

University oars : being a critical enquiry into the after health of the men who rowed in the Oxford and Cambridge boat-race from the year 1829-1869, based on the personal experience of the rowers themselves / by John Ed. Morgan.

Contributors

Morgan, John Edward.

Publication/Creation

London : Macmillan, 1873.

Persistent URL

<https://wellcomecollection.org/works/e7tm7kkf>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>





22101720410

Med

K10040

MORGAN

I. 2
In Robert Canlife

from the author

Edgar F. Cyniat

Edmund Craigie

20. vii. 1905

UNIVERSITY OARS.

Cambridge:

PRINTED BY C. J. CLAY, M.A.
AT THE UNIVERSITY PRESS.

UNIVERSITY OARS

BEING

A CRITICAL ENQUIRY INTO THE AFTER HEALTH
OF THE MEN WHO ROWED IN THE

Oxford and Cambridge Boat-Race,

FROM THE YEAR 1829 TO 1869,

BASED ON THE PERSONAL EXPERIENCE OF THE
ROWERS THEMSELVES.

BY

JOHN ED. MORGAN, M.D., M.A. OXON., F.R.C.P.

LATE CAPTAIN OF THE JOHN + (COLL. UNIV.), PHYSICIAN TO THE MANCHESTER
ROYAL INFIRMARY, AUTHOR OF "DETERIORATION OF RACE," &c.

"Row and work, boys of England, on rivers and seas,
And the old land shall hold, firm as ever, her own."

London:

MACMILLAN AND CO.

1873.

[All Rights reserved.]

1 862 365

WELLCOME INSTITUTE LIBRARY	
Coll.	welMOfec
Call	
No.	QT

DEDICATED BY PERMISSION

TO

THE HONOURABLE MR. JUSTICE DENMAN,

SENIOR CLASSIC,

FORMERLY FELLOW OF TRINITY COLLEGE, CAMBRIDGE,

WINNER OF THE COLQUHOUN SCULLS

AND

UNIVERSITY OAR.



INTRODUCTION.

THE following pages contain the results of an enquiry into the after health of University Oars, which has been carried out with more or less interruption during the last four years. It was commenced in the spring of the year 1869. I then hoped to obtain the information which I needed in the course of twelve or eighteen months, but I soon found that the labour which I had undertaken was likely to prove more arduous and more tedious than I had anticipated. A certain portion of the rowers still retained their names on the College Books; but many (39) were dead, and a still larger number had disappeared, and whither they had directed their steps it was no easy matter to ascertain. When, therefore, I had applied to all their surviving fellow-Oarsmen without avail, and when also I had written to many of their College contemporaries without discovering any trace of their habitation, I had no resource left but to search the different town and county Directories. Twenty-seven of the Oars had, however, gone abroad, or emigrated, and were either residing in our Colonies or in other parts of the world, and the only method I could discover of obtaining information regarding several of

them, was to write to persons bearing the same name in this country. Moreover when I had actually succeeded in obtaining the addresses of those who were missing it was not always easy to extract a reply to my troublesome enquiries. That such should be the case was nothing more than might be anticipated, as questions respecting health, proceeding from a complete stranger, must always be looked upon with a certain amount of suspicion. The subject of our ails and our aches is a somewhat delicate one. When therefore my hygienic appeals were consigned to the fire or the waste paper basket, it seemed a politic measure to allow some time to elapse ere I renewed my importunate requests, while at the same time I endeavoured to obtain through the assistance of common friends, or some of our leading rowing authorities, either a personal introduction, or at all events some recognition of the importance of my researches.

Another difficulty with which I have had to contend has arisen from the numerous inaccuracies which more or less pervade all the lists of the University Oarsmen, inaccuracies which very materially detract from the value of those records. I have learnt also from painful experience that neither the University Calendars nor the College Books can be implicitly trusted. The misplacement or alteration of initial letters, and the misspelling of surnames, virtually substitute some illegitimate stranger for the rightful possessor of an Oar. These and similar reasons will I believe serve as some

apology for the length of time occupied in making this enquiry, more especially as the work has been carried on in the few leisure hours I could snatch from the toils of an arduous and exacting profession. Had I, in the case of some twenty or twenty-five men, contented myself with the accounts I received from contemporaries and friends, without searching on in quest of those still missing till one by one they were discovered, the results of this enquiry might have appeared some two years sooner. I have, however, felt strongly that the whole value of such an investigation must depend upon its being exhaustive ; and when I mention the fact that out of the 255 Oarsmen who were alive at the end of the year 1869, I have succeeded in obtaining letters from 251, it will be admitted that it would not be practicable to have carried the enquiry very much farther. Three of those from whom I have not received letters belong to the University of Oxford, and one is a graduate of Cambridge. To each of them I have addressed several communications, but hitherto without avail. Another old Oar, though he has favoured me with full particulars regarding his health, has requested me to refrain from publishing his name. In numerous cases I have received the information I solicited through the assistance of kind friends and well-known authorities in all that relates to the University Boat-Race. Although it is perhaps somewhat invidious to mention particular names when so many have assisted, I still cannot refrain from specially thanking my brother, the Rev. H. A. Morgan,

Jesus College, Cambridge, Mr Charles Stuart Parker, M.P., Mr Halifax Wyatt, Mr Smyly, Mr S. D. Darbishire, Mr George Morrison, the Rev. Arthur Shadwell, and Mr Thomas Selby Egan, besides a very large number of clergymen who have rendered me much help in tracing old Oars who happened at any time to have been located in their respective parishes. To the clergy, therefore, among whose ranks may be found a large number of the most accomplished disciples of the Bat and the Oar which the Universities have turned out, I am deeply indebted for the kindness and courtesy which they have invariably extended to me. Press of business has frequently prevented me from acknowledging letters at the time they were received. I would now beg to offer my apologies to my correspondents for such apparent neglect, and to return them my sincere thanks for their disinterested kindness.

The Inter-University Races from 1829 to 1869 (both years included) will be found chronologically arranged and dealt with separately, in the following manner: after a short description of each Race and a list of the Oarsmen who took part therein, I have considered the life-expectation of the united Crews (16 men in all), and summarized the effects of Rowing on their after health. This summary is succeeded by extracts from the letters of the surviving Rowers in due order, those passages being selected in which the writers refer to their own personal experience. In some instances, however, in

which special interest seems to attach to what is said, either from the position now occupied by an old Oar, or from the nature of his communication, I have inserted the remainder of the letter in a separate portion of this work; where also will be found some remarks on training and rowing by the Rev. H. A. Morgan, who, during a twenty years' residence at Cambridge, has seen much of Boat-racing and its effects. I have moreover been favoured with contributions from those two distinguished coxswains, Mr Thomas Selby Egan and the Rev. Arthur Shadwell, whose devotion to the art of Rowing, acquaintance among old Oars, and success in training some of the most finished University Crews, render any expression of opinion coming from them peculiarly valuable.

At the time when my investigations were commenced it appeared to me that the omission of all names would enable me to discuss the subject with less reserve, and in some few of the letters which I addressed to my earlier correspondents, I spoke of adopting this plan. Many of them however objected to the arrangement, some wishing to know how it had fared with their old shipmates, others considering that much greater weight would attach to these statistics if the personal experience of each rower were backed up by his name and signature. In all cases, therefore, where rowing was not *supposed* to be attended with injurious results, I decided to yield to their wishes and to insert the names, taking care at the same time to obtain the permission

of the writers. As, however, there may be several to whom I have inadvertently omitted to communicate my change of plan, I have taken this opportunity of explaining to them the reasons which induced me to alter my intentions.

Where however there seemed grounds for suspecting that rowing had been attended with more or less serious consequences, I have omitted the names of the supposed sufferers, and merely discussed their ailments in general terms; taking care to give no clue to the writer, but merely affixing to each case, by way of distinction, a letter of the alphabet. I also carefully excluded from the published letters all personal allusions or remarks calculated in any way to cause annoyance to the surviving Oarsmen or to the friends of those who are no longer alive. It must not, however, be assumed that in all cases where the name of a living Oarsman is not supplemented by a letter, he has necessarily sustained some injury from his exertions, for it must be remembered that four or five of the rowers have withheld their personal testimony from me, though, through the courtesy of their friends and fellow-Oarsmen, I have been supplied with all needful particulars regarding the effects of training and Boat-racing on their health.

I have endeavoured to discuss this much vexed question in an honest and impartial spirit. I entered on the enquiry without any personal bias in the matter, and although in the replies with which I have been favoured such passages as the following not unfrequently

occur: "if you are endeavouring to prove that Boat-racing is followed by dangerous consequences, I consider it very probable that you will fail in your object," I must emphatically disclaim any such intention, having undertaken this investigation solely from a desire to throw some light on an important physiological problem, a question which causes deep anxiety to all those who are interested in the welfare of the rising generation. Many persons entertain so profound a dread of the University Boat-Race and similar trials of strength and endurance, that it is no unusual thing to overhear prophetic lamentations over the ephemeral bloom of these apparently stalwart champions of the Oar. My statistics are I believe calculated to dispel all such gloomy forebodings, and to show that the hardy disciples of the Isis and the Cam may fairly dispute the palm of health and longevity with their less active commiserators.

I would here remind my readers of a leading article which appeared in the *Times* of October the 15th, 1867 (when a somewhat lively correspondence had been excited by the able letters of the late Mr Skey), and from which I quote the following remarks: "The controversy excited by Mr Skey's letter to this journal, may be productive of great benefit, if it elicits the facts which can alone decide it. When an eminent surgeon appeals to his own experience and that of his professional brethren in support of the opinion that many a constitution is injured by the University Boat-Races, his protest cannot be set aside by allegations of 'palpable

ignorance.' The first question is not, as one of our correspondents seems to imagine, whether Mr Skey understands the principles and practice of rowing, but whether its effects are such as he describes in a minority of cases; and, if so, in how large a minority. Now, this is a question upon which no evidence but medical evidence can be of much value. Young men soon lose sight of their former contemporaries at School and College; and if they happen to hear in after life that one has succumbed from heart complaint, and another broken down from exhaustion of the nervous system, they seldom think of coupling these calamities with over-exertion in athletic sports. 'The evil,' according to Mr Skey, 'is not immediate, but remote.' It is but a seed of disease which may or may not germinate, and it is for doctors and physiologists to ascertain how often it does germinate. On the other hand, it does not appear that any statistical inquiry into the subject has ever been made by the medical profession. Had such an inquiry been made, Mr Skey would not have failed to quote its results, instead of referring to "some cases" which he had witnessed himself, and "several more" of which he had heard. Twenty-four regular University Boat-Races have now been rowed, of which eighteen were over the present course, five over the course from Westminster to Putney, and one over the Henley course. Allowing for those who may have rowed more than once, the number of persons who have taken part in the contests must considerably exceed 100, besides the

many hundreds or thousands who have within the same period gone through an almost equally trying ordeal in College races. If we knew the proportion of these University Champions who have since died, or become disabled, and if we also knew the mean percentage of mortality and illness among men of the same age within the same period, we should be in a position to judge, with some approach to certainty, whether these matches do or do not tend to shorten life and weaken the constitution. As it is, Mr Skey's warning is founded in a great degree on presumptions, the grounds of which are disputed by his opponents."

It will be seen from the foregoing extract that at the time this correspondence was carried on, such statistics as those which I have collected were felt to be needed, but did not then exist.

Though this inquiry has occupied no inconsiderable portion of my leisure hours during the last three or four years, and though its prosecution has necessitated the writing of upwards of two thousand letters, still the whole work has been a labour of love, prompted by a pure affection for rowing, and by a deep-rooted conviction that in these days of incessant mental tension and intellectual excitement of every kind, we should not allow so manly and health-giving an exercise to be unjustly assailed.

For the satisfactory treatment of this subject two qualifications seemed to me to be imperatively demanded. First, some knowledge of physiology ; and second, some

acquaintance with the art of Rowing as it is practised at our Universities. To both of these qualifications I may lay some slight claim. As physician to a large hospital, I have necessarily enjoyed large opportunities of gaining an insight into the laws which regulate our health; while my rowing experience began at Shrewsbury (where I spent many a pleasant hour on the Severn), and was matured at University College, Oxford, where I was for three years captain of the John +, a boat which has often played a prominent part in the struggles of the Isis, and which has served as the training-school for no fewer than ten of the Crews which during the last thirty years have won the University Fours.

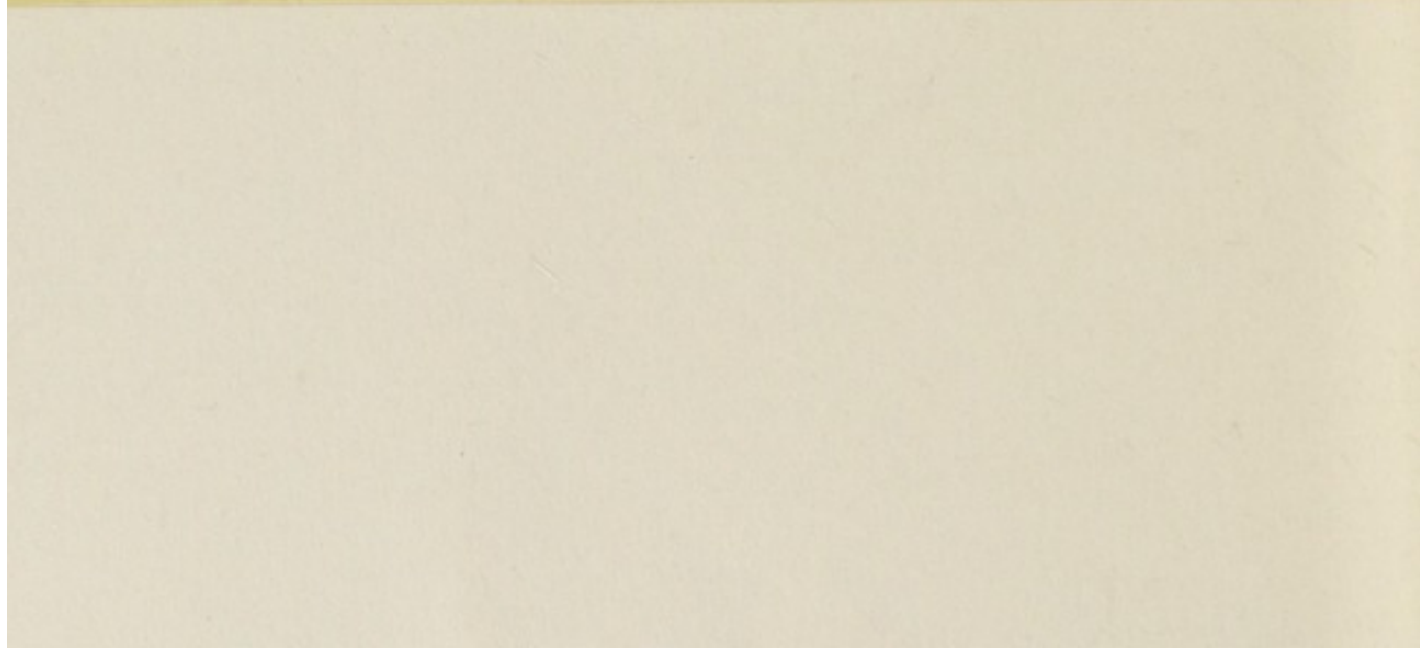
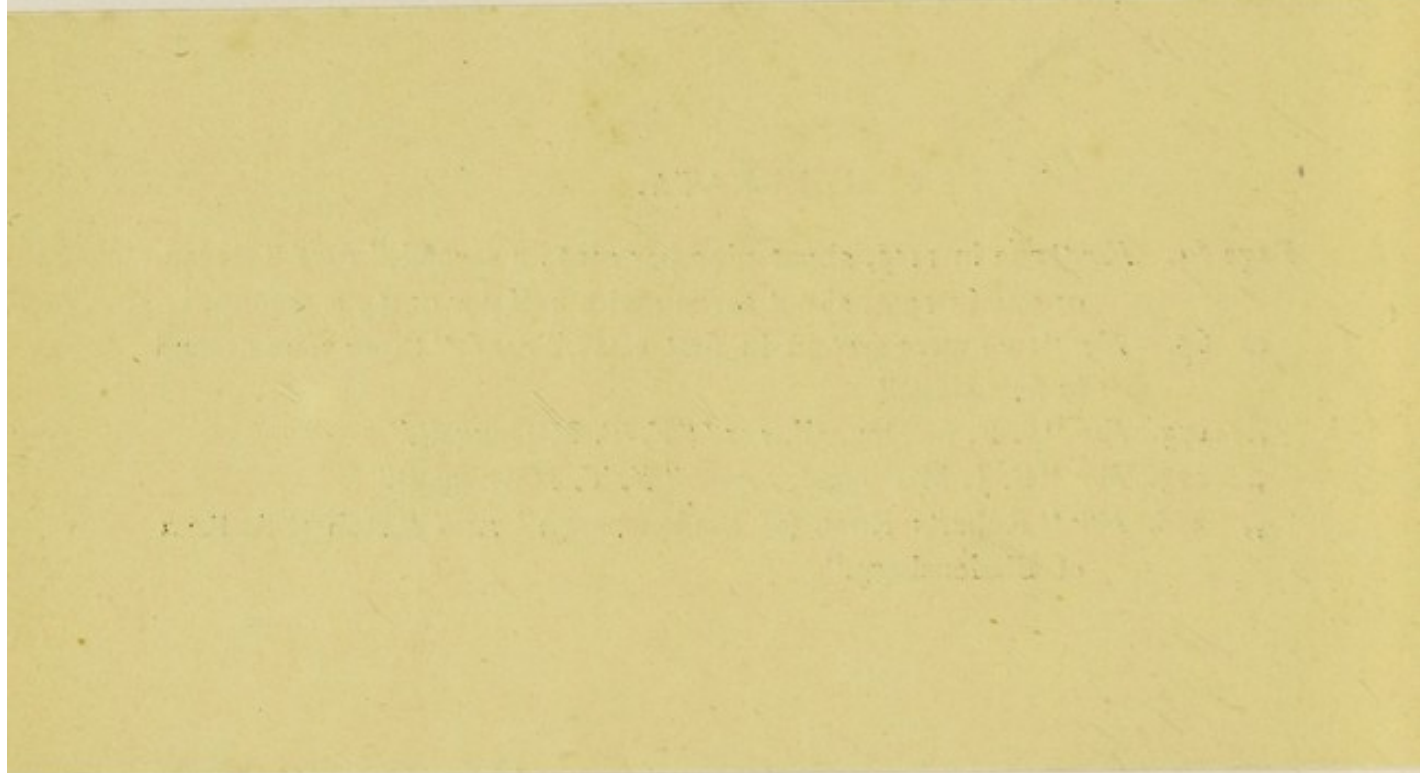
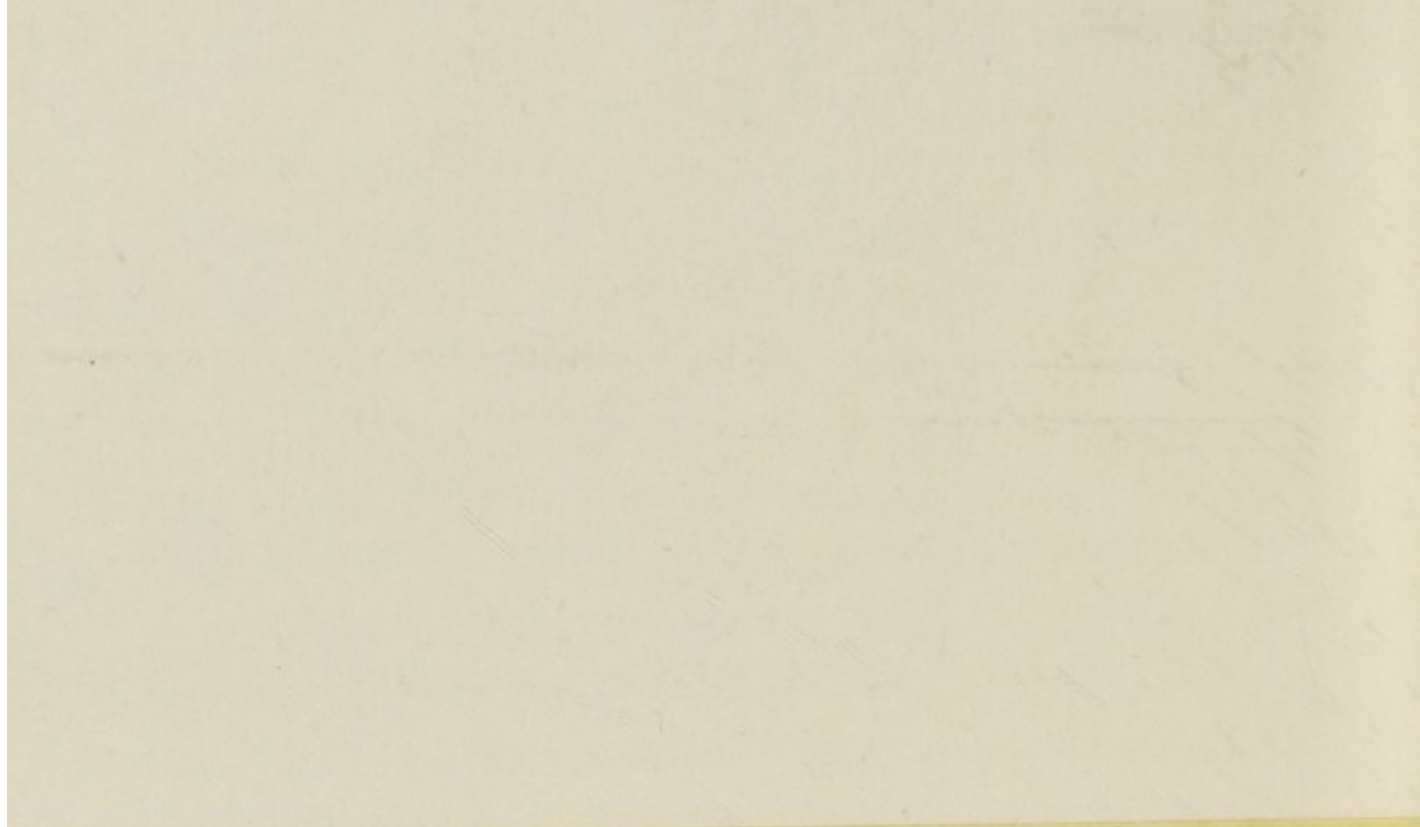
JOHN ED. MORGAN.

1, ST PETER'S SQUARE, MANCHESTER,

March, 1873.

-ERRATA.

- Page 64. For "one in 11'3, about nine per cent., a second," read "eleven,
or one in 13'3, about seven and a half per cent., a second."
- „ 65. For "two were second in first class," read "three were second
in first class."
- „ 173. For "J. F. McDougall, read "F. T. McDougall."
- „ 175. For "F. J. McDougal," read "F. T. McDougall."
- „ 288. For "Roberts Ross, (of Bladensberg,)" read "Robert S. Ross
of Bladensberg."



UNIVERSITY OARS.

THERE is a question connected with the public health which deserves more attentive consideration than it has hitherto received. Athleticism under its various forms has become a great national institution, and annual displays of activity and strength are now celebrated in every village in the country. Prizes and medals are eagerly competed for; our great national games are prosecuted by young England with an increasing amount of spirit; Football, Cricket, Tennis, Rackets, Running, Rowing, each and all have their devoted adherents; the feats performed by those who excel in these contests are not allowed to pass unnoticed; newspapers, periodicals, almanacs and magazines vie with each other in chronicling the fullest particulars regarding victors and vanquished, and there are champions of the oar and the cricket-field whose achievements are more familiar to the rising generation than those of any general, statesman, or poet who ever adorned the pages of English history.

Whatever may be thought of this spread of athleticism, and worship of muscle, one thing is certain, that even those who are unable to sympathize with such pastimes must still accept them as established facts—must look upon them as recreations which have taken so firm a hold upon the public mind that no amount

of preaching will lessen their attractions, and no amount of indiscriminate warning from medical authorities without more particular inquiries will ever do much to loosen their hold upon the youth of Great Britain.

Viewing athletic contests then as national institutions, what is their influence upon health? Are they calculated to improve the physique of our population? to make men stronger and longer lived? or is such violent exercise in early life more likely seriously to undermine the constitution, entailing after effects both painful and serious? That many of these contests prove at times sufficiently trying, those who have participated in them will readily admit. A ten or twelve miles' run with "fox and hounds," a three mile steeple-chase, a long innings at cricket, a hard Boat-Race, all severely tax the strongest muscles; and so long as these games continue to be practised as they are practised at the present day, when those who excel are continually pitted against each other in a generous spirit of emulation, when school meets school, and University sends out its chosen representatives to do battle with its sister University at Lord's and at Putney, so long will they be taken up and carried through with true British perseverance and pluck. That it should be so, is nothing more than might be anticipated; for surely there is no Englishman, and indeed very few Englishwomen, who, on seeing their son engage in such a struggle, trivial though they may fain deem it, would not blush to acknowledge him if he displayed any want of courage or failed to exert himself for the time to the utmost of his strength.

But what are the after effects of all this violent exercise? This is a subject on which much has been written, indeed it has been taken up on several occasions

with no small degree of warmth: by some it has been maintained that the sufferings entailed by such a struggle as the University Boat-Race far outweigh any benefits which may result from the exercise; that there is no modern example of cruelty to animals so great as that exhibited in this annual contest; and that the young man who aspires for such laurels deliberately casts in his lot for death or victory, perhaps for both.

Such is the language of the censors of these pastimes. To support their assertions they bring forward the case of a boat which one hot summer's day rowed from Oxford to London, and although the crew were all sturdy and robust men when that disastrous voyage was undertaken, five short years beheld them the sorry wreck of what they once had been, and in another five they were all consigned to an untimely grave. The heart must be a hard one which could refuse to be moved by so harrowing a tale, and with good reason may the British mother bewail the murder of her innocents and denounce the callous indifference of those to whom their education is entrusted. As a further proof of the dangers which result from excessive muscular exercise, it has been usual to point to the after lives of the champions of the prize ring, who at an early age, it is alleged, lose their constitutional vigour and become prematurely broken down in health. We hear also, on somewhat doubtful testimony, that the athletes of ancient Greece rarely attained the blessings of a green old age.

