fresh animal

\* See Dr. A. P. Wilson's experiments detailed in an appendix to his book on Fever, &c. pages 494, 500, 527, 529, and 533. See also a treatise on Gravel and Gout, by Murray Forbes, page 235, a work that will be read with pleasure and improvement by all who are interested on this subject.



food, according to the analogy which Dr. Wollaston's experiments have suggested, farinaceous and that species of food opposed to the acescent would necessarily be indicated. On these points, however, I beg to speak with much diffidence and reserve, not possessing sufficient *data* or experience to hazard any thing like decisive opinion: but from the extensive circulation of the volumes and labours of this Society, we may expect sooner or later, that the present subject will receive ample investigation and elucidation\*.

\* For some very interesting and valuable information on Urinary Calculi, see a paper by W. Brand, Esq. Secretary to the Royal Society, in the volume of the Philosophical Transactions of London for the year 1808; and some facts illustrative of the above paper by Sir E. Home in the same volume: also a paper by Sir Gilbert Blane in the third volume of the Medical and Surgical Transactions.

*Spring Gardens, Charing Cross,*

*May 10, 1818.*

## APPENDIX

## TO THE PRECEDING PAPER.

THIS Society having done me the honour to read in May last, a paper on the comparative infrequency of stone cases among seafaring people, I have since that period, at the request of the President and some members of the Council, made more minute inquiry throughout the medical department of the service, whether any seamen or marines had ever been invalided at the great medical establishments labouring under calculous affection; and the general reply officially returned was, that no records were preserved of the diseases for which seamen had been invalided; but the surgeons positively assert, that no instance had occurred at the royal hospitals of patients so affected being invalided previously to having undergone the operation of lithotomy\*.

The period of the recess afforded me, also, the favourable opportunity of extending my researches

\* All invalidings from the service must necessarily take place at one or other of the naval hospitals at home, whether the objects for survey be patients in the hospital, or are brought on shore from ships in port; and the principal medical officers of the hospital, physicians and surgeons, form part of the surveying officers on all such occasions.



to every seaport town in the kingdom where public hospitals or dispensaries had been established, and from which I could derive information by epistolary correspondence or personal application; and I embrace this opportunity to acknowledge publicly the very liberal and polite attention paid to my letters by gentlemen to whom I am personally unknown, answers having been returned to all, excepting from Edinburgh, which will be found conclusive on the subject under discussion, as far as the testimony of gentlemen of the highest professional character can vouch to the fact; and indeed, I presume the general result of this inquiry will now be deemed to have been satisfactorily established.

I shall, therefore, without farther comment, briefly lay before the Society the substance of the different communications received on the occasion.

Dr. Armstrong, physician to the Public Dispensary at Sunderland for nearly twelve years, says that he does *not* recollect having been *once* consulted by any seafaring person affected with Calculus, and that certainly *no operation* for the stone had been performed there during the above period\*.

Dr. M'Leod, physician to the Westminster Ge-

\* Dr. Armstrong is now physician to the Fever Institution in London, and the author of several valuable medical works.



neral Dispensary, visited Aberdeen during the last summer, and he informs me, that in the last five years *ten* operations for the stone had taken place at that institution, but that *none* of the patients were mariners or seafaring people. Notwithstanding the fact, he observes, that Aberdeen is the principal port in the north of Scotland, and the proportion of seafaring people admitted into the hospital consequently large, he cannot call to mind a single instance of a patient labouring under Calculus being admitted during the whole period of his previous attendance as pupil at that institution.

Dr. Ramsay, physician to the Newcastle-upon-Tyne Infirmary, acquaints me, that no record of the occupation of patients has hitherto been kept by the surgeons; that *twenty-one* male cases of Urinary Calculi had been admitted during the last *ten years*, and the surgeons of this establishment state, that to the best of their recollection *not one* of the description of persons under consideration had formed the subject of operation.

From the last annual report of the Newcastle Infirmary, with which I have been favoured, and which now lies before me, it appears that the admission of patients from the 1st of April 1817 to the 31st of March 1818 inclusive, is as follows, viz. in-patients 778, out-patients 636, total 1414.

Dr. Bostock has had the politeness to procure



for me the following information from a professional friend on the spot, namely, that the total number of annual admissions into the Liverpool Infirmary has been upon the average for the last *ten years* 1884, that is, 1033 in-patients and 851 out. The number operated upon for the stone in that institution during the above term of years, is stated to be *eight*, and that *none* were of the seafaring class. This fact is very remarkable: that in one of the first commercial cities in the world, no instance had occurred in the space of ten years of a seaman being admitted into the hospital for a calculous complaint; which circumstance *alone* fully demonstrates the *infrequency* of the disease among that class of men.