On such and somewhat similar grounds are the objections to these pastimes generally founded. The men of muscle, on the other hand, judging from their own personal experience, no less than from their observation of others, unhesitatingly maintain, that although in some few cases injury may result from such violent

exertions, still, on the whole, the consequences are rather beneficial than detrimental to health; and in dealing with the casualties which are said to have occurred they require information somewhat more exact. They would fain learn the names of the crew who so miserably perished, the particular circumstances under which the feat was accomplished, and the year in which it took place. In the case of prize-fighters also, whose span of days has been deplorably curtailed, they would enquire whether these men live with that care and sobriety which might entitle them to look forward to a hale old age; and lastly, they make bold to ask whether the statements regarding the Greek athletes of old rest on any surer foundation than those concerning our own University Oarsmen.

It has always appeared to me that although each side supports, with the utmost confidence, its own view of the case, we do not possess those statistics which would alone enable us to come to a just conclusion. And seeing that our knowledge of the after effects of excessive muscular exercise was so scanty and unsatisfactory, it occurred to me on the last occasion when this controversy was rife, that there was but one way in which it was possible to discuss this question with a certain degree of authority, and that was by enquiring into the after health of some one of the various orders of athletes who have in early life devoted a large portion of their time to the development of muscle, and by learning from them what has been their personal experience, whether as years come round they feel themselves more and more exhausted and decrepit, in a word, prematurely used up; or whether they are still able to look forward to life's future with a fair amount of cheerfulness and hope.

In considering what form of athleticism might most usefully be investigated, whether as regards its immediate effects on health or those which may be developed in after years, Boat-Racing and the training connected with it seemed best calculated to serve the purpose that I had in view. For certainly no men are better entitled to speak authoritatively on the subject of hard exercise and its effects on health than the University Oarsmen of Oxford and Cambridge; it is against the great Race in which the Universities annually compete at Putney that the strongest denunciations have been levied; these are the men who, before all others, have been consigned to premature decay and an untimely grave, whose sad fate has been blazoned forth to point a moral or adorn a tale.

The men also who engage in that contest belong to a class who, from their position, may reasonably be expected to shape their habits agreeably to those laws which are justly deemed conducive to health and length of days. They would not, as is too often the case with athletic champions in lower walks of life, be ensnared into the convivial excesses of decayed prize-fighters or the pot-house orgies of acrobatic heroes. At the same time, while their number was amply sufficient to supply data whereon to build trustworthy statistics, it was still not so great as to render such an enquiry as that which I have undertaken impracticable from the tedious labour it would have involved in collecting the necessary information. For these reasons the University Oarsmen seemed specially qualified to answer the particular question on which I desired to throw the light of ascertained fact.

That question, as expressed in letters which I have written to those of them who in the year 1869 were

yet alive, was simply this: "Whether the training and exertion demanded of those who take part in the University Boat-Race are of so trying a character that in numerous instances the constitution is liable to be permanently injured?"

Several of my correspondents have suggested that such an enquiry would prove more valuable if the different College crews at the two Universities were likewise included in its scope. They point out that the University crews are usually selected with very great care, and that consequently such Oarsmen must be looked upon as more than usually robust; and further, that the men are always carefully trained for the work before them; whilst among the various College eights often the rowers are not only deficient in stamina and strength, but very imperfectly prepared for the struggle of the race.

Though bound by the quarters from which they proceed to treat such suggestions with every respect, I would still reply that I should not think of denying that men who are wanting in physical power, or imperfectly trained, are unfit to engage in such a contest as a hard Boat-Race, inasmuch as they do not undertake the work on those conditions on which alone it can safely be carried through. Besides, the number of those who have competed in College races is so great, and the names of these aquatic competitors have been preserved with so little care, that I should not envy the man who attempts to discover their present habitations, or to trace their after careers, more especially if the enquiry is to be thoroughly exhaustive. The question however with which I am concerned, is not whether some men who never were fit to enter a racing boat at times pay the penalty for their folly, nor yet whether those who are

imperfectly trained occasionally suffer—both these propositions I am prepared to admit; but whether when the severe work involved in rowing in a University Race is undertaken by strong men, in whom is no tendency to hereditary disease, who are accustomed to take proper care of themselves, and at the same time are carefully prepared for their labours, whether such men, fulfilling their allotted task under these conditions, do, in a certain proportion of cases, experience irretrievable injury from the exertions of their youth; and if they do suffer, is the injury of such a character as to be unavoidable by any expenditure of foresight and care? Or, can it be shewn that it is possible to surround the hardest athletic contests by such safeguards, both as regards the selection of the men and their preparation, as shall make these contests not only thoroughly healthy, but, in so far as they tend to improve our national physique, really useful recreations?

In discussing this subject I shall first consider the cases of those who, either on their own testimony or on that of their relations and friends, sustained more or less injury from the training and exertion connected with the University Race; and, with a view of sifting more thoroughly the nature of that injury and weighing the particulars with somewhat less reserve, I propose to omit all names in this portion of the enquiry.

After discussing the cases of injury which are said to have occurred among University Oars, I will proceed to consider whether the lives of those who have competed in these contests are on an average shorter than those of healthy Englishmen who avoid such excesses; and thirdly, whether, among those no longer alive, the diseases from which death has resulted were of such a character as are likely to be induced by hard muscular

exercise, and have happened in more numerous instances than among young men of a corresponding period of life who do not indulge in athletics.

In enumerating the cases of injury, I have confined myself to those in which the evil results are spoken of as more or less serious; as having, in fact, sensibly affected the after health.

A careful analysis of these cases seems to me to shew that if harm really was done by too great a strain being laid upon the system in early life, that harm may generally be accounted for either by the existence of constitutional unsoundness, or by some deviation from the commonly accepted laws of health and prudence.

Thus, for example, in several cases the suffering was confessedly due to the fact that the men rowed when they were not in a fit state of health; in others, to the rowers being by nature constitutionally delicate; and in others again, to their having thoroughly overdone it, to their being in boating language "stale."

As regards the number of those who are said to have injured themselves, I find that from the year 1829 to 1869, both years included, 294 men have rowed in the Inter-University Race; of these 294 Oars, 17 either describe themselves or are spoken of by their relations and friends,—in some instances certainly with very considerable reservation—as having suffered from their labours to the extent indicated in the following extracts.

A., who pulled upwards of 30 years ago, informs me that while rowing in the College races he suffered from a bad cold and pain in the angle of his chest near his right shoulder. In spite of the pain he continued to row, and it gradually passed off. The following spring he experienced a severe chill from travelling outside a coach when hot and tired: the breathing became af-

fect, and an attack of inflammation of the right lung ensued. This illness was a very protracted one, and he was assured by one of the physicians who attended him that there was a permanent induration at the top of the right lung which had set in when he was at college. My correspondent assures me that for the last 20 years he has had no return of his indisposition (but once when living in damp air). If the induration of the right lung which was observed in A.'s case really commenced at the time he experienced pain in rowing in the College races, then possibly the mischief arose from his pulling at a time when he was suffering from a bad cold. The chill, however, which he felt in travelling outside a coach the following spring when hot and tired, which was succeeded by inflammation of the right lung, was quite enough to account for any induration which may have been observed. If, however, the chest disorder did really commence while A. was rowing in the College races, then assuredly his own explanation is quite sufficient satisfactorily to account for it; for he remarks that he was induced to row from the fact that his giving up would probably have disarranged the crews of several boats, and caused each one, perhaps, to be bumped; and, as he truly observes, "it must be something very severe to induce a plucky fellow to give in under these circumstances." In this case, then, if injury did result from boat-racing, it was due to the fact that the exertion was undertaken at a time when, in consequence of indisposition, A. was not in a fit state to row.

The next instance I shall adduce is that of B.; who also rowed in the University Race upwards of 20 years ago. In referring to his own boating experience, he writes as follows: "I am unfortunately an illustration of

the evils which may be induced by over exercise. I am 41 years of age and quite obsolete from an hypertrophied heart (I believe), which has gone on to dilatation and its consequences. Nevertheless, in the absence of any statistics to the contrary, I strongly suspect that I am an exceptional case, and my aquatic career was not quite analogous to that of most University men." Several of my correspondents who rowed with B. allude to the state of his health, and concur in the opinion that he was not fit to row at the time he undertook the Putney race. One of them thus expresses himself: "B., who rowed in my crew, had (it was believed) always suffered from heart complaint. He is now living, and it was with great reluctance we permitted him to row, and did all we could to dissuade him; he had this complaint when he came to the University." Here then likewise it must be admitted that at the time the race was rowed, and probably before, B. was not fit to engage in a contest which it has been said taxes to the utmost extent all the strength of the system for upwards of twenty minutes.

C., who rowed comparatively lately, is another instance of a man having pulled at a time when his health was not in all respects satisfactory. I extract the following passage from his letter: "About a week before the race I felt a pain in my left arm as if I had got rheumatism, and it became rather stiff till after the race, and then severe inflammation set in, in the elbow-joint, followed by abscesses; and, after three months in bed, pieces of bone came away, and I had the elbow-joint excised, and my arm is still stiff. I attribute all this to the fact that I had rowed very hard at Henley and in the fours, and was in fact what is commonly called "stale;" my general health always has been, and still is,

excellent. My arm is the only damaged part." These words are confirmed by one of his friends, who remarks : "I feel certain that the Putney race alone would not have brought on the inflammation that ensued. C. was a man who had never had any rest from hard training and racing for at least two years previous to his being put into the eight ; besides going in for every race at the University, he was always at Henley with his College crews, and so he entered upon the University training in an already exhausted state." Had C. given up rowing when he first experienced pain in his elbow-joint, it is probable that inflammation of so severe a type would not have supervened.

I shall next consider the cases of six old Oars who have died since their rowing days—five of them from consumption, and one from heart disease. How far they suffered from their labours on the river it is not very easy to decide, but it will be seen from the following extracts from letters which I have received from some of their nearest surviving relatives, that more or less grave suspicions are entertained that the diseases which carried them off were originally induced by their over exerting themselves in rowing during their College days. Generally speaking, they do not appear to have been men of that physical vigour which a long Boat-Race necessarily requires.

Such a man, I should imagine, was D., who pulled in one of the early races, and died not many years ago of consumption ; it is said of him that "His ill-health and delicacy were certainly supposed to have arisen originally from the bursting of a blood-vessel through his exertions in rowing, either in the practice for the Inter-University Race or in the race itself." Some of these contemporaries thus refer to his physique ;

"He was a pale sallow, wiry man, whom I often observed to gasp painfully after great exertion, with a distressed and anxious look about the eye. He however only died two or three years ago." Another of his fellow-oarsmen says: "D. was a very fine oar, but he always gave me the idea of being an unsound man; he was always pallid, and looked ghastly after a long and severe turn. I often used to think him likely to break down in training."

E., to whom I shall next refer, also died of consumption. One of his near relations sends me the following account of his aquatic career: "He was a very successful oar, and rowed a great deal at school and afterwards in the University. Probably the failure of his health did not take place till so long after he had given up rowing as to be of little or no service in maintaining the theory of rowing being injurious to the health. At the same time I have never doubted that his early death, at the age of twenty-nine, was due to boat-racing. No other member of his family, so far as I am aware, has broken down in the same way." A member of his crew writes: "He had always a delicate look about him, though a wiry and powerful oarsman." This opinion is confirmed by one of his intimate friends, who speaks of him in these words: "In my dear friend's case, I believe that life may possibly have been shortened by rowing; but there is little doubt the seeds of disease were always in him, and would have borne their deadly fruit, though had he exerted himself less it might have been longer in coming to maturity."

Another old oarsman who died of an affection of the chest some twelve years after the race, may perhaps have injured himself. Several of his contemporaries and his own brother do not think that he did, but

his father speaks more dubiously. These are his words: "I cannot say that F.'s exertions and training, which I had great misgiving about, and rowing in the Oxford and Cambridge Boat-Race, told injuriously, visibly, and positively upon his health. But my fears at the time told me that they must necessarily do so, and I warned him accordingly. I could not feel assured that the excessive training and racing could be safely undertaken by a growing and undeveloped constitution, not robust, though elastic and sound; he was over six feet, thin and spare; his illness was at first the result of cold, and did not come on till two or three years after his rowing at the University."

G., of whom I shall next speak, died of consumption some four years after he pulled in the Putney race. Several of the members of his crew speak of him as a constitutionally delicate man. One writes: "G. died of hereditary consumption, which had already carried off all the members of his family." Another says: "Whether his death was in any way to be traced to his exertions in the University Race I am unable to assert; but from my general observation of his constitution, I should say that his physique was not such as to stand with impunity the wear and tear of these contests. His exertions were of a more than ordinarily trying character, for he had participated in many severe races both on the Thames and at Henley. And he was a man, almost of all men, the least likely to spare himself." Another correspondent writes: "He was one of a family all of whom died in the same way, at younger ages than his own."

H.'s aquatic career was in many respects similar. One who rowed with him says: "He was known to be consumptive at the time of the race." Another member

of his crew confirms the opinion that he was not constitutionally a strong man, and further remarks: "H. died within a very few years of the race; whether his exertions in rowing hastened his death I cannot say, but from what I knew of him I should say that his constitution was by no means a strong one."

If J., who rowed about 30 years ago, was injured by rowing, his case may probably be classed under the head I am now considering. One of his relations has sent me the following account of his early and sudden decease: "He was found dead in his bed on a Monday morning after a long continuous Sunday duty: he appears to have gone without a struggle or suffering. I can assure you that neither I nor any of his family were able to state or feel convinced that his death was the result of his previous exertions. He certainly was an enthusiast in the sport, and I often saw him very seriously exhausted. It is probable that we all had a feeling that these exertions may have tended to the result, but if you can understand—none of us put it into words—it may have dwelt in our thoughts." One of his fellow oarsmen speaks of him as "a well-built fresh and strong man, but with too ruddy and hectic a look about him."

I shall now refer to five cases of supposed injury, where although the men appear to have been strong they would still seem to have over-exerted themselves and to have unduly taxed their strength. Among these cases I would include K., who has sent me the following account of his boating experience: "I rowed in a great many races, in several while yet a boy at school; when I rowed at Putney I was 20 years of age. I experienced soon after this severe pain in the region of the heart and was thoroughly done up, was forbidden to

walk up hills, and told that unless I was very careful I should never get over it. However, I did take care, and have been gradually recovering strength ever since. Though I was never incapacitated from ordinary employments, still I was prevented from engaging in any violent exercise from the certainty with which it brought on the old pain at the apex of the heart. I am now 44 years old and in remarkably good health, and my numerous children are all healthy; one has distinguished himself as an athlete and inherits all my muscle and sinew. I can walk ten or twelve miles without any trouble, and have preached two sermons every Sunday with but few months' intermission for just twenty years. Still my heart is weak, though I have no organic disease. I am under the impression that if I transgressed anything like moderation in exercise I should be the worse for it. I just remember my doctor saying it might not be the rowing after all. I had grown fast—was 6 feet 2½ in. at nineteen, though strong and muscular. At the same time, the conclusion I should come to in my own case is that I over-exerted myself *too young*, and had I begun when I left off growing, or a year or two later, I should not have experienced any evil effects."

Another man who certainly over-rowed himself was L. His aquatic career was comparatively recent. In a letter which I have received from him, in speaking of his health, he uses these words: "For myself I have for the last three years suffered much from having over-exerted myself, and have only just begun to feel that I am beginning to go up hill again. I should not think of attributing my ill-health to the University Race, when I know what a very small proportion the energy expended and the exhaustion con-

sequent on it can bear to that due to the combined effect of other races in which I have rowed and other forms of violent exercise in which I have overtaxed my strength."

M. also would appear to have done too much. His brother says of him: "I have no doubt M. seriously injured his health by over-exertion in rowing and running: he was very strong and steady, but an enthusiast in everything he undertook. He imagined nothing could hurt him, but soon after leaving the University he fell into bad health, and died some eighteen years after the race: he attributed his ill-health to over exertion. It was the continuance for too great a length of time of boat-racing that did him so much injury."

N. also is believed to have suffered; he rowed in the eight upwards of thirty years ago. One of his near relations writes: "After the University Race he fainted away, and it was two hours before they could restore him: it was always thought that the part he took in the race injured a small vessel at the heart: previous to that he had been a particularly strong muscular man. Eleven years after the Boat-Race he was suddenly taken ill and died in a few days." N. is said to have been a much older man than any of the rest of the crew.

In a letter which I have received from O., who rowed some 25 years ago, he thus speaks of his health. "When I went to the University I was strong and very healthy; my weight was a little over 12 stone. I began rowing at once in my College boat, and also in the University crew both at Putney and Henley. I lost about a stone in weight during my rowing career, but did not feel any ill effects until after my last race, when I became very weak with pain in my side. One doctor whom I consulted attributed these symptoms to the over

exertion and hard training I had undergone, but considered there was no serious mischief. I recovered from this attack in time, and since then have enjoyed fairly good health, though I have gradually lost weight and become very weak. Three years ago, after taking a little more exercise than usual, I brought up a great quantity of blood. This, my medical man said, came from the left lung. Though I became thinner, I experienced no return of the bleeding until last June, when I had another and much sharper attack. I could not trace this to any unusual exertion. I am thankful to say that I have had no further symptoms of the same kind, though I feel at times considerable difficulty in breathing, and am weaker than I was before."

In describing the injurious effects which have been set down to the University Race, it is proper that I should refer to the cases of three of the old Oars, who appear to have enjoyed excellent health during the whole of their boating careers, and so long as they were taking hard exercise, but to have suffered from the reaction when they gave up such pursuits and settled down to a sedentary life. P.'s was one of these cases: "During the five or six years," he says, "in which I rowed at College and afterwards in London, I always enjoyed the very best health, with a feeling that the exercise which I was taking agreed with me entirely. Upon my giving up rowing and taking to sedentary work, I soon found that the want of the accustomed hard exercise began to tell upon me and upset my digestive organs; and about nine years ago I was seized with a very violent bleeding, some large internal vessel having given way, occasioning the loss of a very large quantity of blood. I consequently was very weak for several years afterwards, but I have had no return of the complaint, and am now in

a pretty fair state of health, being able to stand a considerable amount of hard work, in the shape of a 20 or 30 miles walk, or a good long pull on the river."

Q. also appears to have passed somewhat too suddenly from a life of muscular activity at College to the close confinement of a city counting-house; "After taking my degree," he remarks, "I began a business life which I have ever since followed, rowing very occasionally, and then only for pleasure. Some time after doing so I had a somewhat severe attack of stagnation of the liver, which was caused entirely, I believe, by the want of rowing exercise which before that I had practised incessantly for ten years—and not by the excess of it; I suffered from violent pain in my back and shoulders, keeping me awake all night. I consulted several doctors without relief, till Dr ——— I think at once understood my case; he gave me medicine to help my digestion, and sent me into the country with a couple of horses to trot about, and certainly from that time I gradually improved till in about two months I was well again."

R., another university Oarsman who rowed comparatively lately, appears to have suffered from the same cause; one of his friends thus describes him: "R. will tell you that his health has been ruined by rowing; he says that his digestion and heart are injured; it may be so, but I think myself that he looks remarkably well for one who should be as ill as he considers himself; and besides, I think it is a question whether the sedentary life he has been leading, after having been accustomed to hard work all his life, may not account for a good deal of it."

Besides the cases which I have thus enumerated, several of my correspondents attribute to their boating

labours ailments of more or less trivial character. Thus, four of them assure me that the exposure brought on sundry rheumatic pains. Three others speak of having sprained themselves in the race, though the consequences were merely temporary. Two attribute to rowing occasional attacks of dyspepsia, though they candidly admit that these may perhaps with more justice be attributed to over indulgence in tobacco. Two express the opinion that they are not so strong as they used to be, while a considerable number inform me that while they were undergoing a course of training they experienced much discomfort from boils.

In the extracts which I have given from the letters of the rowers, where the general health appeared to be really sound, I have considered myself justified in omitting all reference to these minor ailments.

Having thus dwelt somewhat in detail on seventeen cases in which the training and exertion connected with the University Race are supposed to have told with more or less injurious effect on some of those who participated in the struggle—nine of the cases resting on the evidence of men who themselves rowed and are still alive, and the remaining eight on reports received from some of the relatives of those now dead—I shall next proceed to enquire into the duration of life of University Oarsmen. Are they, generally speaking, somewhat short-lived, or are we justified in expecting them to enjoy an average tale of years?

With a view of throwing light on this portion of my subject, I have, immediately after the names of the men who rowed in each race, inserted extracts from Life Tables in which is set forth the probable expectation of life of the rival crews, while Tables regarding the longevity of the Oarsmen of either University may be found

in the Appendix. These Tables are intended to shew by how many years each crew, and indeed every individual member of each crew, is likely to survive the year of the race. They relate to those who rowed between the years 1829 (the first race) and 1859, both years inclusive. In the course of these 30 years, 16 University Matches came off, in which 32 crews competed. In the case of each of these crews I have calculated the probable duration of life of the different Oarsmen of whom they were composed: the following explanation will probably render these Tables intelligible. I have assumed, in the first place, that each man was at the time he rowed 20 years of age; I consider myself justified in striking this average, as very many of my correspondents have told me how old they were at the time, and twenty expresses with very tolerable accuracy the mean age of the men both at Oxford and Cambridge. (For the last 12 or 15 years 21 would be nearer the mark, as young men have come up to the universities somewhat later in life than they did 30 or 40 years ago.)

How many years, then, may a healthy man of 20 hope to live? in other words, what is a man's expectation of life at 20?

According to Dr Farr's English Life Tables, this may be set down at 40 years; hence, every sound man who rows in the race ought to live till the age of 60; and if all the members of the Oxford 1829 crew had lived till the 10th of June, 1869, the 40th anniversary of the race, and then died, their lives would have extended over as many years as accepted calculations would warrant us in anticipating. Of these eight men, however, three died before the year 1869—one in 1856, one in 1863, and one in 1868; and the mean age of these three Oarsmen, instead of being 60 years, was only 53. In

fact the three together lived 20 years less than healthy men of 20 usually do. In other words, they fell short of their calculated expectation of life by 20 years. Against these 20 years, however, we have an offset in the years which the five healthy survivors at the end of the year 1869 were likely to live. Taking their ages at 20 when they rowed in the year 1829, and at 60 in the year 1869, the expectation of life of each one of them, according to Dr Farr's Tables, would then be 14 years, the value of the five lives together being 70 years. On adding these 70 years of estimated life to the years which had been actually enjoyed by the collective members of the crew between 1829 and 1869, both by those alive in the latter year, and by those who died prematurely, it appears that the life of the crew may be set down at 370 years; but the calculated value of the eight lives would not exceed 320 years, hence this crew may be considered likely to live 50 years longer than eight ordinarily healthy men, each rower in fact living on an average for about 46 years instead of 40 years after the race.

On testing the Cambridge Crew of 1829 in the same manner, I find the results still more favourable. Seven of the men who rowed in that race were alive and in good health at the end of the year 1869. Each one of these seven had therefore at that time enjoyed his allotted span of days. One however died prematurely eleven years after the race. His life consequently was of 29 years less duration than a good life ought to be. Against these 29 years we have the expectation of life of the seven surviving Oarsmen at 60; valued at fourteen years. It is worth to the crew collectively 98 years, and this, added to the 291 years which they had together attained to in 1869, gives to

the eight Oars an after life of 389 instead of 320 years, and to each man 48·6 instead of 40 years. The Table regarding these two first crews of the year 1829 may be calculated up to a still later date, and so may deal more with the past and less with the future. From enquiries which I have made, I have found that the twelve old Oars of the 1829 boats, whose lives I have spoken of as prolonged till the end of the year 1869, were still alive on the 10th of June, 1872, exactly 43 years after the race; these 12 ancient mariners had therefore on that day attained the age of 516 years. To this must be added the 111 years of life enjoyed by the four who died early, we then get 627 years; but the estimated life of the 16 men at 20 would be 640 years, or only 13 more than they have actually enjoyed. Hence, if each one of the survivors lived only thirteen months longer and then died, the crew might be looked upon in the mass as having reached the average length of life of healthy Englishmen. By the law of life probabilities, however, the 12 survivors may be expected to live not 13 years together but 12 years each, or 144 years collectively, and if this be added to the 625 years which the crews have already lived through, we are justified in expecting that they will enjoy 771 instead of 640 years of life; and on an average each man, instead of living 40 years after the race, will probably survive for somewhat more than 48.

I have dwelt at considerable length on the duration of life of the 1829 crews, because that race was rowed so many years ago that in discussing it we are treating rather of obtained results than of estimated probabilities; we are in fact dealing to a greater extent than we are in the other races, not with years of life which may be anticipated, but with those which have been enjoyed.

One of my correspondents who took part in this early race, informs me that even in those days warnings were not wanting, but that those who engaged in the struggle were assured that they must not expect to survive the age of 30. I have, however, shewn that 12 of the crew have already attained to more than double that age, and unless some extraordinary fatality should befall them, it is certain that any Insurance Company which accepted the 16 lives in the year 1829 would have found it a very profitable venture.

Apparently the best lived crew in the series was the Cambridge crew of 1840; at the end of the year 1869 the eight men of which it was composed were all alive, and had together lived for 232 years. Assuming that in that year they were each 49 years old, their individual expectation of life would be 21 years, or collectively 168 years, and these 168 expected years added to the 232 actual years gives 400, or to each man a mean after life of 50 instead of 40 years.

The worst lived crew in the table is the first 1849 Cambridge crew. Four of the men of which it consisted died young; (two of them from accidental causes, one only three years after the race, and the other only five). I have calculated that on an average the Oars who pulled in this match, instead of surviving the race for 206 years, cannot be expected to live much more than 108 years.

On the whole the results obtained by the Life Tables, in so far as they bear upon the duration of life of University Oarsmen, must be deemed decidedly favourable; the lives of each one of the 32 crews to which they refer extending over 334 instead of 320 years. Hence each individual who rowed is likely to survive the race, on an average, some 42 instead of 40 years.

The lives of the Oxford men are on the whole decidedly better than those of the Cambridge Oars; the former averaging 43·7 years instead of 40 after the race, while the latter cannot be credited with more than 40·7. This is due to the fact that out of the 16 Oxford crews which rowed between 1829 and 1869 only 15 men died within those years; while the deaths among the Cambridge men, who took part in the same races, amounted to 24.

In drawing up the tables I have made certain deductions for unsound lives; wherever in fact I have grounds for believing that some one of the survivors of a particular Crew is not in a thoroughly satisfactory state of health, I have allotted to him a shorter span of after years than would be assigned to a perfectly sound man. Some such deductions, it will be admitted, were needed, inasmuch as Dr Farr's Tables relate only to healthy lives.

It will perhaps be observed that the Tables in the Appendix do not in their results exactly correspond with the remarks made regarding the expectation of life in those portions of this volume in which the names of the men are specified. This apparent discrepancy between the statistics of life which follow the names of the several Crews and those given in the Appendix, is due to the fact that in the one case the expectations of life are calculated solely with a reference to the sixteen men actually engaged in the race, without taking into account the Crews which either preceded them or came after them. In the other (*i. e.* the Tables in the Appendix) I have looked upon the different Boats as merely parts of a series, and inasmuch as in this series a certain number of the crews would have been prejudicially affected by the premature decease of men

who happened to row in more than one race, I have found it necessary to make allowance for the early deaths of such men only in the *first race* in which they rowed. I have followed the same course also in dealing with the health of all those University Oars who have rowed more than once. Otherwise the same man might have been counted as "benefited" or "injured" three or four times, thus obviously falsifying the general conclusions.

On the important question of the expectation of life, it is satisfactory to find that however severe be the standard of longevity which we require, my Tables are still favourable to the rowers. Thus for example, if instead of adopting Dr Farr's calculations, we take the tables of some of those Insurance Offices which profess to accept none but select lives, we still find the Oarsmen living beyond these limits; and when, in addition to requiring this high rate of years, we become still more exacting, on the ground that nearly half of the rowers are clergymen (whose lives are somewhat better than those of less favoured mortals), the grand results (in commercial parlance) still shew a balance on the right side.

I shall next pass on to consider what has been the mortality among University Oars between the years 1829 and 1869, directing special attention to the causes of death, with a view of discovering whether the diseases which proved fatal were of such a character as would be likely to be induced by excessive exertion. I have already stated that in the course of the 40 years to which my enquiry extends, 294 different men rowed in the 26 races which were contested. Among these 294 men there were 39 deaths, 24 among the 147 Cambridge men (being at the rate of 17·6 per cent.), and 15 among

the Oxford men (or just ten per cent.) ; taking the two Universities together, about 13 per cent. I have shewn in the foregoing pages (in which I have discussed at some length the probable duration of life of the different crews) that the death-rate among those who have participated in these races is decidedly favourable. But it remains to be considered whether there was anything in the nature of the maladies from which death occurred, to which exception can legitimately be taken. The following were the causes of death :—

11	died from	Fever.
9	{ 7	„ Consumption.
	{ 2	„ Other forms of Chest Disease.
6	„	Accidental Causes.
3	„	Heart Affections.
2	„	Disease of the Brain.
2	„	Inflammatory Attacks.
1	„	General Paralysis.
1	„	Calculus.
1	„	Erysipelas.
1	„	Bright's Disease.
1	„	Cancer.
1	„	Lupus.

In this bill of mortality it will be observed that the death-rate from Fever (35 per cent. of the whole) was unusually high. It is believed by some writers that when fevers attack strong men they are more likely to succumb to the disease than others who may be endued with less robust frames. The late Dr Graves of Dublin (a very high authority on everything relating to this affection) remarks in one of his clinical lectures: “Those who assert that the possession of previous good health or of a robust frame renders violent fevers less dangerous know little of the matter. The two strongest and most

powerful men I ever knew both died before the third day." The accidental or violent deaths, as they are termed by the Registrar-General, were unusually numerous, amounting to six, or fifteen per cent. of the whole. This is very much above the average for the country generally among males of a corresponding age, whose deaths from the same cause do not exceed seven per cent. Among the Oarsmen who perished in this untimely way one was shot at Lucknow, one foundered on board the "London" in the Bay of Biscay, another was drowned in swimming a young horse across a river in Australia, another was murdered by poachers, and another accidentally shot.

Turning from these casualties, which it is needless to remark can in no possible way be traced to the effects of rowing, we come to the consideration of those diseases of the respiratory and the circulatory systems (in other words of the lungs and of the heart) which we are accustomed to hear of in connection with aquatic struggles. With a view of throwing some light on this subject let us see in what proportion deaths occur from these diseases among adult males belonging to the civil population of England and Wales between the ages of 20 and 60. This we may readily discover by turning to the 18th Report of the Registrar-General, which contains tables specifying the causes of death at different periods of life in the seven years 1848—1854. Inasmuch as the years to which these tables refer fall about midway between the years 29 and 69, they may be looked upon as likely to afford fair average data for purposes of comparison. During these seven years it appears that 40 per cent. of the deaths which occurred among males between the ages of 20 and 60 are ascribed to diseases of the lungs—28·9 per cent. being due to consumption,

and 11·2 per cent. to other forms of chest affection. Among the University Oars at corresponding periods of life the deaths under this head did not exceed 23 per cent. of the total mortality—17 per cent. being due to consumption, and 5 per cent. to the remaining varieties of pulmonary affections. I have looked over several Reports on the health of the navy, and find from them that among sailors the disorders of the chest occasion about 28 per cent. of the general death-rate; while the Reports on the health of the army clearly testify that in spite of the sanitary care which has been bestowed on the soldier since the Crimean war, the mortality from diseases of this class still continues considerably higher than it is among our civil population, and hence decidedly heavier than among University Oars; while among the Guards lung disease is observed to prevail to a still more fatal extent.

The diseases of the organs of circulation (in other words heart affections) must next be considered. Among the 39 deaths three (or 7·4 per cent.) are ascribed to cardiac disorders. On turning to the Reports of the Registrar-General, I find that in the course of the last 14 or 15 years there has been a marked increase in the deaths arising from these maladies. Thus, between the years 1848 and 1854, 5·2 per cent. of the deaths among males between 20 and 60 were set down to heart disease. In the later Reports, however, extending from 1859 to 1869, the deaths from this cause rose to 8 per cent. On striking an average between these two extremes we get 6·6 per cent.; or we may say generally that about 13 deaths in every 200 of which the causes are specified are due to disorders of this class. Among sailors the mortality from heart disease is very much greater. In the Report on the health of the navy for the year 1868

it appears that 13 per cent. of the deaths were due to some form of cardiac disease.

The Reports then from which I have just quoted sufficiently shew that, as regards heart complaint, there is little appreciable difference in the mortality observed among University Oars and that which prevails amongst other classes of men at a corresponding period of life. It may be urged that the deaths among the rowers are not sufficiently numerous to afford any very conclusive standard of comparison. Nevertheless they are, I am disposed to think, amply sufficient when taken in connection with what has been said regarding the longevity of the rowers, to shew that those hecatombs of young Englishmen who, we are told, sacrifice themselves annually on the altars of our popular pastimes, exist rather in the timid brains of alarmists than in the stern tables of statistical investigation.

Having thus discussed the different cases in which health is said to have suffered from a hard-rowing career—having given the results obtained by tables in which the expectation of life of the several crews has been approximately calculated, and having considered what proportion of the deaths is due to diseases of those organs which might be expected to suffer from muscular exercise carried to excess, it will be allowable to examine somewhat critically into the nature of the evidence which has been gathered from various sources concerning the cases of injury. I have already remarked that in prosecuting this enquiry I have written letters to all the old University Oars now alive, requesting them to favour me with their experience of the after effects of training and boat-racing on their own health; and I further begged them to inform me which, if any, of those who were their contemporaries or friends among

the crews were believed to have suffered from their exertions in rowing. In reply to this question I have received much interesting information, many of my correspondents describing to me the physique of their fellow-oarsmen, and referring more especially to those whose health they did not deem altogether satisfactory. From these data I readily discovered which cases seemed open to suspicion, and required further investigation. In order that the details I collected might be accurate, I then addressed myself to the nearest friends and relations of those who are no more, and in some instances was even fortunate enough to secure a medical opinion upon the cases. It appeared to me that I should thus gain the most trustworthy testimony available on so delicate a subject. I must confess, however, that after carefully weighing the evidence thus collected regarding these somewhat uncertain lives, I am forced to admit that in such an enquiry more reliance is to be placed upon the opinions of College friends than upon those of any relative, however near. Not that I would for a moment imply that the latter have in any way failed to describe their own view of the case, but, as a matter of fact, it would be well nigh impossible for relations to form an unbiassed opinion regarding those who are both near and dear to them, or to come to an impartial conclusion on this subject; thus, in several instances, I am assured by relations, that in the very nature of things it is self-evident that such violent exercise must be harmful; that they had warned those in whom they were interested of the dangers they were incurring; their advice had, however, been unheeded, the risk had been run with open eyes, and, as had been foreseen, ill consequences had supervened. These kinsmen had, in fact, heard and read so much regarding the dangers of these aquatic

contests, that they made up their minds that health would become impaired, and when, at length, the evil day came, however long after the exertion, and whatever might be the disorder, all was set down to the baneful effects of rowing. Besides, however desirous relations may be to reply accurately, the very fact of their relationship disqualifies them from forming an impartial opinion. Even near relations know comparatively little regarding the University careers of the members of their own families. Very few parents would be able to form even an approximate estimate of the number of hours which their sons devote to study, or the time they expend on cricket and boating. They know little regarding that inner phase of a young man's College life, which, in proportion as it is spent wisely or wantonly, exerts so potent an influence on his after health. Yet, these are secrets which are sufficiently revealed to the companions of his youth. They are acquainted with his habits, they are familiar with the manner in which his evenings and his mornings are passed. They have shared with him in the labours of the same boat, and toiled together behind the same stroke. They have had opportunities of observing how far he may have shewn himself unduly exhausted; whether, as the pace increased his face grew ruddy and fresh, or turned sallow and pallid; whether, after severe exercise, his appetite was stimulated, nature hastening to repair by fresh fuel the undue consumption of tissues, or whether he picked at his food in a dainty and capricious manner, as though his work had been too hard for him. Such friends are the true judges of a man's constitutional vigour; by his clear transparent skin, by the pearly white of his eye, by his tapering fingers, by his susceptibility to cold, they can satisfy themselves that he is a man of delicate fibre, one in whom growth

has proceeded more rapidly than development; in a word, that he is one on whom any exciting cause, however trivial, might rouse to fatal activity the latent seeds of disease. Such warnings are but too often unperceived by relatives. Indeed, it is extraordinary how blind they frequently shew themselves to the physical infirmities of those who have been reared under their own roof. They have grown so accustomed to the delicate features, to the careworn countenance, that they have failed to realize how frail is the thread of life, and how slight may be the jar by which the silver cord might be loosed. Several of the old Oars who are said to have suffered, were, it is very evident, deficient in constitutional vigour, while others were the subjects of what has been termed hereditary consumption. Under these circumstances, that evil results should ensue, was nothing more than might have been anticipated. Such unhappy consequences do not prove that boat-racing is a dangerous pastime for the robust; they merely shew that those deficient in stamina should never enter a boat for racing purposes. Moreover, it often happens that such men are peculiarly liable to over-exert themselves. In temperament they are frequently over sanguine; in early life it is no unusual thing to observe among them a precocious development of the mental faculties, the brain being too active for the feeble tenement in which it dwells. Men of this type often exhibit under difficulties extraordinary pluck. In spirit, though not in strength, they are the thoroughbreds of the human race, and when they engage in such a struggle as the University Match, they are but little likely to spare themselves.

It must not, however, be assumed, because some distinguished oarsmen died of heart or lung disease,

that their untimely fate must necessarily be ascribed to their aquatic labours. Had the University Oars who succumbed to the disorders of these organs exceeded in number those who die from such causes among the civil population at the same period of life, the surplus mortality among the former might perhaps with more or less justice be set down to the unusually hard exercise in which the men had indulged. But such is very far from being the case; indeed, it appears from the Reports of the Registrar-General, to which I have already referred, that whereas about 46 men out of every hundred who died between the ages of 20 and 60 died from disorders of the lungs and heart, among the old Oars the deaths from these diseases have not exceeded 12, being at the rate of 30 instead of 46 per cent. Of these twelve deaths, nine are believed by the relatives to have been, in a greater or less degree, hastened by the Boat-Race. Assuming, for the sake of argument, that their opinions are correct, and that had the rowers indulged to a less extent in muscular excesses, their lives might have been prolonged, it would then appear that among the University Oars only seven deaths in every hundred have occurred from a class of disorders which carry off 46 out of every hundred of the population generally. Were such the case, we should discover a rate of mortality from lung and heart disease among Oarsmen far lower than can be found in any Statistical Tables which ever were compiled.

It must be remembered also that the men who occupy seats in the University Eight are as a rule considerably above the average in height—and among such men consumption is apt to occur to a disproportionately excessive extent. Thus, it has been observed, both in our own service and in the armies of the continent, that the

mortality from consumption is considerably heavier among the Guards than it is among the regiments of the Line. And certainly, in respect to stature, University Oarsmen bear the same proportion to the rest of the civil population as Guardsmen to the Line.

I may further mention, that regarding some of the more severe cases of injury which have been recorded, I find certain discrepancies between several of my correspondents on points of vital importance. Thus I have been assured by relations that in two cases the failure of health which supervened commenced with the rupture of a blood-vessel—and that these casualties took place either in the race itself or during the preparatory training. Though doubtless such accidents may have happened, it certainly seems strange that those who rowed in the same boat with the injured men (to several of whom I have directed special enquiries on this subject) can supply no information but such as is of a negative character. They have in fact entirely forgotten the occurrence. Yet had a blood-vessel really been ruptured—had copious hemorrhage ensued—it seems strange that the accident should not be remembered; for it is of so alarming a nature that it would be calculated to produce a deep impression upon the minds of Fellow-oarsmen. It would be sufficiently grave to put an immediate stop even to a University Race; for however exciting a struggle might be, no men would consider themselves justified in persevering to row when one of their number had sustained so serious an injury as the rupture of a blood-vessel. I have previously stated, on the authority of a near kinsman, that one of the early Oars was believed to have overdone it, and that “after the University Race he fainted, and it was two hours before they could restore him.” Now here we have a definite state-

ment—we should expect, therefore, from the letters of his contemporaries to glean corroborative testimony; several members of his crew, however (from whom I have sought information on this particular point), can remember no such catastrophe. One of them (who occupied the seat immediately behind him in this race) thus expresses himself: “I do not think it is true that ——— fainted after the race was over; I have no recollection of the circumstance, and I think I should not have forgotten it if it had happened. I never heard that he was at all injured by his exertions in rowing; nor did I ever see him unduly distressed.” Here then is one of my “injured men” who, in the opinion of his relatives, was so much exhausted that he could not be restored for two hours, and yet the Oarsman who rowed immediately behind him—upon whom in fainting he might be expected to fall—“never saw him unduly distressed.” Although therefore I have deemed it right in describing the different cases of injury to give special prominence to the opinions of relations, I am still strongly impressed with the conviction that in several instances these opinions can only be accepted with very considerable reserve. Indeed, touching the list of damaged oarsmen generally it may perhaps be urged that there is in the history of their maladies a certain degree of vagueness, a want of precision in dealing with the various cases which apparently detracts from their scientific value. To all such objections I would reply that the general scope of this enquiry is of so delicate a nature that any approach to diagnostic accuracy was wholly impracticable. In chronic cases also, such as those with which I have had to deal, a failure of health may be influenced by so many factors, may depend on such a variety of causes, that we must rest satisfied with the balance of probabilities. Although

in several instances I have been so fortunate as to obtain the testimony of medical attendants, yet even these skilled observers have assured me that there was nothing distinctive about any of the maladies which would warrant them in ascribing fatal results to the direct effects of excessive muscular exertions, rather than to the various other causes whereby health is liable to be deranged. If then we accept the communications of the relatives with some reservation, from the difficulty they naturally feel in forming an unbiassed opinion and from a sort of instinctive unwillingness to admit any hereditary weakness—an unwillingness which every practitioner of medicine well knows is very general amongst all classes of the population—there still remain the eight cases in which the sufferers themselves admit that their experience of the after-effects of Boat-Racing has unfortunately been fraught with mischief more or less grave. The testimony of these men in regard to what they have suffered in their own persons, is no doubt entitled to more consideration ; yet a careful examination of these eight cases shews that in several instances the men speak with very considerable reserve on the subject of their impaired health being attributable to boating, while in others they candidly admit that any ill-effects which ensued were in some degree self-caused. Thus, for example, three confess that they overdid it in other ways as well as in boating ; two affirm distinctly that they were unfit to pull at the time of the Race ; one persevered in rowing while his health was failing ; and another in spite of the urgent representations of his friends. If fair deduction be made for these isolated cases of general disregard to health or extraordinary imprudence, it would seem that the vague fears regarding the danger of taking part in a hard Boat-Race, which have got possession of the

public mind, may be traced, not so much to the evidence of the rowing men themselves, or of their companions in the amusement, as to what has been said and observed by kinsmen and relations. As a rule, those who have rowed are singularly sceptical on the subject of "injurious effects." Indeed, one distinguished authority on all aquatic subjects connected with the University, who has probably trained as many crews as any man living, assures me that in the course of his long experience he can only call to mind two men who in any way suffered, and even in these two cases he is by no means sure that the evil results should be assigned solely to rowing.

There is one circumstance connected with the alleged cases of injury which materially increases the difficulty of assigning the failure of health in each instance to some definite exciting cause. I refer to the length of time which generally elapsed ere the Upas tree bore its deadly fruit. Thus, in the cases of eight of the injured men, I find that although the rowers are now dead, still they each lived on an average for 12 years after the race, and almost all were sufficiently well to follow the duties of active professions. It would appear then that admitting that such violent exercise as Boat-Racing does in some few instances prove injurious, still the evil effects are certainly not immediate. Among the whole of the University Oars I have not been able to discover a single example of any of those rapidly fatal forms of heart disease which are occasionally met with in medical practice. Every physician who has had the advantage of being connected with a large hospital has probably seen a certain number of such cases. They have been observed, for example, among the class of men known as coal-whippers, who are employed in loading vessels with coal. These men in prosecuting their calling are

in the habit of catching hold of a rope suspended above them, and throwing themselves violently upon it; in this manner, a sudden and excessive strain is thrown upon the heart, the valves of which are occasionally ruptured; or an aneurism may be formed either within its own walls or in connection with those of some of the larger arteries; or perhaps one of the ventricles may actually give way. In my own hospital experience I have seen some eight or ten such cases. The last which came under my observation occurred to a patient who was compelled to carry a heavy sack of corn for a considerable distance without having the opportunity of taking rest on the way. He was struggling to reach the end of his journey, when he suddenly felt something give way within his chest; he experienced a rush of blood to the head, and fell down insensible. One of the valves of the left side of the heart was torn from its attachment, and from that moment he was never able to earn a shilling or to do an hour's work. Life, in so far as capacity for labour was concerned, was virtually at an end, and death approached with rapid and certain strides. In most cases of this grave character the general features of the accident are pretty much the same; it is sudden and overwhelming at the time, and though perhaps afterwards, when complete rest is enjoined, the distressing symptoms may be temporarily alleviated, yet there is no prospect of permanent relief; for the fatal termination but too often proves painful in the extreme. Cases of this nature are forcible examples of cardiac disease induced by too severe a strain; but among the 294 University Oarsmen I have not been able to discover that a single accident of this kind ever occurred as a consequence of the Boat-Race. In two instances, as has been already stated, the exertions of the race are said to

have occasioned the rupture of a blood-vessel. Yet, one of the men who was thus afflicted lived more than ten years after the race, the other survived it for upwards of twenty-five years, and both were in all respects equal to the duties of an active life. No University Oar appears to have been struck down by these more rapidly fatal forms of heart disease, and I have only met with one instance where I have reason to believe that an aneurism was induced by the exertions of a Boat-Race. The subject of this accident (never connected with either University) was, I have been assured, notoriously careless about his health and by no means a temperate liver, and it is to intemperance that I would ascribe the mischief in this particular case. Nay, I would go further, and assert unhesitatingly, that whenever by reason of some violent strain an accident occurs, either to the heart itself or to one of its great vessels, that heart was not at the time in a perfectly healthy state. The tenacity of its fibres or of its lining membrane has been undermined either by active disease or by some one of those degenerative changes which are liable to occur, either as a consequence of alcoholic excess or as the natural accompaniment of advancing years. In this opinion I am supported by the high authority of Professor Niemeyer, who distinctly asserts, in his important work on the theory and practice of medicine, that "the healthy heart never ruptures."

Being desirous to arrive at definite conclusions based on fact as to what is the effect of a hard-rowing career on a man's constitution—whether generally speaking it proves beneficial or injurious to those who enter upon it, whether it renders the after health more vigorous or rather has a tendency to lower and undermine the bodily powers—I have given extracts from letters which I have

received from almost every rower now alive who has taken part in the University Race from the year 1829 down to the year 1869. The portions of the letters which I have in general selected for publication are those in which my correspondents describe the amount of work they have done on the river, and the effect which these aquatic labours have had on their health. In this way we have their own testimony regarding what they have done and how they have fared. Many of the writers of these letters, in addition to giving their own personal experience, have discussed at some length the whole question of training and Boat-Racing as practised at the Universities, and have stated the opinions at which they themselves have arrived on this subject. But in placing the results before the public, I have found it convenient (except where some point of special interest appeared to be discussed) altogether to omit these opinions, and confine myself to facts. For it seemed to me that in obtaining the direct personal experience of so many intelligent men, I possessed a far more ample and important mass of evidence on which to base statistical conclusions than could be at the disposal of any of my correspondents, none of whom had used the same means of collecting exhaustive information. It was not then from any want of courtesy towards the University Oars that I am led to omit these portions of their letters, but because I found that the insertion of such general opinions would greatly complicate a question in itself sufficiently difficult of solution. Thus, for example, in several instances a writer expresses himself after the following manner: "Though I have never suffered any injurious consequences from my rowing at the University, but have always enjoyed excellent health, still it stands to reason that men in

general must be the worse for such heart-rending labour." Or: "Though I have never as yet felt any evil effects, still I suppose that with the advance of years I must expect to suffer for having taken so much out of myself." It will readily be admitted that in these extracts opinion is directly opposed to personal experience; the writers being led to rely more on what they have heard and read than on what they have themselves felt.

In tabulating the contents of the different letters which I have received, I have found it convenient to classify results under three distinct heads. Some of my correspondents, unsolicited, have volunteered the statement that so far from having suffered in health, they rather feel that they are the stronger for their labours. They believe in fact that their rowing did them good. Such Oarsmen I have counted under the heading "Benefited." Others who merely say in general terms that they never felt any inconvenience, I have spoken of as "Uninjured;" while those who consider that their exertions proved harmful I have set down as "Injured." The cases of the 39 old Oars, who at the end of the year 1869 were no longer alive, are also dealt with in these tables. In estimating the effects of Boat-Racing on their health, I have necessarily been compelled to rely upon the statements of their relations and friends. Regarding the health of 251 out of the remaining 255 Oarsmen, I am in possession of their own written testimony; and as to the four who have not honoured me with an answer to my letters, the required information has been amply supplied by their Fellow-oarsmen. From these statistics it appears that 115 (or 39 per cent. of the whole) were benefited by their exertions; 162 (or 55 per cent.) were in no way injured; while 17 (or about 6 per cent.) refer to themselves, or are spoken of

by their friends, as having sustained that amount of injury which in a preceding portion of these pages I have endeavoured to describe.

In considering how far rowing may have been attended with actually beneficial results, we may turn with satisfaction to the after lives of the twelve surviving members of the crew of 1829. Copious extracts from the letters of each one of them will be found elsewhere; with a single exception they all speak of their health as remarkably good, and in that one case the only ailment complained of appears to be "something of a tendency to palpitation of the heart." Those who are acquainted with the varied infirmities which as years roll on are wont to assail the human frame, will, I fancy, agree with me in thinking that the bill of health presented by these twelve primeval votaries of the oar at the time when they had severally attained the age of sixty years, was a remarkably clean one. Some of them assure me that in their day, as in the present, forecasts respecting their untimely decease were by no means uncommon. But by this time surely they have lived down all such disquieting vaticinations. The remarkably firm and clear hand in which almost, without exception, the letters of these veteran Oarsmen are written, and the distinctness with which each character is formed, are a sure guarantee that in their frames neither has the sight as yet grown dim, nor has the pulse of life begun to fail.

Scattered through the letters of my correspondents I find some remarkably telling statements regarding the advantages which have resulted from a rowing career. Thus, for example, I am told by a Fellow of the Royal College of Physicians of Edinburgh, who occupied a seat in one of the early Eights, that, so far as his personal

experience goes, "rowing in a racing-boat with proper training and fitting men does good physically and morally, and men are likely to live the longer for it. I believe," he adds, "that in my own case rowing has strengthened me to go through hard and trying work on the Equator for twenty years; and to be, as I am, the only survivor of all my contemporaries; but none of them were rowing men."

Another of my correspondents, who rowed in the 1829 race, and who has since lived a singularly active life, in referring to Boat-Racing and other forms of hard exercise which he was accustomed to take during his University days, sums up his remarks in these words: "All these processes, combined with strict diet and regular habits, had, I think, a most beneficial effect upon the constitution, and enabled me on horseback and on foot, in Australia and New Zealand, to make very long journeys without inconvenience."

Another writer at present residing in the Colonies observes: "Since taking my degree my constitution has been put to the test in many climates; for I have lived in Canada, on the West Coast of America, and in Australia, and I can safely aver that I have never, in trying circumstances, found a failure of physical power, and that when hard pressed by fatigue and want of food, the recollection of the endurance developed by rowing and other athletics gave me fresh spirit and encouragement."

Another old Oar thus expresses his obligations to rowing: "I came up to the University an overgrown, sickly, London-bred boy of seventeen and a half; I soon took to rowing and gradually lost my weakness, filled out, and improved physically in every respect."

Another writes in much the same strain: "The train-

ing and exertion of rowing races, so far as I am concerned, have been attended with great benefit to the constitution. When I first went to the University, though I had always strong health, I was a rather weedy sort of fellow; rowing soon developed chest and shoulders, and made me a heavy muscular man."