Dr. Rigby, now physician to the Norwich Hospital, noted for receiving a greater number of calculous cases than any hospital in Europe, acquaints me, that he has been connected with this celebrated institution ever since its first establishment in the year 1772, during which time he witnessed most of the operations performed therein, and that out of between *five and six hundred stone cases*, he *cannot* recollect a *single instance of a mariner having been the subject of lithotomy*. Mr. Hardy, the apothecary, who has resided many years in the hospital, makes the same remark; but he also observes, that the employment or particular occupation of the men admitted, has not been noted in the books. The Doctor mentions, however, that



he recollects a sailor having been operated upon many years ago by Mr. Lynn in the Westminster Hospital, which, it may be presumed, was about the period of his settling at Norwich. If then the Doctor could so accurately call to mind a solitary case after such a lapse of years, the probability is, that had any similar circumstance or event occurred at the institution where he has so long presided, and where also, I believe, he performed the duties of surgeon, he could hardly fail of recollecting it.

The local position of Norwich, its contiguity to Yarmouth and other seaport towns on the coast of Norfolk, Suffolk, and Lincolnshire, joined to the celebrity acquired by its surgeons for dexterity and success in operations of lithotomy, the necessary result of constant practice; from these combined circumstances, Norwich seems to be well adapted for, and to court the admission of seamen into its hospital; and yet there is no recollection of any patients of the description under consideration having been subjected to the operation of lithotomy; a still farther and striking corroboration of the infrequency of calculous diseases among seamen.

Mr. Baynton, formerly of Bristol, but now of Clifton, writes me as follows\*: "I received the

\* This gentleman is well known to the profession by his valuable publications.



earlier part of my education at the Bristol Infirmary, between thirty and forty years since, and at that time resided seven years in the house : I very distinctly recollect that *no sailor was ever cut* for the stone during the period of my residence there ; and I am equally certain that no sailor has ever applied to me for the relief of that disease since I have been in the profession. These facts would, perhaps, be of little value to you if they were to stand alone ; but as they are accompanied by the very interesting communication of my friend Mr. Smith, one of the surgeons of the Bristol Infirmary, I hope that the information will assist, &c.”

Extract of Mr. Smith's letter to Thos. Baynton, Esq.

“ My dear Sir,

“ It being my intention to publish a memoir on the subject of Calculus, I have taken some pains, and therefore the following may be considered as accurate.

“ The Bristol Infirmary has now been established eighty-three years, during the whole of which period there *is no stone case marked ‘ Mariner,’* which it *would* have been, had a sailor applied to the recommender. There has been no seafaring man cut within my remembrance, which amounts to

thirty-one years, and your own recollections will carry you ten years above that. Between us, therefore, we may answer for *forty years*.

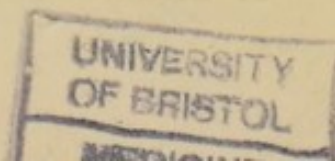
“ Our stone cases have declined in number very remarkably of late years, which is the circumstance that first turned my attention to the subject.

FROM THE YEAR		Number of patients cut for the stone.	
1735	to 1740	.	16
1740	1750	.	61
1750	1760	.	83
1760	1770	.	62
1770	1780	.	40
1780	1790	.	36
1790	1800	.	32
1800	1810	.	16
1810	1818	.	10

“ From 1750 to 1760, there passed the books as in and out-patients 29,604, and during the last ten years there are probably about 31,000\*.

“ The cases of lithotomy have come to us com-

\* In the 29,604 admissions from 1750 to 1760, the number of stone cases is stated to be 83, which gives *one* in 356; and from the 31,000 admissions during the last ten years, we must deduct two-tenths—the ten stone cases that occurred within the last eight years, we shall then find gives *one* in 2480: average of the two periods *one* in 585.





paratively in the following order of frequency, as to the city and neighbouring counties :

“ Bristol,  
Somersetshire, Bath included,  
Wiltshire,  
Gloucestershire,  
South Wales,  
Devonshire.

No cases from North Wales or Herefordshire.”

In addition to the mass of information already adduced, I felt particularly desirous to acquire some knowledge on the subject from Ireland, that no possible source might be left unexplored that could enlighten, or tend to remove doubts on the decision of the question. My friend and neighbour Dr. Boyton, therefore, obligingly endeavoured to supply the wished-for intelligence ; but unfortunately he proved unsuccessful, the desired information not being attainable.

Bearing in mind, however, the experiments of Dr. Wollaston, as stated at page 460, I availed myself of the opportunity afforded by meeting last summer one of the professors of the Dublin College, to inquire whether Urinary Calculi were equally prevalent in the sister island as in England ; for it is well known that the peasantry of Ireland are seldom able to indulge in the luxury of animal food ; and his reply was, that in his

opinion, the disease was much less frequent there than in England. Should the aforesaid information prove to be justly founded, the analogy suggested as probably subsisting between carnivorous birds and human subjects, as far as regards the generation of lithic acid, may be considered as pretty well established.

Spring Gardens, Nov. 16, 1818.

THE END.



of the mind, and the body, and the soul, and the spirit, and the  
COMPARISON OF THE MIND, THE BODY, THE SOUL, AND THE SPIRIT.  
The mind is the seat of the soul, and the body is the seat of the spirit.  
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THE MIND, THE BODY, THE SOUL, AND THE SPIRIT.

THE MIND, THE BODY, THE SOUL, AND THE SPIRIT.



