Others again were benefited, but in a somewhat different manner, as may be seen from the following extract: "Before I went into regular training for the University Race, I was very fat and soft; so much so, that at school I weighed about 13 stone, and was never good at active exercises. I also remember that the year before I commenced regular training, I used to feel in the boat as if I should die; and at about the same time I got completely shut up going up a hill in the north. My two years of training seemed to have changed all that, for I have found since that I have far better staying power and endurance, and I don't think I have ever felt so exhausted as I used to do before; I have enjoyed excellent health ever since."

Another correspondent assures me that he continually felt that the discipline and training he had gone through for rowing purposes was of great value to him in a higher point of view; while in another case, the course of training for the University Eight was the means of affording relief from attacks of asthma, to which there was a constitutional predisposition.

Having thus considered what have been the effects of the University Boat-Race on the health of those who have rowed, whether hurtful or beneficial, I shall next proceed to make a few remarks on the influences which are exerted on the bodily frame by hard muscular exercise; how it acts, and what are the changes induced in the system.

This question it is impossible to solve unless we first enquire what are the physiological conditions which conduce to the growth and development of muscle. The most indispensable of these conditions is the employment of some force. If it is desired that muscles should increase in bulk, should become both larger and stronger, their action must be forcible ; mere quickness and celerity are insufficient ; the expenditure of strength is also needed. Thus, for example, we do not find that the arms of the seamstress, who for many weary hours plies her busy needle, grow strong and muscular. There is here no forcible contraction, no obstacle to the rapid movement of her toiling fingers. But when the smith wields his ponderous hammer, or when the sailor hand-over-hand ascends the rigging of his ship, here there is energetic contraction, and here also we observe a goodly development of brawny muscle.

In rowing, muscles are in this manner forcibly plied. Indeed, I know no form of exercise in which so many muscles are brought energetically into play. It has been stated by a well-known authority on questions relating to athletic exercises, that in rowing the muscles of the legs and of the lower part of the trunk are those which bear the brunt of the labour, while the chest and upper extremities escape with a comparatively small share of the toil. Hence, we are given to understand that it is in the lower part of the frame of Oarsmen that we must more especially look for development of muscle. With this opinion, however, I for my part cannot coincide. I have too often, during a course of training, observed the biceps expand and the fore-arm increase in girth, seen, in fact,

“ Arms on which the standing muscles sloped,
As slopes a wild brook o’er a little stone,”

to feel any doubt that the upper limbs also play a powerful part in the struggles of the Isis and the Cam. Sundry attempts have been made to define, with more or less precision, the particular muscles which are called into requisition in a Boat-Race. This is an enquiry which I do not propose to inflict upon my readers. It is of more interest to the student of anatomy than to the general public, but if, as has been affirmed by different authorities, the dorsal, the abdominal, the gluteal, together with the pectoral muscles, and those of the upper and lower extremities, are all required to assist in propelling a boat through the water, then assuredly but few portions of the Oarsman's frame can luxuriate in idleness. This will be the more apparent, when we reflect that whenever in a healthy subject one set of muscles is hardworked, the increase of bulk that usually results from their repeated contractions is not confined to them alone, but is shared by their several antagonistic muscles. On these latter an increased strain is necessarily laid, and in order to meet this strain they themselves undergo corresponding development. It is to this increase of the antagonizing groups of muscles, as a result of the development of those which are directly brought into play during "limb-work," that we must attribute that well-proportioned symmetry of the animal form which we are accustomed to admire after a course of training.

When it is affirmed that rowing gives but little employment to the chest, it appears to me that the important part played by this portion of the frame during active exercise is in a great measure overlooked. Let us then consider in what way the chest is affected by bodily labour, when the muscles are called into activity, whether in rowing, in running, or during such

a course of gymnastics as is now wisely required of young recruits. We find that, in the first place, the parts more especially exercised acquire additional bulk, grow both larger and stronger: and secondly, we observe that the circumference of the chest is increased, it becomes both wider and deeper. I have looked over numerous statistics, so tabulated as to shew the physical value of gymnastic instruction, and these tables all agree in shewing that there is under such circumstances a coincident development both of muscles and of chest. This development of the chest, as I have repeatedly satisfied myself, is only to a very small extent due to the enlargement of the various muscles which surround its walls. That such is the case is conclusively shewn by the fact that the increase is not confined to the upper part of the thorax, where the pectoral muscles more especially are situated, but is even more marked over the middle and lower ribs. The additional thoracic girth, then, which is more or less attained during training, is not due to the muscular thickening of the walls, but rather to the enlarged size of the cavity which they surround and of the enclosed organs.

This increase is brought about in the following manner. I have already shewn that the forcible contraction of muscles results in their enlargement; whether this enlargement is due to additional fibres being formed *de novo*, or to the original fibres becoming larger, is still a disputed question among physiological authorities. It is one which is by no means easy of solution, and in the present state of our knowledge we may perhaps assume that it depends both on the one and on the other—on the formation of new fibres, and on the growth of the old ones. With the development of particular muscles there is a proportionate increase in the size and perhaps

also in the number of the blood-vessels, both arteries and veins. In this development of the blood-vessels the great moving centre of the vascular system participates. The chambers of the heart become larger, its walls stronger, and thus it is enabled to transmit into the arteries of the lungs fuller streams more forcibly impelled. The increased volume of blood for which the augmented requirements of the system now call for must however be duly oxygenated by the lungs. The air-cells which were amply sufficient for this purpose so long as a sedentary life was passed, fail to meet those demands which are now made upon them. Hence we get in the lungs larger blood-vessels and probably also additional air-cells and newly-formed capillaries to traverse their walls. Stimulated by exercise in this way, both heart and lungs extend their boundaries. For, if the lungs with their blood-vessels did not grow larger in the manner I have described, that relation which in health is invariably maintained between the systemic and pulmonary circulation would inevitably be upset, and the necessary result would be that the lungs would become congested, while there was no undue engorgement in other parts of the system; thus involving such an amount of disturbance as is altogether incompatible with that vigorous health which we are accustomed to witness during a state of training.

Such then are, I believe, the effects of hard exercise on the chest; the requirements of the muscular system necessitate a more copious afflux of healthy blood to the parts whose nutrition is exalted, and this augmented volume of blood must receive its oxygen in the lungs; in order that they may be enabled to admit it the lungs themselves must grow larger, and in so doing they will open out the cavity of the chest. Hence the increase

of the thorax is not merely another form of muscular development, but an outward sign of augmented constitutional vigour. Numerous observations have satisfied me that it is a centrifugal expansion, an enlargement from within outwards, an increase of the vital organs, whose functions are called into more exalted activity by the forcible contraction of the muscles. Viewed under this aspect, the value of hard exercise must rise immensely in our estimation; for, in this manner, by the movements of our limbs we are able to acquire an additional store of constitutional power, a renewed lease of life itself; and we are further justified in affirming, that those who assume that there is a certain natural antithesis between mind and matter, that energy of brain is incompatible with activity of muscles, must, to some extent, moderate their views. For it would thus appear that through despised athletics not only the biceps and gastrocnemius but the heart and lungs also may be healthily developed. And let it be remembered that in proportion as heart and lungs fulfil their functions in a more satisfactory manner, so will the brain also undertake its labours under more favourable conditions. The occasions on which we hear "muscle" slightly alluded to are by no means rare, but I never yet saw the man who did not prize the possession of a good chest.

Inasmuch then as the course of training for the University Eight is usually a means of considerably increasing the circumference of the chest, it proves in this way a valuable source of strength for years to come. If by means of rowing and other forms of athleticism a young man succeeds during his University career in putting on some two or three inches more of chest than he would have done had he confined himself to that most

depressing of all pastimes, the reading man's "constitutional," he will have laid up for himself a goodly supply of physical vigour wherewith to commence the battle of life. An addition of three inches to the circumference of the chest implies that the lungs instead of containing 250 cubic inches of air as they did before their functional activity was exalted, are now capable of receiving 300 cubic inches within their cells: the value of this augmented lung accommodation will readily be admitted. Suppose, for example, that a man is attacked by inflammation of the lungs, by pleurisy, or some one of the various forms of consumption, it may readily be conceived that in such an emergency the possession of enough lung tissue to admit 40 or 50 additional cubic inches of air will amply suffice to turn the scale on the side of recovery. It assists a patient successfully to tide over the critical stage of his disease; the actual crisis is often short, and during its height the chances of life mainly depend upon the amount of lung available for decarbonizing the blood. I would further submit that from such an increase of chest, depending as it does upon a greater influx of healthy blood, and indicating a higher degree of constitutional vigour, we may reasonably expect more physical capacity for work in after-life, even though that work be brain-work, requiring the exercise of the noblest intellectual faculties; for if the brain is to fulfil its functions in a satisfactory manner, it must be liberally supplied with healthy blood. Indeed brain-work is peculiarly exacting in the demands which it makes on the vascular system. I believe it will generally be found as a matter of daily experience, that although very considerable acuteness of intellect may at times be associated with a slightly formed and puny frame, still in the working of such brains we often ob-

serve a sort of dyspeptic irritability of mind, a certain perverse obliquity of judgment; while on the other hand a manly and vigorous mind and a full deep chest—"mens sana in corpore sano"—are frequently united in the same persons. Hence the youth who at school or at college may perhaps have devoted more time than he was justified in doing to the cultivation of his muscles, provided he has not also acquired irretrievably idle habits, will, as regards health, commence life under more hopeful auspices than a far more industrious man whose thoughts have been wholly given to studious pursuits.

On the last occasion on which the baneful consequences of the University Boat-Race formed the subject of a newspaper controversy, an allusion was made to one somewhat curious effect, said to be experienced by those who indulge in violent exercise: I refer to the tranquillizing sensation known to Oarsmen as "second wind." By some the very existence of such a state has been looked upon as altogether apocryphal, while an attempted explanation is but ill-calculated to satisfy the sceptical. Now I think there are very few rowing men who do not believe in "second wind," who have not in fact in their own persons felt that after doing a certain amount of work in a race, they are, strange to say, more comfortable than immediately upon starting. At the commencement of the struggle, after rowing perhaps only one or two hundred yards, many Oarsmen are inconvenienced by a very distressing sense of breathlessness, and if, as the race proceeded, this feeling became more intense, a Boat-Race certainly would prove no very agreeable pastime. Fortunately, however, this dyspnœa, though unpleasant, is by no means lasting; it gradually passes off, and then the rower, in

nautical phraseology, has got his "second wind." Do the teachings of physiology throw any light on such a state as this? I believe that they do, though the explanation which lately appeared in a daily paper is manifestly incorrect. It is couched in these words: "The great pressure for breath occurs early in a race at the crisis when extra respiration is required by the system, but the lungs have not yet expanded to the full extent of their power; as soon as they reach this expansion, distress subsides and exertion becomes comparatively easy again; 'second wind' has come—respiration does not fail again during the race."

In reference to this hypothesis, I would remark, that the act of deep inspiration, the expansion of the chest, is regulated by the contractions of voluntary muscles; which are acted upon by the will, and so soon as ever they are called into play the chest expands in every direction, while the air rushes down the windpipe to occupy the enlarged cavity. For such a process very little time is needed; and, could the feeling of breathlessness be got rid of by so natural and simple an expedient, it is very certain that the Oarsman would not allow himself to be long distressed.

I believe, however, the following considerations will in some degree elucidate the nature of "second wind." Immediately before a Boat-Race commences, there is usually a longer or shorter interval of rest; during this period the men remain perfectly still, awaiting the expected signal for a start: while the muscles thus remain inactive and relaxed, a considerable quantity of blood collects in the veins. Presently the word is given, the muscles thereupon violently and suddenly contract; in contracting they press forcibly upon the veins and hurry their contents in rapid currents into the right chambers

of the heart; the heart, on experiencing this influx of venous blood into its cavities, forcibly ejects their contents into the arteries of the lungs, which for a time become unduly gorged, occasioning a kind of temporary congestion. This state however does not last, for soon that balance between the greater and the lesser circulation which has been temporarily upset is once more restored: the blood is then distributed in equal quantities to the general system and to the lungs, and thereupon the rower feels less breathless and more comfortable; he has fairly earned his "second wind." The explanation here given appears to derive some support from the fact that this sensation is experienced to a far greater extent soon after the commencement of a race, when the muscles have just been in a state of relaxation, than it is at a later period of the struggle, when special efforts are demanded from the men.

I have before stated, that in discussing this subject several of my correspondents remark that it is only reasonable to assume that harm must be done by such trying exertion as boat-racing demands. Indeed it is said, "flesh and blood cannot be expected to stand so severe a strain." Those who hold these views, seem to know but little regarding the extraordinary strength of muscular fibre. The Rev. Professor Haughton of Dublin, a high authority on every subject which he investigates, in a Lecture delivered before the Royal Institution in the month of June, 1871, throws considerable light on this important question. He discusses the amount of work done by the human heart, and the manner in which its functions are fulfilled. "The heart," he says, "is a small muscle weighing only a few ounces, and it beats perpetually, day and night, summer and winter." Experiments which Professor Haughton has made clearly

demonstrate that "every ounce of a healthy heart is capable of lifting about 20 lbs. through one foot in a single minute." "But this," he remarks, "conveys no adequate conception of the enormous amount of work which that represents." He therefore devised a plan for the purpose of shewing his hearers how much they ought to wonder at the great work performed by the heart. "The average time," he continues, "in which the Oxford and Cambridge Boat-Race is rowed (and it has been rowed 20 times in 21 years over the same course) is 23 minutes and $3\frac{1}{2}$ seconds, and the length of the course is 4.31 miles." From these data, and from plans and sections of the boats, he was enabled to determine the amount of work done by the muscles of the young men who pull in this hardly-contested race. His calculations shew that "during the 23 minutes the race lasts, every ounce of muscle in the arms and legs of the rower works at the rate of 20.124 lbs. lifted through one foot each minute." "This," the learned professor remarks, "comes out to be very much like the amount of work that my heart is doing at this moment. Indeed, I am not sure that it is not doing more work than that, now that I am lecturing." "In the case of the young men, who pull in this race for 23 minutes, every ounce of muscle in their arms and legs gives out a force that in a minute would lift 20 lbs. through a foot. If any of you have seen" (Professor Haughton does not say that he has himself witnessed this painful spectacle) "the exhausted condition of those young men when taken out of their boats after 23 minutes, you will, I think, agree with me, that human nature could not endure that labour for 40 minutes; yet the heart of an old man, close upon 100 years of age, has worked for that 100 years of his life as hard as the muscles of the young

men that pull in the Oxford and Cambridge Eight-oared Race."

Now here we have, be it observed, actual demonstrative proof of what the human heart is capable of doing, and what it continues to do during life. It is no mere spasmodic effort, but sustained work. I cannot help thinking that from these premises a very different conclusion might legitimately have been drawn. Professor Haughton's experiments shew conclusively the extraordinary strength of striped muscular fibres, such as those which enter into the composition of the heart; but the voluntary muscles throughout the system generally are constructed much after the same pattern, and contain similar striped muscular fibres. What just grounds are there then for assuming that these muscles are so much weaker than those of the heart? May we not then conclude, not that human nature is incapable of enduring such excessive labour for 40 minutes, but rather, that human nature is endowed with the power of undergoing both more violent and more prolonged exertions than many persons in these effeminate days appear disposed to admit? At all events, I cannot help thinking that the words I have quoted are likely to prove singularly soothing to many an old University Oar who has been labouring under the impression that the muscular excesses of his youth are still likely to find him out; and whose serenity has been disquieted by alarming assurances of a coming collapse. He has probably been accustomed to look back on the labours he underwent on the day of the race as something which in after years he would seldom be called upon to repeat, when here he is told, on the highest authority, that he has within him another muscle which, in spite of himself, and with but little to remind him of its existence, does

proportionately as much work as he ever did in the Putney race.

As a matter of experience, however, I have ascertained that it is a mistake to assume that strong men cannot continue to row as fast a stroke as that pulled in the match for forty minutes. I have been assured by many of the old Oars, that when in training they would have had no difficulty in keeping up a stroke of 38 or 40 in a minute for even more than an hour. In point of fact, the exhaustion and distress consequent upon the race, have, I believe, been very greatly exaggerated. Professor Haughton speaks of the young men as being "taken out of the boats," as though they were so much fatigued that they could not leave their ship without assistance. I am, however, in a position to affirm that in all the Boat-Races I ever witnessed (and in the course of my life I have seen a considerable number) no such event ever took place. Indeed, it is marvellous how much work may be safely undertaken by a young man, who, to use a training phrase, is in "first-rate condition." Thus, I am assured by one of the old University Oarsmen who rowed in the year 1829, that, accompanied by a friend, he walked on one occasion from Cambridge to London, a distance of 51 miles, in 13 hours. The best runners are capable of accomplishing ten miles within the hour, and 40 miles are said to have been done in four hours and three quarters. Feats like these are a far more severe strain on the constitution than the less protracted exertions of a four-mile Boat-Race. On the whole, although the letters I have received refer to almost every topic connected with the race, they are singularly silent regarding any undue distress being experienced by the rowers. I have repeatedly, also, conversed on this subject with some of

the most distinguished University Oars, who have informed me, without exception, that excessive prostration is but rarely felt. Several very successful strokes have assured me that they were never afraid to let their adversary head them in the early part of the race, as a thorough knowledge of their crew enabled them to calculate with the utmost nicety the reserve force at their disposal, and the exact amount of work that could be got out of their men. Other strokes, it is true, no less experienced, pursued a very different course. In their opinion, a stern race exercises a depressing psychical effect: it was, therefore, their practice to fight out the contest from the very commencement. On physiological grounds I am disposed to think that the tactics of the former were the more correct; for when men gradually warm to their work, more, as a rule, can be got out of them in a long race than when they are flurried at starting.

The letters then which I have received from the rowers, and the conversations I have had with many of them, alike testify that except in rare instances any approach to collapse is practically unknown. Indeed many Oarsmen, so far from experiencing exhaustion, seem to revel in the hardest spirt. At such a time well-trained men will firmly set their teeth, plant their feet against the stretchers, put their backs into the work, and pull their oars well home; and in this way, thoroughly wound up for the struggle before them, are so far from falling to pieces, that they seem rather with their grand swinging stroke to rival the perfect precision of some well-arranged machine.

It is, indeed, strange how the exaggerated ideas which have taken possession of the public mind regarding the paralyzing exhaustion often felt by those who engage in this race have become so widely dis-

seminated ; they certainly cannot be traced to the rowers themselves, but would appear rather to originate in the fanciful and over-timid brain of paterfamilias. To a man who cannot ascend his own staircase without puffing and wheezing, the notion of a four mile Boat-Race is something too horrible for contemplation. I have seen men, who though in years they are but little past the prime of life, become so thick in the wind, that when compelled to quicken their pace to catch an omnibus or a train they frequently hang out more urgent signals of distress than are exhibited by a well-trained Oar after a hard Boat-Race. In the latter case fatigue soon passes off, but in the former the too active traveller will often experience discomfort for the remainder of his journey ; and, in not a few instances, I have known permanent injury originally excited by some trivial exertion. Indeed, one of the three cases of heart disease to which I have alluded, as having proved fatal to an old Oar, was of this nature. The man to whom I refer rowed about 30 years ago. For upwards of 20 years after the race he enjoyed excellent health, and never considered himself any the worse for rowing. "He grew very stout, and, farming largely, over-exerted himself very much one day in driving some trespassing cattle out of a cornfield." In so doing he appears to have injured his heart, for from that time his health gave way, and he died "after a year or two's suffering from severe heart disease."

The particulars of this case have been kindly supplied to me by one of his relations, and strikingly illustrate the danger of comparatively trifling exertions when a man is out of training and not so young or active as he once was. For in the matter of violent exercise youth is a most important consideration ; many

an athlete will perform feats of activity at 20 which no amount of training will enable him to accomplish at 40 or 45. In mature manhood we often find great powers of endurance, but if we require both celerity and force combined in a high degree, we must look to youth, to the period of life when the elasticity of the tissues is still in the ascendant. For when those internal organs which occupy the lower of the two great compartments of the trunk increase in bulk, when in the too flattering language of our tailors we become "a trifle wider across the chest," weighted with the distressing evidence of advancing years, it is but too natural that we should look back with awe and wonder to the insane excesses of our youth.

In discussing the effects of hard exercise it is fitting that I should make some reference to certain erroneous opinions which very generally pervade the letters of my correspondents, opinions which betray a wide-spread ignorance regarding some of the fundamental principles of physiology. Thus several writers, though in perfect health, appear to labour under the impression that they have taken something out of themselves at the Universities, and thereby unduly taxed their constitutions. One of them gives expression to a very general sentiment in these words: "I feel," he remarks, "that I have wasted, on the passing excitement of a race, the vital energies required for the great realities of life."

Words such as these seem to shew that many persons entertain a belief that there exists in the human frame some general store of muscular and nervous force, which by over exercise may be prematurely exhausted; and that one of the most serious objections to a Boat-Race consists in the notion that it makes a permanent deduction from the vital energy of the rower. Were such

the case we should reasonably expect to find that in proportion as a man leads a less active life, so will he possess within himself the capacity for doing more; in fact, the less he trenches upon his physical capital, the more there will be on which to draw. This view may, to uninformed persons, seem sufficiently plausible, but in the case of the animal tissues it is certainly incorrect. For the experience of pathology clearly demonstrates that when muscular fibre is doomed to inactivity for any length of time, either atrophy or some other degenerative change invariably supervenes. Of such changes we see an extreme example where a limb is paralyzed and incapable of movement. In some cases the muscles become thin and attenuated, in others there is an abnormal deposition of fat. When, on the contrary, the different organs and tissues of the body are judiciously exercised; when waste and repair go on side by side (the processes of rebuilding being somewhat more energetic than those of demolition), then we invariably find, not only that the parts called into play are better adapted to perform their work, more capable of fulfilling their healthy functions, but that they also prove themselves more permanent and enduring. Hence, so far is the expenditure of muscular force from proving detrimental to the system, that it actually produces an opposite effect, rendering the tissues not only larger and tougher, but also more lasting. In fact, the strength of the human frame depends in a great measure upon its renovation. For in proportion as animal tissues are more rapidly and energetically renewed by molecular changes, so does their power increase; moreover, the nutritive processes which ensue are not exhaustive in their character, but are capable of indefinite repetition.

A striking illustration of the truth of what is here urged regarding the renovation of tissue—itsself depending on the renewal of the blood—may be deduced from the thoroughly active lives still led by several of the twelve survivors of the first two crews. Energetic as their habits have been, and numerous as have been the calls on their muscles and their brains, yet their bodily and mental vigour still remain unimpaired.

There is another point bearing on the selection of crews for such a contest as the University Boat-Race on which I would offer a passing remark. The question has been asked, how is it possible to gauge constitutional vigour? for “great muscular power by no means insures equal strength of the internal organs, the vital machinery of the body; on the contrary, the organs of animal or external life and those of organic life are often inversely developed.” Hence you may choose for your boat a man, who though a Hercules in outward build, is still unsound at the core. This objection, it appears to me, is more apparent than real; at all events it derives but little support from the numerous letters which I have received regarding the health of the rowers; generally speaking, those who have suffered have been more frequently men of a certain delicacy of fibre than those who were brawny and muscular. Besides, as a matter of fact, the great centres of organic life are in their structure very nearly related to the so-called organs of external life. The heart, the most important of these organs, is itself a muscle, and the vessels which issue from its cavity are surrounded by muscular bands. If then training be commenced gradually and carried out systematically, it will be the means of strengthening the muscles both of the heart and of the vascular system in a degree proportional to that in which it develops the voluntary

muscles. Seeing then that these two sets of organs are in their functions and in their structure intimately interwoven and co-related one with the other, we should scarcely expect to find that in the same individual the one set of organs should be enduring and tough while the other is soft and yielding. It must be further remembered that the labour of the heart and of the lungs only stops with life itself, their vigils are sleepless, though sickness assail them their toil never ceases. On the other hand, the muscles and the limbs enjoy periodical seasons of rest, and if injury supervenes they can be invalided, and thus placed under the most favourable conditions for recovery. Although, therefore, the vital organs are, from the conditions under which they work, more liable to be damaged than those upon which the calls are more or less intermittent; still I am disposed to think that the cases in which they are "inversely developed" are extremely rare, and that such a picture as that of the highly-trained athlete, who, though apparently full of rude health and exulting in his "superb muscular development," receives from a man of science the comforting assurance that he has a canker at the core, and will "never row in another match," though well calculated to adorn a tale, is painted rather from theoretical assumption than from practical observation. For my own part I believe that, in so far as the University Oars are concerned, such a description would only apply to men who, presuming on their vigorous muscles, either over-exerted themselves without due preparation, or to those who lived a somewhat freer and more self-indulgent life than is compatible with athleticism.

In considering the effect of rowing in the Universities, in its bearing on health, we should never forget that the exertions made on the river, in not a few instances,

serve as the scapegoat for ailments originating in less innocent causes. On the whole the standard of morality at the English Universities, more especially at the better Colleges, is as high and as sound as that of young men of a corresponding age in any other walk of life. At the same time youth is impulsive, and where the young are collected together in considerable numbers, a certain proportion do not prove themselves as immaculate as could be wished. Among these irregular livers some will at times suffer for their sins, and on such occasions it is frequently sagely affirmed that "that dreadful rowing has again produced its baneful effects," and we learn from the lips of a Cornelia or a Phyllis, that a son or a brother has once more been sacrificed to the devouring Moloch of the Isis and the Cam.

Were all such charges against our national pastimes accepted with a greedy credulity, the bill of indictment against these pursuits would indeed be a heavy one. Although, therefore, I would desire that mothers and sisters should live on in their state of blissful ignorance, I would still say to every man who desires honestly to investigate the influence of exercise on the health of athletic competitors, that he must accept with a cautious reserve all statements regarding the pains and sprains induced by rowing, more especially if they proceed from the fair sex; for I can assert, without fear of contradiction, that those whose professional avocations bring them behind the scenes have the best means of discovering that the instances in which harmless recreations are saddled with the odium which more legitimately belongs to some guilty indulgence are by no means rare.

One of the strongest objections urged against that spirit of athleticism which has taken possession of the Universities at the present day is, that idleness and gene-

ral want of application are said to have sprung up in its train, and are its constant accompaniment. Young men are sent to the Universities in order that they may receive a polite education, may become familiar with the writings of the better known classical authors, that they may study history, mathematics and philosophy, and acquire some insight into the natural sciences. Will not then courses of hard training, extending over five or six weeks, materially interfere with these academical pursuits, and tend to mar the undergraduate's prospect of University distinction, on the attainment of which his future career so largely depends?—does he not in this manner devote too large a portion of his thoughts to what is after all but a recreation and a pastime? On this subject several of my correspondents have expressed themselves strongly, and it is one which well deserves the most attentive consideration.

With a view of putting this question to a crucial test, I have tabulated the Honours gained by the Eights in the Schools and in the Senate-house, and compared them with those obtained by University-men generally during the last forty years. The following are the results :—

In Oxford, between the years 1829—1869, 11,310 men “satisfied” the classical examiners in the honours and in the pass schools—of whom 515 obtained a first-class and 915 a second. Hence it would appear that during the forty years which have elapsed since the Boat-Race was first rowed, about one man in every twenty-two who passed in classics or 4·6 of the whole has obtained a first-class, and one in every 12·5 or just eight per cent., a second. Among the 147 Oxford Oarsmen six, or one in 24·5, about four per cent. of the number, gained a first—and one in 11·3, about nine per cent., a second. Hence

taking the "first" and the "second" together (I omit all allusions to Moderations and other forms of University distinctions, several of which were unknown at the time the earlier races were rowed)—it may be said that at Oxford the men in the Eight, in so far as may be judged from their classical attainments, have shewn themselves much on a par with the rest of the University.

At Cambridge, on the other hand, the rowers who distinguished themselves in the Senate-house were more numerous. Thus among the 147 Cambridge men—ten appear in the first class, five in the second, seven were wranglers, and twenty-one senior optimes—thus twenty-eight per cent. of the oars, not content with their laurels on the river, bore off honours also in more important contests. The high academical distinctions credited to some of these men are of deep interest, inasmuch as they prove conclusively that mind and muscle, provided only they be judiciously guided, are not unequal yokefellows, but well able to work together. For of the ten first classmen three were senior classics, two were second in the first class, and two fourth in the first. Two of the three senior classics also gained the Colquhoun sculls.

These instances sufficiently testify that the same blood may minister to the development of muscular fibre and to the nourishment of the brain, so that both the one and the other will be enabled to fulfil their functions in a thoroughly vigorous and healthy manner; muscle grappling with physical obstacles, and brain overcoming intellectual difficulties. If then we view the two Universities as one body, and compare generally the academical distinctions gained by the old Oars with those obtained by men never decorated with the blue

ribbon of the river, we find that in the number and still more in the importance of their honours, the rowers decidedly have the advantage. And many of these men did not content themselves with "slaking the thirst of early ambition" while under the fostering care of their Alma Mater, but they exhibited in after-life also the same superiority over their fellows, the same aptitude in working to the front. When among 300 aquatic champions we find recorded the names of three bishops, two judges, and one learned historian (not to speak of the various other important posts held by University Oarsmen), we think it will be admitted that the fortuitous aggregation of 300 men can but rarely shew more conspicuous examples of intellectual attainments rewarded with success. Hence (to use the words of one of my correspondents) men of well-regulated minds may perform the *ἔργα* (the real business) of the University, and at the same time enjoy their full share of the *πάρεργα* (the pastimes).

The subject of which I am now treating, the Intellectual Influence of Athleticism, has been discussed by one of my correspondents, Mr R. F. Clarke, late Fellow and Tutor of St John's College, Oxford, in a pamphlet published in the year 1869. "Those," he remarks, "who attack athleticism as the cause of our deficiencies, argue rather from a pre-conceived prejudice than from any knowledge of the facts of the case; they little think that the objects of their aversion and contempt are really the class whom they ought specially to delight to honour; that the 'barbarized athletes' are the intellectual athletes too. They strangely forget that the Colleges most distinguished on the River and in the Cricket-field are also most distinguished in the Class Lists, and that on the other hand those Colleges and Halls most prone to

idleness and debauchery do not, except at fitful intervals, rise to prominence in athletic pursuits. The gladiatorial feats of Cowley Marsh may be a very lamentable result of Oxford culture; and to row in the head boat of the river may be a very despicable ambition; but one or the other, so far from hindering mental energy, may be shewn by the clearest proof to encourage and develop it; for while the average of class-men in the University generally is 30 per cent. (from 1829 to 1869 it was 31 per cent. J. E. M.), among cricketers it rises to 42, and among rowing-men to 45 per cent.; nay, the very *élite* of the university, the men who subsequently obtain open Fellowships, are more often found in their College Eights or Eleven than any other section of the community." In an appendix Mr Clarke supplies some statistics on which his observations are founded. What he says in regard to the same Colleges being distinguished in the Schools and on the River is, I think, fully borne out by a Table which I have compiled and inserted at the end of this volume. This Table shews the number of men that the different Colleges of Oxford and Cambridge have supplied to the Eights; and those who are acquainted with the inner life of the two Universities will doubtless pretty generally admit that the Colleges which have furnished the largest contingents to the Boats, are also those in which the general tone of undergraduate life, the mental and social culture among the students, have been most satisfactory.

The enquiries then of Mr Clarke, coupled with my own investigations, prove conclusively that so long as moderation is observed, athletic pursuits need not debar a young man from cultivating the attractive society of the Muses. Two or three hours passed on the river constitute no very heavy tax on the 15 or 16 of

which our waking day consists. If, during a College career, six of these hours be applied to diligent study, they will be amply sufficient for intellectual culture and the acquisition of knowledge. In such a division of our time, eight or nine hours would be given to reading and exercise, and the remaining six or seven allotted to meals, social intercourse, and all those varied diversions and eccentricities which spring in such prolific profusion from the fertile fancy of the undergraduate mind. On such a bill of fare many a man has flourished both physically and mentally, has rowed in the Eight, and taken a First. The idlest men at Oxford and Cambridge, the "Dundrearies" of the Universities, will not endure the self-sacrifices that are needed for an honest course of training, but find such exertions altogether alien to the bias of their minds.

A word of caution is perhaps here necessary, for the observation of others and considerable personal experience have satisfied me, that however vigorous a constitution may be, the supplies of nerve force available are still limited. These stores of nervous energy are recruited out of the blood, chiefly during the hours of sleep. Under the influence of the will I believe that this force can be directed into various channels and applied to wholly different purposes. It may be expended on the movements of the voluntary muscles, as when exercise is taken, or it may be devoted to some one of the varied forms of mental culture, or it may furnish the stimuli needed for the gratification of the pleasures of sense; a portion likewise is required for the important processes of digestion, secretion and nutrition. Thus we see that the store of nervous force within our frames may minister to motion, to thought, or to sensation, and where these functions of nerve tissue are so

exercised that there is no excess in any direction, there we are accustomed to see a well-regulated mind, and there also we expect to find that the physical requirements of the system will be duly attended to.

Inasmuch then as there lies within each of us a well-spring of nervous energy renewed daily, and peculiarly vigorous in the season of youth, a power which though frequently impelling men to commit excesses, can still be directed into healthy and innocent channels, it is important that in so complicated a machine the distribution of this force should be evenly balanced, and no part be permitted to absorb more than its due share of the physical capital. These reflections naturally suggest the question, whether such hard work as is needed in the training for an University match, if maintained for any length of time, does not necessitate the expenditure of so large an amount of nervous force on the contraction of muscles, as will encroach unduly on what should legitimately be applied to mental exertitation. These words of warning however are addressed rather to those who, in the busy whirl of Regattas and Cricket Matches, are in a sort of perpetual training during all seasons of the year, than to others who rest satisfied with one or two Putney races and with the labour needed in their College Boats. The opponents of these pastimes are accustomed to urge (and they do so, I grant, with very considerable justice) that they find no fault with young men for spending several hours daily on healthy exercise, but they do protest against that spirit of competitive emulation which is so closely allied with the prosecution of Athleticism; that blind infatuation which seems to hold its votaries in thralldom.

The rising generation are not satisfied with expending a large portion of their nervous energy on the contraction

of their muscles in propelling their boats, but when they are out of those boats, even at times when their books lie open before them, their thoughts and their conversation are directed rather to the chances of making another bump, than to mastering the difficulties of *Æschylus* or *Thucydides*; indeed the minds of many young men in the present day seem to be alive to no other questions than those which relate to the cultivation of their muscles. Unfortunately for them this is a species of improvement which many parents feel but little disposed to appreciate; they did not send their sons to the Universities for the purpose of becoming Acrobats. They look forward to the return of their offspring for their numerous and long vacations with anxious expectation. They have heard of strange innovations at the Universities; Ritualistic excesses; Latitudinarian proclivities; Socialistic crotchets; Darwinian theories of Simian descent; the dangerous intrusion of "sweet girl-graduates" at lectures and in common-rooms; in a word, all the wild phases of thought and feeling which prevail in these mighty centres of intellectual activity will soon be made clear to them.

But when the hope of the house revisits his home and is eagerly interrogated on all the stirring topics of the day—his mind is a blank. He can indeed tell the cricketing prospects of his College and the chances of his boat. He never wearies of descanting on the unfaltering pluck of his Stroke; the free-hitting and consummate generalship of the Captain of his Eleven; or the splendid rush by which the "odd event" was secured. At times perhaps, melted by paternal generosity, he will give utterance to his own dearest aspirations, and with faltering voice confide to the parent whose heart is set upon academical distinctions, that University Honours

are a delusion and a snare, little valued by "good fellows" of the present day ; while, if fortune prove propitious, it is not impossible that his name may yet be known to fame as the proud father of a "varsity oar." This is no exaggerated picture of the rage for athletics which obtains at our Universities in the present day. Nevertheless, until study becomes more attractive to young men, or until the great importance of early application to literary pursuits is more generally appreciated, how to preserve a combination of physical with mental development is a problem which demands the earnest attention of all who are engaged in the work of education.

It must be remembered also that a large proportion of the persons who in these days send their sons to public schools and the Universities, are more desirous that they should profit by the social influences which will there surround them, than that they should turn out studious and literary men. "My son is not required to make his own living ; thank God I have enough both for him and for myself." Such sentiments are entertained by many ambitious fathers who, far from viewing our classical seats of learning solely as the congenial homes of polite literature, fondly hope through the kindly arms of Alma Mater to gratify their own moneyed thirst for social position. To a parent who himself perhaps has probably only received what is called "a sound commercial education," it appears no small achievement on the part of his progeny if he succeeds in matriculating at a good College ; and should he be fortunate enough to obtain a Degree, the event will be celebrated in enthusiastic pæans. For young men of this class, who are not expected by their friends to put high pressure on their brains, and for others who have no aptitude for any kind

of study, it is very fortunate that nature provides a safety-valve for the exuberance of youthful vigour in wholesome exercise; and this outlet for superfluous energy, though by many deemed trivial, is at least thoroughly harmless and innocent, by no means a small recommendation. Compare, for example, such a subject of interest as is afforded by a Boat-Race, with the conversation and amusements which absorb the thoughts of the idle and the dissolute. It will readily be granted, that whenever a young man determines to excel in such a contest, he immediately imposes on himself a very considerable degree of restraint. Every excess in diet is avoided, every irregularity that could interfere with the hopes which have suddenly become the all-important object of youthful ambition is manfully checked; a change comes over the whole character. The unwholesome productions of the pastry-cook now lose their attractions; the narcotizing fumes of the fragrant Havannah cease to soothe; the deep-drawn draughts from the oft-replenished tankard are but rarely quaffed. All these hitherto prized excesses are at once stoically abandoned. "Drink," says the future Milo, "is bad for the wind, pastry produces internal fat, tobacco blunts the keen edge of the sight and makes the hand unsteady; all therefore must be carefully eschewed." Nor is such self-imposed restraint to be lightly esteemed; for in this way, by little and little, habits are formed, and wholesome moral discipline vigilantly carried out. Those who know the temptations of school-life, the snares surrounding young men at the Universities, when for the first time they begin life as their own masters, with more money than they ever had before, with dangerous opportunities of contracting debt, with ample leisure, with facilities for self-

indulgence immensely increased by the rapidity of locomotion ; those, I maintain, who are acquainted with all these enticing allurements of academic life may justly feel thankful that reliance can be placed on their sons, even though that confidence be solely based on the regular habits inseparable from athletic aspirations. In a large proportion of cases a young man's future career at the University is determined during the course of his first Term. If he applies himself to studious pursuits, or prosecutes energetically some one of those forms of athleticism which necessitate a strict course of training, the probabilities are that even though his course in after life may not turn out particularly brilliant, it will at all events be respectable ; on the other hand, if his ambition be thoroughly grovelling, if his thoughts soar no higher than "to do the High," or to saunter about King's Parade, apeing the strangest eccentricities of attire during the day, and making the night hideous with wild revelry and buffoonery, the sooner he be removed from the University the happier it will be for his friends and for any remnants of reputation which may yet remain to him.

In the foregoing pages I have endeavoured to shew, that although such work as is required for the Eights at Putney is no doubt severe, still, provided the rowers be men of robust frames and sound constitutions, and are likewise carefully trained, it is not likely to be followed by injurious consequences. At the same time, I am bound to confess that a large proportion of the Oars do not undergo that continuous and gradual preparation which on physiological grounds I should be disposed to recommend ; and the wonder is that so many escape unharmed. How, for example, are the men usually selected for the University Race? Sixteen Oarsmen are chosen by the Captain from among the dif-

ferent Colleges, and set to row in a couple of eight-oar boats. After pulling together for a short time, they are called upon to contend against each other. These boats are known at the Universities as the Trial Eights; an appropriate name in more senses than one. Not a few of my correspondents assure me, that though they never felt any inconvenience from rowing at Putney, they were much distressed by this trial race—and seeing that many of them were at the time but imperfectly trained, it would have been strange indeed had they not felt exhausted. Besides, what is such a trial intended to shew? It gives very little information regarding the individual merits of the different men who row in the two boats. Indeed, in some cases it is calculated to mislead. We find, for example, that some rowers are always more or less in a state of training; they are usually spare, wiry men, equal at all times to undergo a certain amount of exertion without experiencing much discomfort. Others again, often men of more robust constitution, carry a certain amount of fat, which requires fineing down before they are in a fit state to take hard exercise. Trial Eights would doubtless, however, serve a useful purpose provided the two crews were not matched against each other in a race. A desire to obtain a place in “the boat” urges the Oars to exert themselves to the utmost. Suppose then they have taken the trouble to undergo a regular course of preparation for this contest: in that case there is a danger of their not being in so satisfactory a state of health when training is really needed for the Putney struggle; such men by too continuous training having become, in boating parlance, stale. For it must never be forgotten, that although, when trained, a strong man experiences a sensation of as nearly perfect health as it is possible to enjoy, still this hygienic state is one

of high tension, unnatural and forced. It is in fact one in which many disorders, more especially those of an inflammatory type, are apt to assail the system with marked intensity: and Aristotle is justified in saying that the high condition attained by athletes is a perilous sort of health. A course of hard training therefore should not be taken unnecessarily, nor yet too often.

If, on the other hand, the rowers at the time they contend in these Trial Eights are not well prepared (which is the more likely of the two), there is considerable risk of the exertion proving injurious. In all cases in which it is desired to develop the strength of a set of men to the utmost possible extent with a view of enabling them to undertake some great physical effort, the secret of a trainer's success will in no small measure depend upon the exercise being at first very moderate, and afterwards gradually increased. In this manner, day by day, the frame acquires additional strength, and is thus enabled successfully to meet calls of a more arduous nature; the muscles grow hard and firm, the superfluous fat is removed, and the vascular system strengthened to bear the additional strain it is intended to endure. So long as training is conducted on these principles, the powers of the body being slowly and systematically called out, the process of preparation will proceed satisfactorily; but let this plan of procedure once be interrupted and an undue stress laid upon muscles but partially trained, there must be a certain risk of reaction. For whenever animal tissue is over exercised, nutrition for a time is more or less checked.

So long then as these Trial Eights avoid all competition with each other, and the crews of which they are composed content themselves with rowing a long steady

stroke under competent coaches, they will find that their powers of endurance and their skill in handling the oar will alike improve. I believe that these boats might with advantage be kept at work during the whole of the Michaelmas term and the early portion of the Lent term. During this time various changes should be made in the crews with a view of securing the most efficient men, preference being given to those who when tested appear to display the greatest amount of stamina, and to thrive upon their work.

When at length the time of actual preparation for the race arrives, twelve of the sixteen Oarsmen should together commence a regular course of training, an eight and a four being kept in a constant state of practice. When so severe a race as the University Match is in prospect, it would be good generalship to keep in reserve an auxiliary four, from which unexpected vacancies might be filled. I have been assured by several of the old Oars to whom I have referred as injured, that they persevered in rowing even when unfit to do so, from not wishing to disarrange the crew at the last hour. In spite, however, of the pluck which many men have thus exhibited in sticking to their ships when virtually invalided, the recorded cases are by no means rare in which an attack of indisposition has proved so severe that it was found necessary at the last moment to substitute an untrained man. All risk of such misadventure might be avoided by the institution of these auxiliary fours. By their aid also it would be possible to afford to many excellent but not over robust Oarsmen an occasional day's rest. And at the same time, if some of those who at the commencement of their training appeared very promising, belied the hopes they had raised, their places might be supplied by more apt successors.

Other forms of competition on the river, denounced in strong terms by not a few of the "Oars," are the races known in the universities as the "Scratch-Fours." A considerable number of men, ambitious of obtaining a tankard (the "pot-hunters" of the river), and so of gaining a sort of spurious aquatic renown, pay some small entrance fee and send in their names as prepared to contend. The rowers thus entered are distributed by lot among the different boats, good and bad being for the time indiscriminately associated. Thus unequally yoked they struggle for the victory. To the indifferent Oarsmen it may perhaps be a source of pride to have toiled in the same ship with one of the University Crew, but how the latter can appreciate the heterogeneous company among whom his lot is cast is more difficult to explain. The style of rowing of the two men is totally different: the one would fain pull his oar well through the water, taking care to finish his stroke; the other meanwhile indulges in eccentric and spasmodic jerks, not unfrequently delaying the progress of the boat by the capture of phantom crustaceans. The unsightly appearance of a boat propelled after such a fashion (little regard being paid either to time or swing) is sufficiently to be deprecated by all lovers of good rowing; and inasmuch as these races are usually rowed without any sort of training and often extend over several days, they are in not a few instances, sorely trying to the men who endeavour honestly to do their work, and in some cases are even likely to prove injurious. They are destructive also to good rowing, for by engaging in them there is more risk of a good Oar contracting faults and adapting his stroke to the vagaries of his comrades, than hope of an indifferent Oar being permanently improved by his fortuitous association with high-class shipmates.

There are other races also on which a word of warning may usefully be expended: I refer to those which are annually contested between the second boats of the different Colleges. There are men who consider it below their dignity to prepare themselves in any way for a "torpid race;" and in some cases are so little careful about their health as to take their places in the boats immediately after indulging in a heavy meal, sometimes supplemented by sherry-cobbler and ices. Rowing under such conditions, it is not surprising that their appearance is often a very sorry one. After a short spurt they may be seen rolling about on their seats more like men suffering from the agonies of sea sickness than pursuing a pleasurable recreation. In this manner they not only pull without any sort of training, but exert themselves at a time when the system is least able to bear the strain. Such folly would never be permitted by any trainer, however inexperienced. Indeed, the danger of heedlessly undertaking violent exercise is so well understood in our military gymnasia, that the men while practising their exercises are carefully watched, and whenever undue distress is exhibited, their work is immediately lessened. This procedure is based upon the soundest physiological principles.

From the importance which I have attached to the encouragement of rowing and other muscular exercises, it must not be supposed that I would undervalue those studies for the cultivation of which the Universities were founded, and that mental training which they are peculiarly calculated to supply. Were our national games incompatible with the successful prosecution of a polite education, then assuredly such recreations should be in every way discouraged. But the statistics I have advanced regarding the distinctions gained by rowing men

prove conclusively that mental vigour, far from being hindered by bodily activity, is thereby materially promoted.

Dr Beddoe in his paper "On the Stature and Bulk of Man in the British Isles," corroborates the statements I have here made when he remarks: "If we examine only a single race, or reputed race at a time, we shall find that wherever that race attains its maximum of physical development it rises highest in energy and moral vigour." As an illustration, Dr Beddoe refers to "Scotland in general, to Northumberland, Cumberland, parts of Yorkshire and Cornwall, as the portions of Great Britain which produce the finest and largest men," and observes that "it will be acknowledged that they also yield more than their share of ability and energy for the national benefit." This, be it remembered, is no mere theoretical assumption, but an opinion based upon statistics, the result of extensive and original investigation.

I would further urge that if (as I have attempted to shew) physical development is of the last importance both to individuals and to nations, it will be generally admitted that the years which young men spend at the Universities are those in which active exercise proves peculiarly beneficial in strengthening the frame, for then growth is comparatively in abeyance while development is unusually energetic. The osseous system is mapped out, but the bones are not thoroughly set. They are still as it were very malleable, and the cartilages also are prepared to yield, while the chest may be taught to enlarge its boundaries. Many a youth who was perhaps shooting up a mere weed, slight, frail, and tall, has, by a judicious course of physical instruction, been moulded into a robust and well-built

man. In examining patients for Insurance Companies, I have frequently refused the lives of young persons on the ground that their chests were narrow and shallow. In several instances, however, these thoracic defects have been corrected by a systematic course of gymnastic exercises, justifying me at a later period in recommending their acceptance. At no time, and in no place, could every useful variety of exercise be more advantageously carried out than at Oxford and Cambridge. Without in any way detracting from the educational value of our old Universities, they might, for the class by which they are frequented, serve as valuable national gymnasia; colleges for the training of the mind, and schools also for the development of physical vigour. This adaptation of one and the same Institution to two such apparently opposite subjects of instruction was well seen in the ancient Gymnasia, more especially in the Academia and Lycæum at Athens, where the Sophronistæ (or teachers of wisdom) occupied an inferior station to the Gymnasiarchs. Nor must it be forgotten, that when the spirit of luxurious effeminacy reached such a height among the youth of Greece and of Rome that the Gymnasia were neglected and forsaken, national decadence rapidly supervened.

Unmindful of such lessons as these, many men look upon the cultivation of their minds as a sacred duty, while they utterly neglect the comparatively easy task of keeping their bodies in working order; and yet it is a question whether attention to bodily culture is not of even more importance to the well-being of our race. For we should never forget that outward form is more surely transmitted to a man's descendants than mental qualities, however high. Parents gifted with rare abilities are often humiliated at observing the painful dulness

which is apparent in their offspring, while those who are sound in constitution and powerful in frame are but rarely disquieted by the sickliness of their children. The sturdy grenadiers of Frederick William I., married to wives of surpassing stature, were the progenitors of a population which still supplies the most imposing Guardsmen of the German Emperor. Thus we find that in the vast majority of cases physical form is bequeathed from sire to son; and, inasmuch as athletic exercises are well qualified to develop the manly graces, they have a material influence on the improvement of our race. I feel persuaded that if every youth on attaining man's estate, and to a certain extent every woman also, were compelled to take just so much exercise as would call out the physical resources latent within them, the gain to our national health would be something marvellous. Scrofula, consumption, insanity, and other hereditary diseases, which are holding each succeeding generation in a firmer grip, would be sensibly diminished, while a far healthier tone would pervade public morals. A sound mind in a sound body requires other recreations than those supplied by the Casino and the Music-hall.

In the preceding paragraph I have attempted to shew that a robust constitution is the most precious heirloom which a parent can pass on to his children; and yet there are many persons who by undertaking more work than they are capable of accomplishing, materially injure their health, thus inflicting a heavy penalty on yet unborn generations. Now although, as I have shewn, men who indulge in muscular excesses may injure themselves, still I am disposed to believe that the harm done is solely personal, and but rarely likely to prove hereditary. More than one of those whose experience is recorded among my "injured Oars-

men," has assured me that if they suffered in their own persons from over exertion, the punishment has fallen on their own heads alone, not being transmitted to their offspring, who are spoken of as remarkably strong and robust. When health fails as a consequence of sedentary pursuits, or too severe mental application, the brain and nervous system being overwrought, traces of weakness are often but too visible in the children. The studious man as he pores over his books, burning the midnight oil in the solitude of his chamber, regardless of the claims of his bodily frame, observes with anxiety unmistakable indications of failing power. The stoop in his once erect form, the drooping shoulders, the projecting collar bones, the receding ribs, the outstanding shoulderblades, each and all speak in language too plain to be misinterpreted of constitutional decay and of shrunk and atrophied lungs, into which thinner and poorer streams of blood are propelled by the heart. Nor are the consequences of such impaired health fleeting or ephemeral. These outward and visible signs of lagging energy are the mournful heritage of a man's descendants; and if sickness be a frequent appanage to his household, the cause we imagine is sufficiently manifest. Similar remarks apply with equal justice to a large and rapidly increasing portion of our population, to men and women whose days are passed in unwholesome and confined pursuits—whose bones and muscles never grow strong, whose constitutions never become robust. The best lives in the country districts, allured by the high wages and temptations of the cities, are yearly absorbed in increasing numbers by these populous centres of wealth and industry; there, toiling in close chambers, amid the noisy whirl and stifling atmosphere around the busy Steam-Engine, they speedily deterio-

rate—alcoholized, syphilized, tainted with scrofula and other constitutional diseases, they become a feeble sickly race, a prey to every passing epidemic; struck down by the cold blast of winter or the sultry heat of the summer's sun, they are the mere sport of the seasons. Among these people the want of physical vigour is portrayed in every lineament and tissue—the muscles are pale and flaccid, the bones soft and crooked; the joints large and distorted; the cheeks sunk, blanched, and flabby; the skin thin and transparent; the eye dull and lustreless; the hair dry and crisp, while the teeth crumble away almost before they are formed. With such degenerate citizens the larger towns in the manufacturing districts are fast becoming peopled. The enervating avocations in which these operatives are engaged add immensely to individual and national wealth; but wealth not associated with health must eventually prove but a sorry and unstable possession to a nation, the duration of whose empire will assuredly be proportioned to the hardihood of her sons.

As physician to the Salford Hospital and afterwards to the Manchester Infirmary, I have enjoyed large opportunities of personally gauging the physique of a very numerous section of the population of this country, and my experience convinces me that the great majority of them are an undergrown, sickly, and degenerate race; not ten in a hundred of those who present themselves before me are possessed of well-formed chests. The stunted receptacle which contains the lungs is incapable of healthy expansion; the ribs are bent, crooked, and rigidly stiff. The air also does not enter its cells with that breezy influx which characterizes the flow of the healthy aerial tide as it traverses the lungs. The opinion I have formed regarding these people is not confined

to the experience of a hospital, where the patients usually belong to the poorer class of artizans, but it is based likewise on what I have seen of them when assembled together during their holidays at places of public amusement and resort. At such times the Guardians of public order may be observed stalking along overtopping the masses by head and shoulders as though belonging to a different race. A physical census shewing the height, weight, chest-measurement, and deformities of our urban population would bring to light some startling revelations. The investigations of Dr Beddoe shew that there are country districts in this island peopled by men whose average height is 5 feet 11.28 and their average weight 199 lbs.; while, on the other hand, among the Spitalfields weavers in London the average height sinks to 5 feet 1.40, and the weight to 106 lbs. The skill of the tailor and the constructive ingenuity of the milliner are invoked to veil those defects of form, which, under the severe simplicity of Spartan attire, would have been brought to light, and have led philanthropists to

“Moralize on the decay
Of English strength in modern day.”

The three Regiments of British soldiers who in the month of July, 1809, marched 62 miles in 26 hours, each man carrying a weight of between 50 and 60 lbs., and leaving only 17 stragglers on the way, in order that they might share in the perils and glory of the Battle of Talavera, must have been not only in degree but in kind, totally different from those of their descendants who are now herded together in the manufacturing districts.

Thus then, there are amongst us influences which are insidiously sapping the foundations of our national phy-

sique; and these influences, far from being confined to any one section of the community, more or less pervade all classes of the population. The enervating accompaniments of a more advanced civilization daily encroach on the idyllic life of our rural peasants; comparatively few of whom, in the present day, can rival their fathers in the severe labours of mowing, ploughing and thrashing. Such work is now done more speedily, more efficiently, and more economically through the agency of machinery. In fact the Steam-Engine has very generally supplanted hand-labour, and thus the strain heretofore associated with physical toil has been diverted from the hand to the head, from muscles to brain, from a part of the system which is renovated by healthy exercise, to one which in these days is sufficiently stimulated, and too often seriously overwrought. Who has not felt how far more sound and refreshing is that sleep which follows a day spent in manual labour (in "the sweat of the brow"), than those feverish slumbers to which, after severe mental application, though the body may submit, yet the mind restlessly rebels?

In other walks of life, also, everything is done with a view of saving all expenditure of muscular force. What, for example, is the amount of exercise taken daily by our ordinary English ratepayer? We will suppose that he is in comfortable circumstances, thoroughly respectable, indeed respected likewise; a man on whom fortune in her bounty has perhaps lavished municipal honours and the proud distinction of a Civic Gown. Such a man is rarely to be seen walking; in fact, in his eyes it is looked upon as a somewhat vulgar mode of progression. Professor Parkes calculates that a healthy man ought to take a daily amount of exercise equivalent to a walk

of nine miles. Men such as these rarely walk nine miles in a fortnight; for in going to their business and in returning to the place from whence they came, they either "ride in the bus," take the underground railway, or call a hansom. They shrink from even the simplest forms of physical activity. The carrying of an umbrella or a stick; the carving of a joint of meat; the brushing of the hair; these are the most severe strains they impose upon their muscles. The inaptitude of a man like this for hard work is readily explained by his education and antecedents; at the age of 14 or 15 he is removed from school and placed in an office, where he "acquires business habits;" an initiation into the mysteries of trade, which usually consists of sitting on a high stool in stuffy air for eight or nine hours a day; often far longer than is at all required for the fulfilment of his work, while he is rarely permitted to indulge in any kind of active exercise. To a youth of this age an occasional cricket-match, a game of football, or a row on the river, would prove an invaluable boon, a very elixir of life at a time when his whole system is pining for development. But these recreations are looked upon with suspicion by his employers as likely to bring the "house" into disrepute. Even when his services are not actually needed he is still doomed to loll over the weary desk, because forsooth it is the orthodox way of spending the day. At five or six o'clock he returns to his lodgings, jaded and weary, not so much with the work that he has done, as with the depressing influences which surround his occupation. After a while say he becomes a successful man of business. He makes money and marries young. Years revolve, and in course of time he takes his numerous progeny to some sea-side watering-place. And how is the holiday spent? not in long walks among the moun-

tains with which he is surrounded, an exercise which would year by year renew the flagging energies of his frame ; not in "a long and a strong pull" on the sea ; but in loitering about the beach, in watching the bathing-machines, in gazing at Punch and Judy, in picking shrimps and in listening to the discordant melodies of rival German bands. Should any of my readers be disposed to question the truth of the picture here drawn, let him visit one of the holiday resorts which abound in some of the more mountainous districts of Great Britain, and he will be surprised to find that while our fashionable watering-places are swarming with tourists, comparatively few of these excursionists possess sufficient spirit of adventure to sally forth among the hills. Such are some of "y^e manners and y^e customs" of the model family man of the present day. To the inexperienced eye he is the very picture of rude health, the incarnation of strength and solidity ; but if we are admitted behind the scenes, and have occasion to test his physical capacity, what do we then discover ? We interrogate the chest, but we do not here find that rise and fall of its walls which are justly associated with constitutional vigour. We direct the subject of our scrutiny to breathe fast and deep, and he attempts to do so, but instead of hearing the breezy ingress and egress of health-imparting currents of air, we get a jerky contraction of the muscles of the neck, an upheaving of the shoulders, and a sudden descent of the diaphragm, but no honest expansion of the thoracic cavity. When the movements of the chest are cramped or confined in the manner described, the Residual and Supplemental air which the lungs always contain to a greater or lesser extent, must be present in excess, while the decarbonization of the blood will be proportionately hindered. There is in fact

neither that mobility of the walls of the chest nor that resiliency of the lungs which we are accustomed to observe in thoroughly active persons.

In examining such lives for Insurance Companies, and at other times, I constantly find that though a chest may measure upwards of 40 inches in circumference, it is not the storehouse of constitutional vigour which its possessor fondly imagines: the diaphragm encroaches upon its boundaries, the lung tissue is wanting in elasticity, while the walls of the chest are padded with cellular and adipose tissue to as great an extent as the rest of the system. Had the physical training of such an one been judiciously conducted at the time when his bones were still pliant, he might have been moulded into a strong man. But his muscular education was cruelly neglected, and hence it is no subject for surprise that we should often learn from his own lips that his apparent strength is deceptive, that his constitution demands much nursing and care; the slightest exposure to draught is followed by a painful attack of rheumatism, a whiff of cold air touches his bronchial tubes, that he must be careful in what he eats, drinks and avoids: he is a martyr to various dyspeptic disturbances, he has long been compelled to forego his Beer, and Champagne, unless it be very dry, must be well-nigh eschewed. After these observations, it need excite no surprise to hear that such a being is to all intents and purposes an old man at the age of 40. The suppleness of his limbs is already on the wane, he walks perhaps with a certain dignity of carriage, but his action is decidedly stiff. When men like these (often possessed of more wealth than they have been educated to spend) are advised to try the effect of an entire change of habit, to retire from their counting-houses, lead an active life, and so endeavour to arrest those

destructive changes which, from want of exercise, are assailing their frames, it is usual to hear that holidays are irksome; that, as they have never been trained to enjoy the pleasures of the country, such an existence would be utterly distasteful to them, and time would hang heavy on their hands.

Examples such as these should serve as warnings to a numerous class of business-men. In youth and in early manhood their lives are often needlessly sedentary and inactive; it is not therefore surprising that pursuits and recreations which if periodically practised from boyhood are well calculated to prolong existence, should, when thus tardily wooed in later years, refuse to smile on the evening of life. Such men are often constrained to spend their fortunes on Pictures, Statues and works of Art, which in many instances they are but little qualified to appreciate or to understand. Compare for a moment the existence of such a father with the life of his more fortunate son, who is sent to a Public School and afterwards to the University. From his earliest boyhood he is trained in every variety of manly exercise; he rides, shoots, rows, plays at cricket, and is an adept at athletics: his muscular propensities are such as to arouse the fears of his anxious parents; who are lost in wonder at the suicidal folly of their offspring. In spite however of their gloomy forebodings, that physical collapse which they so surely anticipated delays its advent, and the son who was foredoomed to an early decease, grows up to manhood vigorous and strong. Having once fairly developed his system, having put on chest and muscle, even should it be his lot to follow the pursuits of a man of business, he will be able to enjoy life, and look forward to his annual holiday with feelings of keen delight. In fact, whether his vacation be spent

among the mountains of Switzerland, or upon the Scotch moors, or amid the Welsh hills, he will find no difficulty in passing his time. He will be able to walk for six or eight hours a day without discomfort, and in this manner, building up new tissues and casting off such as are effete, his season of leisure will not prove tediously long, nor will he be likely to pine for a return to the grimy surroundings of a city warehouse.

If the remarks which I have made regarding the benefits of exercise be true, they will in all probability have an important bearing in that wide-spread and increasing craze for Competitive Examinations which is a pet hobby among many leading men of the day. As a natural consequence, we find that various important offices of trust, whether connected with military, diplomatic, colonial or Indian appointments, either now are, or are rapidly becoming, the reward of the candidate who has been most successfully crammed. Had the qualifications of the Duke of Wellington, and many other illustrious men who will long live in English history, been gauged in this manner, it is possible that they might have been all far out-distanced by some of those highly-forced exotics whose minds are charged with the enigmatical stores of their "*memoria technica*" and the skilful analyses of cunningly-collated facts and figures.

It constantly happens that delicate youths endowed with a certain amount of acuteness are selected to fill posts in which fertility of resources and a constitution hardened by exposure, such as is encountered in school-games and field-sports, are of the first importance; and yet the advantages which would accrue to the public service from such useful qualifications are virtually entirely overlooked. Take, for instance, such a case as the following, painted from life: *A* and *B* are

rival candidates for an Indian appointment. *A* from his cradle is a bookworm, from his earliest childhood he has devoted his mind to examinational topics. He is the "paragon" of his school. The hours his companions give to boyish recreations he spends in solitary study; at the University he imposes upon his mind the same amount of high pressure, and directs his whole energies to the acquisition of that kind of knowledge which is "likely to pay"—in other words, which will tell in some future examination. After a time, with a view of improving his chances of being selected to serve his country, he is confided to the keeping of the professional crammer; one in fact who has thoroughly probed the mysterious laws which regulate examinations, and who has made it his object to master the whims and the fancies of different Examiners; experience has taught him what questions will be asked and how the replies to those questions can be most attractively framed—so answered, in fact, as to convey the impression that the candidate is the able exponent of a profound and well-digested stock of erudition and learning. The confiding aspirant for office imbibes with ready faith whatever he is told to retain, and dismisses from his mind all topics which are not likely to be brought into requisition. We will suppose that *A*'s assiduity is crowned with success, and that the wished-for prize becomes the reward of his labours. *B*, another competitor for the same post, is a man of very different stamp. His training has been conducted after another fashion. From his boyhood he has excelled in all manly English sports and games; whenever there was a scrimmage at football he might be seen in the thick of the fray. However hard a ball might be cut at cricket he could be relied upon to field it "clean." If he rowed he would be a "game oar;" if he hunted he would

be a "first flight man;" and if benighted on a mountain expedition he would sleep as soundly under the open sky as in his own bed, while his presence of mind and cheerfulness would never forsake him. Though not so accomplished a bookworm as *A* yet he would be found to possess a far greater fund of useful information, and his physical vigour is a sufficient guarantee that his "work is all in him;" and that his capacity for labour, both mental and bodily, is likely to be very great. No one who knows anything of the requirements of a soldier on active service, or of the qualifications needed for winning the confidence of the dwellers in our colonies, would deny that although in what examiners style "marks" (those most deceptive criteria of comparative capacity) *A* may surpass *B*; still, in any real emergency the latter would prove an infinitely more reliable commander or guide, his stronger stamina enabling him under the most trying circumstances to retain his self-possession.

If anyone is disposed to look upon this picture as fanciful and overdrawn, let him direct his attention to some of the great public schools in this country; he will find among the masters men distinguished solely for their scholastic attainments; and he will also find others, who, not content with obtaining high classical honours, have shewed their prowess on other fields; have rowed in "the Eight" and played in "the Eleven." Such men seem peculiarly fitted to win the respect and command the affections of the youthful mind. They have learnt by experience that judicious sympathy with the sports and pastimes of the young is the surest method of awakening in them a spirit of loyal devotion and generous enthusiasm. These remarks apply with equal force to the relations which exist between the officers and soldiers of the British army. Where the former are known to

excel in feats of activity, strength and daring, their men instinctively look up to them with unswerving confidence and trust.

Since the University Boat-Race became a great national institution, since it annually attracted to the banks of the Thames the pent-up citizens of the great metropolis, attacks from various quarters have been directed more or less against all who participate in the struggle. The charges levelled against the Oarsmen, though possibly intended only as sportive sallies, really contain very grave insinuations, and display, on the part of those from whom they proceed, strange ignorance of the tone and spirit which distinguish the better Colleges at the old Universities. In these delineations of aquatic character, it is usual to represent a sort of hybrid University monstrosity affiliated either to "Camford" or "Oxbridge;" terms applied with reversible facility, as though in their moral attributes there was but little to choose between the two. The culprits who seem more particularly to exasperate some of the popular writers of the day are the "Stroke Oars." Why no. 8 should be looked upon as the concentrated incarnation of that moral debasement which the prosecution of athleticism is believed to engender, it is no easy task to understand. It is however on their devoted heads that the quill-wielding gladiators of the sensational and dramatic arena hurl the darts of their keenest satire. These dissolute Strokes have been branded as men given to eccentric formulas of swearing, "invoking thunder and lightning, explosion and blood; drinking beer with impunity, and taking cold shower-baths all the year round," and associating publicly with the frail and the fair. One of these ideal heroes of the oar is described as having allowed his mental faculties to become so utterly blunted by dissipation

and drink that he found it necessary to summon a "retired prize-fighter" with a view of "clearing his mind by a pugilistic encounter." The remedy proved strangely successful; for as the blows fell fast and thick upon the skull, thickened by beer and hardened by shower-baths, so did the flagging energies of his soul revive within him, while the embers of intelligence still smouldering in his brain were roused to active life.

I am somewhat at a loss to discover the original of such highly-coloured portraits; as from personal acquaintance with a considerable number of University Stroke Oars and from the letters with which the remainder have favoured me (extracts from which will be found among the following pages), I am satisfied that they are men of a very different stamp to the rowdy reprobates of fiction. I do not deny that even at the best Colleges excesses are at times committed which it is impossible to justify; still these irregular frolics rather spring from a spirit of thoughtless exuberance than from a "barbarous hardness" either of the heart or of the head.

I shall now proceed to offer some suggestions regarding the sort of men who are likely to derive benefit from a course of severe training, and those, on the other hand, who are unsuited to undergo such trying exertions.

Let us first take the case of one who may be designated "the nervous man," who has all his life been accustomed to think about himself and his imaginary ailments, who wearies his friends by constantly dwelling on his peculiar sensations, describing his symptoms in scientific terms, who delights in prying into medical works and periodicals, and is under the impression that he thoroughly understands his internal economy. He is annoyed with his relations and acquaintances for not

manifesting a more lively interest in his hygienic well-being. On all matters relating to diet he is a great authority, prosily dilating on things wholesome and unwholesome, digestible and indigestible, things to be taken and things better avoided. On such a man, who rarely exhibits any outward manifestation of his inward disturbance, the rowing fraternity are accustomed to cast expectant eyes when he comes up as a freshman. They encourage him to row; and his perseverance will often be rewarded by a place in the College Boat. All perhaps goes on cheerily until the commencement of the so called training for the Spring Races. Thereupon he suddenly and completely changes both his habits and his mode of living, often eating far more animal food than he is able to digest; these dietetic excesses at last bring things to a crisis. After a hard row he returns to his College in the evening and partakes of an unusually substantial meal, consisting of beefsteaks, mutton-chops, eggs and beer, all consumed immediately before retiring to rest. It is not surprising that such a repast should be followed by somewhat unquiet slumbers, accompanied by more or less palpitation and discomfort. These symptoms naturally excite alarm; he feels his pulse, his doubts on the subject of palpitation are at once removed, and his agitation increased. Indeed, to his fevered imagination it now seems as though separate hearts were beating in every part of his frame; he rests his anxious head on his pillow, he hears a loud throbbing in his head, he turns on his side, but his angry heart "knocks at his ribs." In his trepidation he recalls to mind all he has heard of the baneful effects of Boat-Racing: the shoals of young men who by such "folly" have ruined their constitutions and irretrievably blighted their future prospects. Agitated by these and similar

fears, he passes an anxious and feverish night, unrefreshed by soothing slumbers. At early dawn he hastens to consult a doctor. Cases such as these are somewhat puzzling even to the most skilful adviser; the patient is often so excited that the moment the stethoscope is applied to his chest the whole circulation appears to run riot. Moreover such a man is frequently so well versed in the usual symptoms of cardiac affection that he fancies he is suffering in his own person from that malady the perils of which he has so carefully studied. Hence it is necessary to accept what is stated with considerable reservation. Such an interview between *Æsculapius* and his well-primed invalid usually results in the latter being assured that there is nothing seriously wrong about the heart, though that organ is in an excitable and over-irritated state; hence in the taking of exercise moderation should be practised. The interesting subject of medical scrutiny returns to his College somewhat relieved, though still thoroughly frightened, and in his anxiety to obtain the sympathy of his friends, he assures them that his state is precarious, and that it will be necessary for him to bestow great care on his health for a very long time, prudence demanding that rowing and all violent exercise should be entirely abandoned. A physical collapse at so an early an age is well calculated to awake the commiseration and the pity of his comrades, who affectionately style the damaged athlete, "the man with the heart." Now it has always appeared to me that many of these so-called men with hearts are adopting the most efficient mode of becoming legitimately entitled to this lugubrious sobriquet by the sort of life they are leading. Many of them eat and drink an immoderately large allowance of stimulating food. They pile on fuel enough to support

the physical engine during a hard day's work, while they limit the calls made on the activity latent within them, to sauntering delicately in their favourite lounges. In my own college there were in my time several of these "heart" afflicted undergraduates. I have followed their after careers with some interest, and so far as my enquiries regarding their health extend, they are as well now as ever they were; and probably had their valetudinarian proclivities been less operative, their existence would have been more healthy and more happy. Certainly nothing exerts a more sedative influence on the over excitable nervous system than hard exercise; and I am acquainted with no better way of dispelling the blues, or of quieting the gloomy forebodings of the fretful hypochondriac, than a hard row, a good gallop, or a long walk across country. In this manner the nervous energy which is running riot will be directed into a healthy and natural channel, expending its force on the contraction of muscle, the removal of effete tissue, and the general purification of the blood; and inasmuch as the heart is forced to bear a prominent part in these renovating processes, that organ will thus be more profitably and usefully employed than in ministering to the caprice of a disordered fancy. I have known instances where young men have given up rowing, and all forms of violent exercise, from fears regarding their hearts, whose hearts and whose whole habit of body would have been greatly benefited by a judicious course of physical training. I do not say such severe work as the university Boat-Race is in all cases desirable; but assuredly a daily row for a couple of hours would prove more conducive to after-health than calming a refractory heart with a novel and a pipe.

In a preceding portion of these pages, in speaking of

the casualties which have been ascribed to the Boat-Race, I have shewn that the disease popularly known as decline or consumption has, in the opinion of many, exacted a heavy tribute from among the ranks of Oarsmen, and is said to have proved peculiarly fatal to them. I propose therefore to consider somewhat in detail what signification should be attached to this word consumption. By so doing I believe I shall best succeed in demonstrating what men are constitutionally unfitted to engage in a hard Boat-Race, and likewise the particular occasions on which even strong Oarsmen should entirely avoid every variety of active exertion. Such an investigation may serve a useful purpose by indicating the class of men from among whom an "Eight" may be selected, and also those who should be excluded from competing on the ground of physical disability.

In this country the opinions entertained by Laennec and Louis regarding the nature of consumption have been very generally accepted; the vast majority of cases classed under this heading being considered due to certain deposits or growths in the lungs to which the term tubercles has been applied. Hence, till comparatively lately, English writers have been accustomed to recognize but one form of consumption, namely, the tubercular; a constitutional disorder, accompanied by various symptoms of failing health, in which after a longer or shorter interval these tubercles (small nodules no larger than millet seeds) appear in the lungs, sometimes collected together in masses, and in other cases scattered through the different pulmonary structures. Though these views have of late been somewhat modified, still the word consumption has amongst us been held to include diseases which would appear to be wholly distinct from tubercular disorders, both in their

origin and nature, and which in their early stages at all events require an altogether opposite line of treatment.

So long as consumption and tubercle were considered synonymous, and tubercles looked upon as something inherited, it was not surprising that many persons should have been considered consumptive from their birth, and expressions like the following, "the seeds of consumption were always in him," seemed warranted by the ætiology of the disease. Such ill-starred mortals would then, in accordance with some definite though mysterious law of pathological evolution, be predestined to an early death, and although, as a consequence of over-exertion, or some other form of physical excess, that event might perhaps be hastened, still their untimely decease would merely be the antedating of an inevitable sentence. Although these doctrines regarding the nature of consumption were till recently considered strictly orthodox, and are indeed still held by men whose opinions are entitled to great weight, I confess that for my part I am unable to subscribe to them, and (what is of far more importance) not only has their accuracy been questioned by some of the most distinguished authorities on the continent (more especially by Professors Virchow and Niemeyer in Germany), but the very foundations on which such doctrines rest, have, through the critical investigations of these able pathologists, been totally undermined. Their experience has convinced them, that although doubtless a certain proportion of the cases termed consumption are to be ascribed to the presence of tubercle in the lungs, nevertheless these instances of the affection are by no means so numerous as others in which the disorder arises from wholly different causes. As therefore consumption is found to vary in

its mode of origin, so will the forms it assumes be separate and distinct.

Of these forms, by far the most important is that which has been termed "chronic catarrhal pneumonia," when in fact the disease is induced by a low type of inflammation, characterized rather by the smouldering duration of its course, than by symptoms which are sthenic or acute. Thus, for example, a man catches a severe cold, accompanied by more or less difficulty of breathing, by tightness and oppression. It is not thrown off like ordinary attacks; he is however not sufficiently unwell to give up work altogether, and therefore, though not without discomfort, he perseveres in discharging his daily round of duty: time wears on, and his health, instead of improving, continues to fail; his appetite grows fickle; he loses flesh; he becomes feverish, especially towards evening, and he can no longer take exercise without feeling very breathless. At length his friends persuade him to seek advice. To the experienced eye his state is painfully apparent; a portion of the lung is to all intents and purposes useless; certain products of inflammation have been exuded into the delicate pulmonary system, choking up and obliterating those cells into which the air should find free access. This inflammatory infiltration is at first given off in a liquid form; but after a time certain portions of the exudation are reabsorbed, while other parts, incapable of liquefaction, remain in the lungs in the form of a chalky or cheesy mass. The presence of such a foreign body necessarily interferes with the healthy action of organs whose functions are constantly called into activity; and hence, whenever a fresh cold is contracted, mischief at the old spot, in the shape of a fresh attack of inflammation, is again lighted up. This then is one of those forms of consump-

tion which, though generally associated with tubercle, are in reality to be attributed to wholly different causes. It is simply consumption following upon a neglected cold. The disease in fact may pass through all its stages, and the patient may die with a cavity in his lungs, not only without there being any hereditary predisposition to decline, but without the presence of a single tubercle. From over-anxiety or from over-work the patient may be below par, or possibly he has but lately recovered from some enfeebling disorder: from these or similar causes of enervation, his blood is impoverished, and consequently, as has been aptly remarked by an able continental pathologist, "the products of inflammation exist, at least in part, pre-formed in the blood;" in other words, the character of an inflammatory attack usually depends on the quality of the blood, and men in broken-down health suffer from those asthenic forms of disease which are so often the precursors of the most common varieties of pulmonary consumption. A man in the full vigour of robust health is invalided by inflammation of a different kind: if his lungs are attacked, he is speedily prostrated, for a few days his distress is intensely acute, but the crisis is not distant. If he die, his illness is a short one, if he recover (as is usually the case) his convalescence will be rapid and complete. Though his air-cells may have been more extensively blocked up than is usually the case in catarrhal pneumonia, and though at first the exudation which invades the lung is more glutinous and adhesive—still in a comparatively short time, under favourable conditions, the intruding mass is liquefied and completely reabsorbed. Hence in the one case, the disease, though critical at the time, speedily runs its course, and if not fatal leaves no baneful traces of its presence; in the other, though the attack

may be regarded as trivial at the outset, it is often only the gloomy herald of impending decay.

There are other forms of consumption hitherto looked upon as tubercular, for the true interpretation of which we are also indebted to the industry of German physicians. They are usually met with among a class of persons who are deficient in physical vigour; such individuals may be recognized by their transparent skin, by the pearly whiteness of their eyes, by their delicate teeth—by their long bones, sparingly covered by thin layers of muscle, by their narrow and flattened chests, by the beaded extremities of their ribs. In early life though growth may be rapid, there is no corresponding development; they are subject to headaches, they readily take cold, and experience periodical attacks of bleeding at the nose. Young persons of this habit, without any warning or special exertion, often undergo sudden and alarming symptoms of bronchial hæmorrhage—in popular terms, they are said to have ruptured a blood-vessel. This accident, which is frequently followed by copious bleeding, is probably to be ascribed partly to an unhealthy state of the blood, and partly also to some inherent delicacy of the coats of the pulmonary vessels. Now although cases of this description have been set down to the presence of tubercle, which either by obstructing the circulation, or by inducing ulceration, so weakens the capillaries of the lungs as to allow the partial escape of their contents, yet clinical observation would appear to shew that this tubercular theory is in many instances untenable; the bleeding often occurring without its being possible to discover any signs of the presence of tubercle. A portion of the effused blood is ejected, giving rise to hæmoptysis, while the remainder gravitates into the lung tissue, obliterating its cells. In

this situation it is either reabsorbed, or left as an indolent mass, setting up irritation, and often by its presence inducing some low form of inflammation within and around this substance; certain changes occur imparting to it that cheese-like appearance, which although in the opinion of many inseparably associated with the presence of tubercle, is simply the result of bronchial hæmorrhage.

But there are cases of consumption essentially different to the two forms I have hitherto considered, in which the affection may with peculiar propriety be termed constitutional—its early symptoms seeming rather to attack the general system than the respiratory organs. The disease here is characterized by a failing of the general health, and frequently comes on so gradually, and with such insidious steps, that its invasion is well-nigh unperceived even by the nearest relatives. Yet weight is lost, the appetite grows capricious, every variety of fatty food becomes distasteful, the hair falls off, or, strange to say, becomes over luxuriant, and often towards evening there is a parched feeling about the skin, a pungent sense of heat being communicated to the touch. In such instances consumption may perhaps be suspected and the lungs may be carefully tested; but though such an examination be conducted with the utmost skill, by those who have made such investigations their special study, it often happens that the results are purely negative; the chest movements may be somewhat less regular and more jerky than is usual, yet there is nothing in the respiration which can be looked upon as abnormal. The most striking feature in connexion with the cases I am now describing is the shrinking and wasting of the different tissues. In fact the word consumption properly expresses those morbid

phenomena which characterize the disease. In every region of the body the muscles grow spare, the subcutaneous fat gradually disappears, innumerable vessels, no longer needed, shrink and become impervious, while the larger arteries contract, causing in the pulse a thin and thready feeling. Lessened volumes of blood are passed into the lungs, where the pulmonary vessels adapting their channels to the more scanty streams by which they are traversed, participate in the general decay of the system. Coincidentally with these symptoms of decline we observe that sinking of the chest, that falling in of the ribs, that projection of the collar-bones, that angular protrusion of the shoulder-blades so typical of pulmonary disease.

It will readily be admitted that such cases as these are, in their nature and symptoms, altogether different from those other forms of the disorder to which I have already referred. They do not commence with a cold on the chest; in many cases they pursue their fatal course without the occurrence of any hæmorrhage. Modern researches have thrown considerable light on many points connected with this form of consumption, which until comparatively lately were misunderstood; these investigations go to prove that in its early stages consumption is not so much a disorder of the lungs as of the blood, that "liquid flesh" from which all structures and tissues derive their nutriment and support. When therefore consumption threatens, the first and most important changes must be sought for in the blood, which becomes impoverished and is altered in its composition, not so much by the introduction of new and unusual constituents, as by the alteration in the relative proportions of its normal ingredients. When, for example, the quantity of albumen in the blood is increased by one-fourth, and

when, at the same time, the red corpuscles are reduced to half their usual amount, it cannot excite surprise that the whole system should become "demoralized" by the change, and that all the organs and structures should be injuriously affected; the temperature of the body rises, feverish symptoms supervene, the tissues are used up too rapidly. The altered blood, no longer ministering to healthy nutrition, becomes instead a source of irritation, destructive changes being carried on more energetically than those which are constructive. Nor is this process confined to the blood alone and the parts nourished by it, there are grounds for believing that it extends likewise to the channels through which the life-stream flows, subjecting them to morbid and degenerative change. In this manner after a time these vessels may altogether disappear. If then we look upon consumption as due to some inherent defect in the nutritive processes, to some scrofulous form of indigestion, whereby an impoverished and albuminous state of the blood is induced, we can readily understand the consequent exudation of tubercle, a substance largely composed of coagulated albumen.

If then this form of consumption be termed "systemic" as commencing in the general system, the lung complication being only secondary, and the two varieties before discussed are styled "pulmonary," as originating in the lungs, we shall be better able to understand how far a predisposition to any one of these diseases is likely to be influenced by violent exercise. We shall further see that from some ailments, popularly considered trivial, grave consequences may frequently supervene, and that on the first discovery of such symptoms Boat-Racing and other forms of athleticism must be at once eschewed.

For example, a man may suffer from a cold on his chest, accompanied by a sense of oppression and difficulty of breathing. He is more or less feverish, and experiences a general feeling of weariness and *malaise*, the temperature being at the same time unusually high. Such a cold should be looked upon as sufficiently serious to exclude even the strongest man from his place in the boat; a week's rest will often restore that Oarsman to perfect health, who, had he persevered in rowing, might have permanently injured his constitution.

The great internal organs, so important are the services which they render to the economy, when attacked by disease can never enjoy complete repose; if therefore they become invalided they should be permitted to perform their inevitable task in the most leisurely manner, and carefully guarded from any unnecessary strain: when the play of the lungs is exalted by violent labour, the quantity of air which passes through their tubes is immensely increased; respiration not only becoming deeper, but also far more rapid. Hence at such a time by violent exercise a slight bronchial affection may readily be fanned into a severe attack of inflammation. It will be remembered that several of my correspondents attribute the commencement of somewhat serious indisposition to their having pulled at a time when they were suffering from a cold. Rowing-men should never forget that a cold on the chest if neglected may be followed by all the fatal symptoms of pulmonary consumption. And it should be further noted, that those in a somewhat low state of health, in training phraseology "stale," are more liable to fall victims to such attacks than others who are thoroughly robust. Men also who are constitutionally weak, the delicately-fibred youths I have described, should exercise great caution in all that relates

to their physical training, wholly avoiding those competitive contests, which are invariably accompanied by more or less mental and bodily excitement.

The health of such a man may be vastly improved by moderate exercise, but he should not be subjected to a severe course of training; he does not possess the stamina upon which all training must be based; the spare outline of his meagre frame clearly indicates that any attempt at reducing measures would be attended with risk; his supply of flesh is too scanty to bear taking down, and there is no redundancy of fat-containing elements in his system. Besides, men of this type do occasionally suffer from the rupture of a blood-vessel in the lungs; not because those organs are the seat of tubercle, but by reason of what has been termed their hæmorrhagic diathesis. In cases also where there is any hereditary predisposition to this form of delicacy, symptoms of which have manifested themselves in blood-relations, every variety of athletic excess must be wholly avoided. On the other hand, when there is merely some undefined threatening of "systemic consumption," although the strain of a Boat-Race is not unattended with danger, still muscular activity sufficiently energetic to expand the chest is likely to prove of the utmost advantage. These remarks, if correct, are calculated to lessen that burden of anxiety necessarily borne by those who in maintaining that "the seeds of consumption were always in a man" seem disposed to believe that the germinal activity of those seeds is fatally hastened by indulgence in rowing and other muscular exertions. Were this theory true, then the harder and the longer a man pulls, the more rapidly will he burn down his scanty allowance of life; each stroke of his oar being a nail hammered into his own coffin. On the other hand, if, in the incipient

stages of systemic consumption, certain dyspeptic symptoms are the sole precursors of an impoverished state of the blood, it would be reasonable to assume that no procedure would be more likely to re-establish health, to cure alimentary derangements, and to nip consumption in the bud, than a course of judiciously regulated training.

I have already shewn in what way exercise produces such beneficial results, how it develops muscle, improving the quality and increasing the quantity of the blood, and how when the streams of blood become more copious the lungs are recruited by the change. Hence whenever temperature is persistently high, when weight is lost, when the appetite grows dainty and fickle, and fatty food is distasteful, these suggestive warnings should sound the first note of alarm. An attempt should then be made to arouse the lagging powers of the system by requiring a certain amount of forcible contraction from the muscles, and in no way can this end be better attained than by the health-imparting labour of rowing. Of course a case may be so far advanced as to render such a mode of treatment inadmissible, but where we have only to deal with premonitory symptoms, exercise will restore the failing appetite, will induce refreshing sleep, will bring back muscle, and even cause the ribs which were beginning to recede to assume their natural convexity and freedom of movement. Although I would not imply that such cases are proper subjects for a hard Boat-Race, still I have known instances in which by a judicious course of gymnastic training and rowing, health has been so completely re-established that even the trying ordeal of a Boat-Race has been afterwards undertaken without being followed by injurious results.

Having thus spoken somewhat in detail on the subject of lung diseases, I would now allude briefly to some of the dangers to which the heart is exposed. Here, as in the case of the lungs, perilous consequences may be apprehended either on the score of constitutional weakness, or because tasks of too severe a nature are exacted from its muscles when they are weakened and relaxed. The heart and indeed the whole circulatory system will accomplish successfully very trying work, provided that their powers be not prematurely forced. After a debilitating illness or some lowering form of medical treatment, such for example as a course of mercury, the fibres of the heart will long remain enfeebled and unstrung, while the vascular system, less able to sustain the pressure of its contents, will occasionally yield to some unwonted strain. At such a time an aneurism may be induced ; or cardiac dilatation ensue ; or a less serious though disagreeable accident may supervene in the shape of a varicose condition of the veins. He who is emulous of athletic renown, even when blessed with the strongest of constitutions, should always remember that after a severe illness the muscles of the heart must be used with tenderness and consideration.

Having thus indicated the circumstances under which even a strong heart may for a time become weak, I would now, in a few words, touch upon the subject of hereditary disease. When, for example, a father or mother has died at an early age from some form of cardiac affection, prudence would forbid the offspring of such parents to test their hearts too severely. I am disposed to believe that in cases where there is a tendency to hereditary disease of the heart, the danger of antedating disastrous results by indulgence in violent exercise, is much greater than in those instances where the latent disorder to be feared is

congenital consumption ; those also in whom there is a predisposition to acute rheumatism, and who in early life have experienced an attack of rheumatic fever, should never enter a racing Eight. Exposure at all seasons of the year, and the chance of a ducking when the floods are out, are in these and similar cases much too perilous pastimes to be undertaken with impunity.

Those who have the selection of the Oars for a University Boat-Race should bear in mind that too much importance should not be attached to height alone ; weight and circumference of chest should always be taken into account at the same time. Even the oldest men who row at Putney have scarcely arrived at maturity. As a rule it will be found that wherever vital energy is largely expended on growth, complete development is somewhat retarded. Hence, when a young man of 20 is upwards of six feet in height, there is a certain risk of his being somewhat loosely put together ; for where growth is unnaturally rapid, there we often find that the tissues are not so completely set as when it proceeds after a more leisurely fashion. It would appear indeed that although the materials of which the bodily frame is composed, are frequently stretched so as to extend to several inches above six feet, still under such circumstances we can scarcely expect the same amount of tenacity and strength.

The question then which naturally suggests itself is this : What manner of man is likely to possess a maximum amount of strength and endurance ? In the British army experience has proved that soldiers whose height ranges from 5 feet 7 to 5 feet 9 are, on the whole, those best qualified to stand the privations and fatigues incidental to a hard campaign. Privates, however, are usually recruited from among classes of the population

who from their earliest years are compelled to earn their livelihood by the labour of their hands ; and though in such persons the frame is usually well developed, and the chest wide and deep, still their laborious occupations tend somewhat to check upward growth ; hence, on an average, they are not so tall as youths who are more delicately nurtured, such as the members of the two Universities. From enquiries I have made regarding the height and weight of some of the old Oars, as well as from observations on others in the same rank of life, who from their physique seemed peculiarly fitted to stand a severe course of training, I have come to the conclusion, that for Universitymen at the age of 20, 5 feet 10 may be looked upon as the perfection of height, while the weight proportioned to that height will probably be about 12 stone. For every additional inch in height we should require about 6 or 7 lbs. in weight, if strength is to be commensurate ; while for every inch below 5 feet 10, some 5 or 6 lbs. less of weight will fairly represent what the bulk should be. If the weight exceed this limit by many pounds, such excess is probably due to the presence of abnormal fat. I have in the Appendix given a Table which may assist the trainer in the selection of his men. It is condensed from one compiled by Dr Chambers for his Goulstonian Lectures, and shews the average weight of 2650 healthy men between five and six feet in height, while at the same time the figures given in three parallel columns convey some idea of the degrees of development attainable by the perfect human form. Here may be seen the estimated height and weight of some of the most celebrated ancient statues (which we have every reason to believe were modelled from the life), such as the "Dying Gladiator," the "Theseus," and the bronze

"Hercules" in the British Museum. By immersing in a bath accurate copies of these well-known works of art, and ascertaining the quantity of water displaced, Mr Brent succeeded in shewing what would be the weight of a man similarly proportioned. From the information here supplied, it would appear that a "Dying Gladiator" would in the flesh have weighed 12 stone 11, his height being 5 foot 10; the "Theseus" and the "Hercules" both also measuring 5 foot 10, weighing respectively 13 stone 11 and 15 stone 12. Men as muscular as these models of the sculptor are occasionally met with in the present day. Dr Chambers remarks that the greatest muscular development without obesity which he had been able to discover, is in the instance of Parkins, the famous Cornish wrestler, whose ordinary weight in his clothes was 16 stone 11 lbs., his height being six feet. Spring and Jackson, two champions of the prize ring, were both 5 feet 11 in height; the former weighing 13 stone 3, and the latter 14 stone. The value of the table is lessened by the fact that all reference to age is omitted.

If really valuable results are to be deduced from tables of height and weight, it is of the first importance that the period of life when the observations are taken be carefully noted. I should be disposed to fix upon 25 as the age at which the human frame and its tissues reach their acme of development. It may be laid down as a rule subject to very few exceptions, that after this age increase of weight does not represent additional power, but indicates rather the growing accumulation of a useless and unprofitable burden. When therefore we hear of a man who at 20 years of age weighed 12 stone, and in after life inclining to corpulency has reached the abnormal weight of 17 or 18 stone, we must not con-

sider him proportionately stronger; on the contrary he should rather excite our pity and commiseration—the five or six stone distributed over his body being composed wholly of adipose tissue. He is thus as completely enveloped in blubber as though he were a whale or a seal. His muscles being heavily weighted, his powers of locomotion are necessarily limited; and, handicapped in this manner, it is no easy task for him to drag his unwieldy frame on some sweltering 12th of August over the trying inequalities of a Highland Moor.

From the rules I have here endeavoured to lay down, it will be tolerably easy for a muscular man to decide whether in his own case height and weight are approximately balanced; where weight is excessive, we may reasonably assume that it is due to superfluous fat. Among young men from 19 to 23, more especially if their early years have been spent in active pursuits, we rarely find any marked tendency to obesity. Those, however, who are unusually stout, should be rejected by the Captain of an Eight. This rule should more especially be attended to when fat is not merely deposited generally through the sub-cutaneous tissues, but is collected around the omentum, giving rise to that unseemly protuberance occasionally witnessed even in the young. Such men, though apparently robust, rarely repay the labours of the trainer. Others, whose exclusion I would counsel, are those loose-fibred men whose muscles always feel soft and unstrung, who may be designated as flabby. In them we often find a general want of tone about the whole system, the veins especially being relaxed and unduly dilated; there is also a want of power about the heart, which is apt to perform its functions in a somewhat irregular and slovenly manner, as may be inferred from the unnatural rapidity of

its contractions when some exertion is made, or even when a standing posture is assumed. It is important also that attention be directed to the conformation of the chest—width being a less trustworthy indication of power than depth. Indeed, broad shoulders are sometimes deceptive, conveying the idea of more constitutional vigour than is really available. I have seen very wide chests in which there was comparatively scanty lung accommodation. I am also disposed to believe that the comparative force with which the air can be expelled from the lungs, may, when better understood, furnish valuable indications of thoracic power. Some years ago I myself designed a small instrument for measuring the force of the wind, and persuaded a considerable number of my friends to test the strength of their lungs by blowing forcibly against the face of the gauge. I invariably found that the strongest and most active men could eject the air with the greatest force. I cannot help thinking that the expiratory force thus measured will be found a better index of lung vigour than that afforded by any spirometer. This question, however, demands further investigation. I have before alluded to the valuable information which the thermometer affords regarding important constitutional changes. A small instrument specially adapted for the purpose, held for a few minutes under the tongue, will often indicate the advent of some disorder which may be lurking in the system, before it can be discovered by any other mode of examination. In this way, when the cattle plague was raging, an outbreak of the disease could often be foretold when the malady was as yet only latent, and the timely segregation of the affected animal could still be effected. In those cases also in which “systemic consumption” may be smouldering in the blood, a high

reading of the thermometer will often afford the first warning of its insidious approach ; and where some Oarsman seems only to be suffering from a slight attack of cold, an increase of temperature should unmistakably lead us to enforce entire cessation from exercise. Hence, whenever the mercury in this useful test tube rises above 99.5° Fahr., or falls below 97.3° Fahr., if the increase or depression be persistent, the Oarsman should not be selected for a course of training; in the hands of a scientific trainer the information afforded by the thermometer should never be neglected.

In considering the selection of crews I would especially insist that if the men be tall they be not taken too young. Several of my correspondents who appear to have suffered, assure me that after having grown fast, they over exerted themselves before they had attained a proportionate degree of strength. On the whole, however, I am disposed to think that the instances in which immature youths are selected to row in the Putney Match, are exceedingly rare, and I cannot agree with those who raise an outcry against this Race on the plea that the competitors are not old enough to bear with impunity so severe a strain. The best proof that the Oarsmen had on the whole pretty nearly attained their full vigour at the time they rowed, is furnished by the comparatively slight variations observed in the weight of those men who pulled in more than one Race; taking the 60 men who in the two Universities rowed twice¹, I find that in the interval between their two races (extending in several instances over a period of two or even three years), they did not gain on an average more than about two pounds three ounces. Again, the 14 men who rowed three times for their respective Universities did not, in

¹ See Tables in the Appendix.

the time intervening between their several matches, put on more than three pounds ten ounces, while, during the whole course of their University boating career, the six who pulled four times added only three pounds to their weight.

These figures are sufficient to shew that at the time when the Race is undertaken, both growth and development are nearly completed. In boys from 16 to 18 the annual rate of increase in weight is very much greater, amounting on an average to 10 or 12 lbs. a year. I would take this opportunity of remarking that if in addition to the weight, the age and height of the crews were also specified, it would be possible to form a far more correct idea of the comparative physique of the rival Oarsmen; such information might in after years prove very useful, as bearing on the question of national stature, and shewing the average size attained by the flower of our youth. The heaviest man, so far as I can discover, who ever rowed in the Race, informs me that he was at the time 14 st. 10 lbs. He was one of the 1829 Oxford crew, whose weights do not appear to have been recorded; only nine other old Oars weighed more than 13 st.

The man who can undergo with impunity a searching course of training is readily known: his muscular system is well strung and compact, the muscles feel tight and hard, the chest is broad and deep, the skin clear and bright; a tolerably correct idea of a man's general health may be gathered from the state of the skin and of the hair. When nutrition is healthy, there is often a clear mottled appearance about the cutaneous integument, and a soft glossy look about the hair which is very characteristic. It has been truly remarked that a thoroughly robust and sound man cannot look dirty; whether you meet him in the pea-soupy atmosphere of a city fog or

calmly emerging from the limited mail on some raw December morning, his appearance is cleanly, and his bright eye and clear complexion present a wholesome contrast to the motley crew of unwashed humanity who in a Railway Refreshment Room may be seen sleepily snatching their midnight mouthfuls. The teeth also should be thoroughly sound; strong well-set teeth are rarely met with among men of delicate habit; at the same time the back of the neck should be well rounded and covered with muscle, no grooves being visible down the nape of the neck. If the upper arm be well developed, and the outline of the biceps when contracted cleanly defined, the chest is sure to be capacious; a large arm and full chest being well-nigh invariably associated together. At the same time the back should be straight, and strongly set upon the lumbar bones, the arms being well proportioned, and symmetrically hung from their sockets, while the dorsal regions are sufficiently wide to allow the shoulder-blades to lie on the same plane with the spine, so as not to encroach on the axillary region, a misplacement which often occasions an unsightly round back, throwing the arms too forward, and giving them the appearance of being attached to the chest. When the limbs are straight and the form well proportioned, good rowing is the most easy and natural of all exercises. Many of the most finished Oars that the Universities ever turned out never rowed a stroke in their lives before coming into residence. If men are endowed with the requisite physique they will often, after a short course of judicious coaching, handle their oars far more skilfully than others who may have spent half their lives in "rowing on the sea" or indulging in the eccentric vagaries which self-taught Oarsmen are so apt to pursue.

I have spoken strongly of the advantageous results which Rowing may have upon the frame, because it is one of the very few popular pastimes which, while it gives symmetry to the form, at the same time thoroughly exercises the upper extremities; and it is a remarkable fact, that exercise of the upper extremities has a far more direct effect upon the expansion of the lungs, than any amount of exertion confined to the lower limbs. Hence sailors or blacksmiths like the historic "Harry Gow," men in whose daily life the muscles of the arms are forcibly brought into play, rarely grow tall, though their arms and chests often become broad and brawny in a marked degree. Nor should such forms of exercise be confined to men alone; for obvious reasons the greater number of games popular among the boys of our public schools are but little adapted to their gentler sisters; but no valid objection can be raised to their Rowing. Nothing can prove more prejudicial to the coming race than the manner in which the future mothers of England pass their time during their school-girl days. At a period of their lives when growth and development are peculiarly active, when muscles are yearning for opportunities of forcible contraction, they are sent to a young ladies' seminary to learn accomplishments, in other words to be crammed with a heterogeneous jumble of literary, ethnological, scientific and musical lore: without any regard to natural aptitude, objects are forced upon the eye and the ear which never penetrate beyond those portals, unable to discover any congenial resting-place in the recesses of the brain. For long and weary hours, with hot heads, cold extremities, and aching backs, these modern Iphigenias, the sacrificial victims of polite education, plod over their irksome and unprofitable tasks, learning much, mastering little or nothing. These remarks

are not made in any disloyal spirit to the British maidens of the present day; but I am strongly disposed to believe that the sort of "finishing" they often receive is rather calculated to finish them altogether than to impart tone and vigour to their mind. The University Boat-Race has been spoken of as the most conspicuous instance of cruelty to animals, but surely the slight discomfort occasionally experienced in that struggle is infinitesimally trifling when compared with the pent-up muscular energy which is ruthlessly smothered in the fashionable boarding-school. Few spectacles are better calculated to awaken the compassion of a sensitive mind than the gangs of jaded girls who may be seen listlessly plodding their weary way along the less-frequented paths of some of those sea-side resorts where educational establishments of every description seem to batten and thrive. Were these scholastic damsels occasionally permitted to relax the tension of their minds and to indulge in some such "vulgar" recreation as plying an oar, their mental culture would probably suffer but little, while their bodily frames would be incalculably benefited, and parents and husbands in after years be spared a heavy burden of care and anxiety. If some of the hours which are dawdled over croquet were transferred to rowing, it would be the means of imparting grace to the form and vigour to the constitution. I myself have seen a boat propelled by the fair hands of lady rowers, whose strength and skill would have enabled them to hold their own against those adventurous youths who in 1872 had the hardihood to cross the Atlantic, to dispute on our own waters the championship of the oar.

Exercise in the open air is always attended with more beneficial results than that taken in a covered building however spacious and well-ventilated. When

respiration is rapid and deep, fully three times as much carbonic acid is given off from the lungs as when it is conducted after a leisurely fashion. Considering the incalculable benefit of rowing exercise it is a subject for grave regret that so many rivers, more especially in the north of England, have become the sole depositories of sewage largely blended with noxious and offensive chymical compounds. Hence the most ardent disciple of the oar may well be deterred from launching his bark on pestilential and repulsive waters, whose crusted surface is only ruffled by the busy bubbles of noisome gases, or the frothy refuse of the mill and the abattoir: these remarks are also applicable to some of the southern rivers, though not perhaps to the same extent. Although the Cam has of late years been deepened, straightened and rendered more navigable—a change which has doubtless contributed to the recent successes of the Cambridge Crews at Putney—still the river has not yet attained those limpid properties which its Oarsmen would appreciate, the stagnant water being largely adulterated by the sewage of the town. For this reason it has always appeared to me that rowing on the Cam is by no means so invigorating and healthy a recreation as it is upon the Isis. During the two hours that are spent on the river, we may assume that as much air passes through the lungs as during the seven or eight hours which are devoted to sleep, and when this air is loaded with impurities it may readily be conceived that such an atmosphere is likely to interfere with the labour of the trainer in his endeavours to get his men into first-rate condition. Some experiments made by the late Dr Barker prove conclusively that when dogs are exposed to the noxious gases given off by drains, even in cases in which there was no actual disease, the health of the

animal invariably suffered, while the general tone of the system was greatly reduced. Inasmuch then as the Cambridge Crews labour under this serious disadvantage during their courses of training, it is incumbent on all who have the interest of their Alma Mater at heart not to rest content with the mere deepening of the river, but to insist that yet another step be taken in the right direction, and that all drains be diverted from its channel.

There is much in the present day which is calculated to impress upon the mind of all thoughtful and patriotic men the importance of directing more attention to the subject of physical education. The compulsory schooling of gutter urchins may be attended with some advantages; the youth whose unassisted instincts had never soared above the art of pocket-picking, may, through his acquaintance with the three R's, be elevated to the more exalted position of an accomplished swindler or a dexterous forger. But so long as he is herded among the miserable outcasts by whom the slums of our great cities are tenanted, there is little prospect of his moral tone being benefited by that mental culture which but too often results in the mere sharpening of his wits. The most satisfactory education which could be conferred on the inhabitants of these islands, rich and poor, weak and strong, from the pampered millionaire to the needy starveling, would be two or three years' compulsory military service. There are no doubt advantages in dwelling in an island and being girt around "with a silver thread of sea," but may not these ocean bulwarks lull us into that false security so dreaded by the Lacedæmonians, that no walls were permitted to encircle the ancient city of Sparta—the stout arms of her sons being her sole defence? If two years' seasoning in the ranks were be-

stowed upon youths between the ages of 19 and 21, barracks for their accommodation being placed as far as possible in hilly districts, the change for the better in our national physique would very soon become apparent; by some such enactment, a large portion of our countrymen would for the first time in their lives enjoy pure air and discover the use of their limbs in healthy exercise. They would learn discipline and be trained in those habits of obedience which would make them better citizens in after life. Such a change would no doubt seriously interfere with that vaunted "liberty of the subject" which permits beardless boys to follow the bent of their own inclinations, contracting early and improvident marriages, and impressing their own half-developed forms on a blighted and miserable offspring.

I have already referred to some of the more powerful influences which, in the course of the last 50 or 60 years, have tended to deteriorate important sections of our population (a subject which I have elsewhere treated at some length). Among these causes may be noted the increasing immigration from the country districts into the towns, a process which results in too large a portion of our people becoming dwellers in cities, where the enervating conditions amid which life is spent but too often culminate in premature decay. I do not deny that the change from rural to urban life possesses strong attractions. Wages are high, thereby enabling the people to procure for themselves good and expensive food. The water is often excellent, and brought into their houses from the purest springs and lakes. But the air as a rule is pestilentially adulterated, poisoned from below by the exhalations of the drains, and from above by the murky products of combustion and the gaseous emanations of chemical and other factories. Although the advantages

of good air are more lightly esteemed by the majority of men than the sweet-smelling savour of costly viands, it is an undoubted fact that the atmosphere we breathe, the pabulum of our lungs, is a far more important condition of health than tempting varieties of food. In the north of England and in Scotland there are districts of the country inhabited by a singularly hardy and robust race of men—brawny, tight-sinewed labourers, who live entirely on the simple diet of oatmeal, potatoes, and milk. But the air they inhale is invigorating and pure, and when active labour causes them to open out the recesses of their lungs, the cavities of those organs are filled with something more exhilarating than reeking and smut-laden vapours.

It is then impossible to doubt that many circumstances in the present day combine to dry up the springs of our national life-blood—causes which, as population becomes more redundant, must tell with increasing effect. To counteract these agencies every pastime, every game, and every variety of exercise tending to make men muscular and healthy, is deserving of encouragement. The care that is bestowed in patching up the most confirmed invalids, the attention and medical skill expended on the scrofulous and consumptive, doubtless prolongs their lives and is in harmony with the humane sentiments of the 19th century. Still, in so far as the interests of the state are concerned, the prolongation of such lives must be looked upon as a national calamity; the diseases these sickly persons transmit to their progeny are one of the most prolific causes of that low state of health which is the baneful inheritance of many families. By a curious though intelligible physiological law the healthiest parents are not as a rule blessed with such large families as those in whom there is a certain taint

of constitutional weakness. Delicate mothers are rarely able to nurse their offspring, who consequently succeed each other in many instances with startling rapidity.

During the last few years the whole question of national physique has assumed new and momentous proportions. In the late continental war the most striking point of contrast between the two combatants was the difference in strength between the individual soldiers of which the hostile armies consisted. The stamina of the German troops, as exhibited in the rapidity and length of their marches, and their endurance under trying exposure, contributed as much to their marvellous success as did the skill displayed by their generals. The sapless striplings of whom the French army was so largely composed, enervated by habits of dissipation and self-indulgence, strewed their accoutrements along their line of route, and were but ill-prepared to encounter the hardy men around the standard of Moltke. Although in the course of that war it has been computed that the loss sustained by the Germans amounted to nearly 100,000 men in killed, wounded, and invalided, still considering that these troops belonged to an army of 1,500,000 men, and were drawn from an empire containing 40 millions, the drain on the vital resources of the state would be well-nigh inappreciable. Moreover, while the losses on the field of battle would no doubt be meted out with a tolerably even hand among the men who were constitutionally strong and among those endowed with lesser powers of endurance, still it would be upon the latter that the invaliding would tell with most disastrous effect. War, then, in its bearing on national health, is by no means an unmitigated evil; it exacts a heavy penalty of blood, but the weakly are

killed off, and those who survive usually derive great benefit from their enforced exposure and hardships.

On the return of the German troops to their Fatherland after the siege of Paris, the change in their appearance has been described by eye-witnesses as truly remarkable. Half-developed youths were transformed into bearded and robust soldiers; puny and delicate men hardened into vigorous health.

Familiarity with danger produces that self-confidence which is an important element in true courage; so successful a campaign therefore was certain to exercise a most marked influence on national pluck: 1,200,000 or 1,400,000 brave men returning triumphant to their homes would not only stimulate the martial spirit of the nation, but would leave the impress of their high psychological qualities on their descendants, fulfilling the well-known words of Horace,

“Fortes creantur fortibus.”

But there is another lesson to be deduced from this war, one which more deeply concerns surrounding nations. A new principle has been introduced into modern warfare. War for the future must be looked upon not only as conducing to national glory and renown, but also as the most profitable of all occupations.

Two rich provinces and two hundred million pounds sterling, even after deducting the expenditure and loss of property, seem no mean return for a nine months' campaign. Centuries might have been expended on the carving of German toys, the compiling of Lexicons, and the brewing of Bavarian beer, ere so colossal a sum could be honestly earned. The pages of history may be searched in vain for an instance of legalized pillage on so gigantic a scale. When these piles of easily gotten gains are exhausted, and the national coffers once more

failing, it is but reasonable to assume that so ready a method of replenishing them will not be forgotten.

In such an hour the most tempting antagonist will be that nation which when defeated has the largest resources with which to remunerate her victor. If there be a nation which answers this description it is Great Britain, and if there be a town peculiarly adapted for "sacking" it is our own metropolis. An empire with ships on every sea, with possessions in every quarter of the globe, we must ever excite the cupidity of our neighbours. Whensoever the time of the nation's trial shall come, as sooner or later it needs must arrive, a national collapse may convince the most sceptical that hoards of accumulated wealth are but a doubtful advantage unless our possessions be enhanced by national health.

In the piping seasons of peace, "men with enough muscle to lift a dictionary, and training enough to play a fiddle," may be able to enjoy the freedom won for them by stouter hearts and stronger arms, but such citizens are not a type of the Anglo-Saxon Race which we would desire to see perpetuated; they are not that tower of strength of which the Greek Poet speaks when he puts his trust in men as the bulwark of the state in war,

ἄνδρες πόλεως πύργος ἀρήϊος

and after a disastrous "Battle of Dorking," such feeble and loosely-knit protectors would be found but a sorry reserve to withstand the onslaught of a victorious invader.

FIRST UNIVERSITY RACE, 1829.

THE first Boat-Race between Oxford and Cambridge took place on the afternoon of the 10th of June, 1829, Oxford being victorious.

The day was exquisite and the Race consequently was rowed under the most favourable circumstances from Hambledon Lock to Henley Bridge, about two miles and a quarter, a distance covered easily by the winning crew in the space of 14 minutes 30 seconds.

The present Bishop of St Andrews, the Right Rev. C. Wordsworth, D.D., was mainly instrumental in getting up this Race. He may therefore legitimately be looked upon as the "Father of the Inter-University Match."

The names of the Crews were as follows :

OXFORD.

John Carter, St John's.

J. E. Arbuthnot, Balliol¹.

J. E. Bates, Ch. Ch.

C. Wordsworth, Ch. Ch.

J. J. Toogood, Balliol.

Thomas Garnier, Worcester.

George B. Moore, Ch. Ch.

Thomas Staniforth, Ch. Ch.

Coxswain, W. R. Fremantle, Ch. Ch.

¹ Where the names are printed in italics the Oarsmen died before the end of the year 1869.

CAMBRIDGE.

A. B. E. Holdsworth, Trin.
 A. F. Bayford, Trin. Hall.
 Ch. Warren, Trin.
 C. Merivale, St John's.
 Thomas Entwisle, Trin.
W. T. Thompson, Jesus.
 G. A. Selwyn, St John's.
 W. Snow (now Strahan), St John's.
 Coxswain, B. R. Heath, Trin.

Life-rate of the Crews.

The vitality of these sixteen Oarsmen may on the whole be looked upon as very satisfactory. Each man ought, according to life probabilities, to have survived the race 40 years (his age when he rowed being 20); twelve have realized these expectations, and were alive and well at the end of the year 1869. The remaining four, who were prematurely cut off, lived on an average 27 years each, after the year 1829. Taking the lives of these sixteen men together, we find that whereas for ordinary men the calculated expectation of life after the Race would not exceed 640 years, their longevity, if collectively estimated, will amount to 759 years, while the average after-life of each individual, instead of being 40 years, is likely to be extended to $47\frac{1}{2}$ years. In this calculation allowance is made for the prospects of after-life of the twelve men still surviving in the year 1869.

Effects of Training and Rowing upon the Crews.

Benefited,	Uninjured.	Injured.
8	7	1

*Extracts from the letters of the surviving members of
the Oxford Crew.*

"I rowed in the first race between Oxford and Cambridge at Henley in 1829, and in the year 1831 I rowed over the same course in a match between Oxford and the Leander (London Club); on both occasions the crews underwent a course of training, and my opinion, formed from these matches and from four years of College racing, is, that if a young man commences his boat-racing career with a sound constitution, and is of temperate habits, that constitution will be strengthened rather than injured. I myself was so passionately fond of rowing that I was constantly on the water, winter and summer, indeed there were very few days when in residence, weather permitting, that I was not in a rowing boat, and not unfrequently rowing hard either against some other boat or against time.

"I have never thought that the exertion in the racing-boat ever injured me. Within four years I rowed from Oxford to London 5 times, 3 times in a four-oared and twice in a two-oared with a steerer. On one of these occasions my comrade was an Oxford waterman, with a College friend steering us. We started from Oxford at 4 A.M., and arrived at Windsor at 7.30. P.M. It was in the week before Christmas, in the year, I think, 1828. From this, though it was a hard day's work, no injurious effect followed. * * * * Given a judicious diet and regular practice, not too violent at first either as to frequency or pace, I cannot believe any injury will result to the constitution. I am not aware that any of my own contemporaries have suffered any ill effects from rowing.

"My brother rowed in 1836 against Cambridge, from
U. O.

Westminster to Putney, and I never heard him attribute any ill effects to rowing.

“JOHN CARTER.”

BRISTOL, *May*, 1869.

“You may like to know that during the five or six weeks of preparation I trained carefully, observing the prescribed diet, &c. * * * As I was more or less a reading man, I sometimes sat up too late at night. * * * I am now in my sixty-third year, and though I have not been without my share of the labours and trials of life, yet my constitution is not seriously impaired, as you may conclude, when I mention that I am still able to skate, to play at cricket with my sons, and that last year I rowed with them a distance of eight miles as stroke of a four-oar.

“Nor when I think of others whom I knew as a young man at both Universities, can I remember an instance of injury being done to the health which could fairly be set down to the exercise of rowing *as then practised*.

“C. WORDSWORTH.”

PERTH, *May*, 1869.

“In the year 1829 I pulled number five, the heaviest oar in the Oxford Boat, in the first Race between Oxford and Cambridge at Henley-on-Thames, on which occasion Oxford beat Cambridge by several lengths. In addition to this, I pulled about 20 other races during my residence at Oxford. My weight was at that time about 14 st. 10 lbs., it is now 15 st. 10 lbs.

“I do not think the training or racing did me any kind of injury: but I have a good constitution, and have

never had any illness, with the exception of the Influenza, since I was eight years old. * * * *

"I should think Boat-Racing would very likely be injurious to men of weak constitutions.

"J. J. TOOGOOD."

WETHERBY, *May*, 1869.

"I rowed in the Boat-Race against Cambridge at Henley, in 1829. Our boats in those days were heavy compared with the outriggers of the present day, but the distance was considerably less, and our training not so severe. In fact it was left almost entirely to a man's own discretion, and if he possessed any, he would soon find out, that to get through the work satisfactorily in bad condition, was so impossible, and to attempt it so painful, that it was good policy, to say the least of it, to improve his constitution by moderate and wholesome diet and plenty of regular exercise. I pulled in the Christ Church racing boat the whole time I was there, finishing with the race with Cambridge. I never was in better health than during the whole time. I have never suffered from it since. I am now in my 61st year, and can stand a hard day's work as well as I ever could. I cannot call to mind at this moment any one of my own acquaintance, whose health I believe to have been injured by his exertions in rowing; and I am decidedly of opinion, that, provided there is no physical disqualification, no man who has the common sense to prepare himself properly for the work, is more likely to be injured by the exertions required of him in a Boat-Race, such as the Oxford and Cambridge Race, than by any other hard work.

"GEORGE B. MOORE."

SITTINGBOURNE, *May*, 1869.

"I pulled for four years at Eton, and for four years at Oxford, and was, during that time, in every race that took place. I never suffered from the exertion then or since. Training as a system of preparation was little attended to, but I was proud to find that when I went to spend a couple of days some eighteen years afterwards at Oxford, there was a tradition in Christ Church of the steadiness and sobriety of the crews in my time and dynasty.

* * * * *

"I have had remarkable health, and whenever I recall the sensation of extreme elasticity of mind and body, it is by thinking of one's feeling after a Race, or night when we had come up at best pace. I have always said that it more nearly realized the idea of jumping out of one's skin than anything else.

"THO. STANIFORTH."

WINDERMERE, *June*, 1869.

*Extracts from letters of the friends and relatives of
the dead.*

"I never heard *James Edward Arbuthnot* complain that he had ever suffered in the slightest degree from the effects of training, boat-racing, &c., or that he was injured in any way by his aquatic exertions during the time he was at Oxford. He resided about 35 years in the Mauritius and always enjoyed excellent health, until he was attacked by the fever, in March, 1868. He had frequent attacks of it, and died on the 29th September of the same year, at the age of 59, from a severe attack of inflammatory dysentery caused by the fever."

"The Rev. *John Ellison Bates* was Incumbent of Stratton Audley, and was afterwards at St Bride's, Liverpool; from there he was appointed Incumbent of Waterloo, near Liverpool, and finally to Christchurch, Dover. He died of a painful illness under very aggravated circumstances. Previously to this he had been perfectly healthy and vigorous, and if I were asked I should say without hesitation that rowing had not injured his health.

"He was buried at Dover on the 24th of February, 1856.

"At the time of his death he was 46 years of age."

"The late *Thomas Garnier*, D.D., was Fellow of All Souls, and subsequently Chaplain to the House of Commons, Dean of Ripon, and finally Dean of Lincoln.

"He was a strong powerful man, and shewed no ill effects whatever of his exertions in rowing. His heart in particular was strong and sound. * * *

"In consequence of an accident which occurred when he was about 45 his health gradually failed, and he died at the Deanery, Lincoln, on the 7th of December, 1863, at the age of 54."

Extracts from the letters of the surviving members of the Cambridge Crew.

"I never found that rowing did me any harm, on the contrary, I think it benefited me. I have rowed a great deal since I left the University and have trained crews; none of whom have ever been the worse for the exertion

necessarily taken by those who take part in boat-racing.

"I may add that when I left Cambridge I was the stroke of the Trinity Boat, and she was at the head of the river, and that I rowed in the first Race between Oxford and Cambridge which took place at Henley-on-Thames nearly 40 years since.

"A. B. E. HOLDSWORTH."

KINGSBRIDGE, *June*, 1869.

"I am personally unable to mention a single man either on the Thames or at Cambridge whose health suffered in after life from rowing; I have heard of such, but I know no one myself. My own health is, thank God, as strong as any man's of my age.

"A. F. BAYFORD."

LONDON, *May*, 1869.

"I rowed in the first Oxford and Cambridge Race and for two years in the Cambridge Races; * * I have escaped with little harm: I attribute to Boat-Racing something of a tendency to palpitation of the heart, which is sufficient to shew one harm that may be done.

"CH. WARREN."

ST IVES, *June*, 1869.

"In my time we rowed almost continually from October to June, and there was no attempt at scientific training for special exertion, of a few weeks or days. My own College boat's crew were generally reading men, and disposed to temperate and regular living. We

abstained pretty constantly from spirits, smoking, and dyspeptic food ; and were, I believe, all naturally strong of constitution. I never heard then or since of any one having injured limb or constitution by the exertion of rowing. * * *

"On the whole, I should say from my own observation of Cambridge rowing 40 years ago, that it was a thoroughly good and healthy exercise for the healthy and the temperate. "C. MERIVALE."

LONDON, *June*, 1869.

"I beg to state that I never found any inconvenience to my health either at the time, or afterwards, from rowing in the University or other Boat-Races. Nor do I think that young men, in general, who are strong and healthy sustain any injury from the exercise, severe though it is ; but rather the contrary. * * * But for those who are at all delicate, and especially for those who have any organic complaint, I think it very dangerous, for the severity of the exertion is sure to find out a man's weak point. I may add, that, from what I hear from my sons and other young men, I think the system of training for these races is now much more rigid than it was in my time. Whether this be in itself an evil, I cannot undertake to say positively, but I incline to think it is.

"THOMAS ENTWISLE."

CHRISTCHURCH, *April*, 1871.

"I was in the Race of 1829. * * One great benefit of our rowing was that we were by rule, if not by inclina-

tion, habitually temperate ; and I suppose all medical men will agree that little danger can arise from strong exercise in youth, if the body is always kept in a fit state. Active exercise combined with strict diet and regular habits had, I think, a most beneficial effect upon the constitution, and certainly enabled Bishop Tyrrell and myself on horseback and foot, in Australia and New Zealand, to make very long journeys without inconvenience.

“G. A. LICHFIELD.”

LICHFIELD, *June*, 1872.

“I am very glad I can give you a most satisfactory account of the health of the crews under me at Cambridge. My Boat, the Lady Margaret, was head of the river for two years, and all are alive and well except one, of whom I have never heard since he left Cambridge. We pulled in the years 1828, 1829, 1830 ; they were never in better health than when they were rowing hard : several imputed their high degrees to the regular and healthful life we led together in the boat. When you consider this crew rowed together just 40 years ago it is singular how healthy we now all are. * * * All my crews were reading men and took high honours, and were at the head of the river besides. Our training in those years was not so severe as it was about 10 and 15 years afterwards, when it became too severe, and now I am glad to say they find less training more profitable. * * * I have quite made up my mind that rowing at the Universities is most conducive to a regular life and health in after years. I now row myself whenever I can

get an opportunity. Reading men will always beat non-reading men.

“W. STRAHAN.”

SIDMOUTH, *June*, 1869.

Extract from the letter of a relation.

“The Rev. *William Thomas Thompson* was born September 30, 1801, and died from heart disease, November 10, 1840. He was therefore 39 when he died. He was a fine strong man at Cambridge, and was captain of the Jesus Eight, and pulled in the University Crew in 1829. He was a first-rate cricketer as well as Oar, was in the *University Eleven*, as well as in the *Eight*. He was for some time Curate of Loddon in Norfolk, and also of Ridley and Ash, in Kent.”

SECOND UNIVERSITY RACE, 1836.

After the lapse of some years, the second Race between the sister Universities took place on the 17th of June, 1836, and was rowed in heavy soaking rain. Cambridge won the toss. One of the crew remarks: “The start was made too late, causing the tide to be against us in the half of Battersea Reach, and therefore making the contest an unusually severe one, as you may gather from the return of that race, the time of which exceeded any other (from this cause) over the same course.” The Cambridge Boat came in easily one minute before her opponent, it having taken about 36 minutes to row the six miles under these adverse circumstances.

The names of the crews were as follows :

CAMBRIDGE.

W. Hammond Solly, 1st Trinity.
F. S. Green, Caius.
E. S. Stanley, Jesus.
Percival Hartley, Trin. Hall.
Warren M. Jones, Caius.
John H. Keane, 1st Trinity.
Arthur W. Upcher, 2nd Trinity.
Augustus K. B. Granville, Corpus.
Coxswain, Thos. Selby Egan, Caius.

OXFORD.

George Carter, St John's.
Edward Stephens, Exeter.
William Baillie, Ch. Ch.
T. Harris, Magd.
Justinian Vere Isham, Ch. Ch.
John Pennefather, Balliol.
William S. Thomson, Jesus.
Fred. Luttrell Moysey, Ch. Ch.
Coxswain, E. W. L. Davies, Jesus.

Life-rate of the Crews.

The years of life enjoyed and expected collectively by these 16 men after the Race may be estimated at 681 instead of the average 640 years, and the individual lives at 42·5, instead of 40 years. In respect to longevity, therefore, the prospects of life of the crews were decidedly good. Twelve of the rowers were alive and in good health at the end of the year 1869. Four died prematurely (from causes unconnected with rowing), at-

taining on an average 22 instead of 40 years of life after the Race.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
4	12	0.

Extracts from the letters of the surviving members of the Cambridge Crew.

“You ask me ‘whether the training and exertions demanded of men who row in the Oxford and Cambridge Race are of so trying a character that in numerous instances the constitution is liable to be permanently injured?’ I have no hesitation in saying that in my opinion that is not the case. I rowed in the Cambridge Boat in 1836, and I believe that (with one exception) the whole crew are now alive, and I do not believe his death was caused by rowing. I also rowed every Race during the three years I was at Cambridge in the 1st Trinity, and out of the old crew I do not know of one death. I do not say there may not have been, as of course I have lost sight of some, but if so, I have not heard of it. * * * In my time, as you are probably aware, the old-fashioned boats were in use, and the course over which the University Race was rowed was from Westminster to Putney, called six miles, and the distance was covered by a good crew in 30 minutes at the top of the tide.

* * * * *

“In those days we used, for the fortnight we were in town previous to the race, to row every day hard all over the whole course one way or the other. * * * I mention

these facts, simply to shew that the work we did in former times was quite as severe, and probably more than is now done ; but whether or not the style of rowing in the outriggers takes more out of men than the old-fashioned boat did, I leave to better judges than myself to decide. My own idea is that men in the present day *over* train ; as I firmly believe that every man from 18 to 20, in good health and fairly abstemious, is, with the proper preparation of constant rowing, perfectly able to row any race without extra training ; and more than this, that unless a man has some constitutional infirmity (and such men ought never to think of rowing), and lives moderately, no amount of rowing will hurt him. I know these opinions are very old-fashioned, but as you ask for them, I give them, such as they are. I may add, that my great objection to the very strict training men now go through, is that after the race is over, they so soon become infinitely in worse condition than before they began.

“W. HAMMOND SOLLY.”

HEMEL HEMPSTEAD, *June*, 1869.

“I have experienced no ill effects whatever from rowing ; and I was in every race, College and University, during my residence at Cambridge. I was captain of the Caius Boat, and rowed 1836 and 1837, against Oxford and the Leander crew.

“F. S. GREEN.”

CHURCH STOKE, *April*, 1871.

“I began myself as a young boy of thirteen at Eton, took a great liking to rowing, wishing to distinguish

myself, worked very hard at it; I was not a strong boy at that age, but the care I took of myself, and the violent exercise, certainly improved my health and caused me to grow up a strong enduring young man.

"I have never felt any ill effects from the violent exercise I took when young.

"E. S. STANLEY."

JERSEY, *May*, 1869.

"I am not conscious of having brought upon myself any evil consequences by hard rowing in early life. My rowing days extended over a longer period than is the case with many, who take up the amusement when they go up to College and lay it down again as soon as, or even before, they leave the University; but I have not, so far, I am thankful to say, experienced any ill effects from my exertions.

"PERCIVAL HARTLEY."

YOUGHAL, *June*, 1869.

"In reply to your enquiries, I had the honour of rowing in the Cambridge University Crew both in 1836 and 1837. In 1836 we rowed Oxford from Westminster Bridge to Putney, and won *very* easily.

"In 1837 Oxford declined to row, or could not form a crew. Cambridge then challenged the Leander, the crack London Crew, and beat them, much to their surprise, by six boats' lengths over the same course. The race in each year was rowed in heavy soaking rain.

"Our training was not so strictly enforced as I understand it to be of late years. Still, we lived carefully, and were in good condition; in proof of which, I recollect

in practising in 1837 we rowed from Putney to Westminster on a good ebb tide, in 28 minutes and 35 seconds, the distance $5\frac{1}{2}$ miles, without any one of the crew being distressed. This could not have been done by men in imperfect condition. I do not consider the training and exertion demanded were of so trying a nature as to injure the constitution permanently.

“JOHN H. KEANE.”

CAPPOQUIN, *June*, 1869.

“The subject of your letter is very interesting, and I should be glad if I could give you any information about it that would be of any use to you, beyond what you will have gathered from many others. During my stay at Cambridge I lived a quiet and steady life, and the regular exercise of rowing suited me very well. As far as I can remember, I pulled in every Eight-oared Race while I was up, except in one during my “Freshman” year. I pulled under Selwyn (at the head of the river for a considerable time), who now looks as strong as ever he did; and I believe all our crew are still alive and strong, except Mr Harris, who died not long ago at Harrow. In my time I suppose the training was not nearly so severe as it is now-a-days for men of that age. I should think it might easily be overdone, so as to lose their elasticity. The Race in which I pulled from Westminster to Putney was very easy, in fact, not requiring so much exertion as in common practising days. None of the crew were personal friends of mine, so that I have kept up no correspondence with them, but of some I have heard that they are strong hearty men.

“I may add, that I used to hear at Cambridge of

instances of men falling into bad health and of death ensuing, which used to be put to the charge of over exertion in rowing; but I did not know of one that I thought really such. On the contrary, I believe that such cases might all more or less be traced to drinking; but for the sake of not shocking the feelings of parents and friends, rowing was made to bear the blame. No doubt, young fellows with bad lungs ought not to be out all weathers upon the river, nor ought a diseased heart to have anything to do with a Racing-Boat; but if a man is healthy, and leads a decent life, and does not eat or drink immoderately, I believe that rowing is a healthy and strengthening exercise.

“ARTHUR W. UPCHER.”

CROMER, *June*, 1869.

“For myself I may speak with great confidence. I sustained no injury from rowing, and in no way impaired my health; I am now a robust man, though more than thirty years have passed since the contests in which I bore a part, and had rowing ‘been bad’ for me, to use the phrase of the day, it is quite certain it must have found me out. I have pleasure in recollecting the extreme hilariousness produced by the exercise, which to me was never excessive, for I was as fresh at the end of a ‘good pull’ as at the beginning, whether practising or racing.

“A. K. B. GRANVILLE.”

IFFLEY, *June*, 1869.

Extracts from the letters of friends.

“I recollect *Warren Jones* well; he was a tall, well-developed young man, rather taller than the rest of the

crew; the cause of his death I was told, was typhus, or some low fever: it had nothing to do with rowing."

"I have ascertained that Warren Jones died of typhus in 1843 at Lower Charlton."

"I do not think, as far as my memory serves me, that he in any way injured himself, or was the worse for rowing."

Extracts from the letters of the surviving members of the Oxford Crew.

"I rowed in the Oxford University Boat in the year 1836. The Race was from Westminster to Putney, a distance of nearly six miles. The exertion and training necessary for so long and hard a race told upon me at the time, though I do not think my health has been permanently injured. * * * I am afraid I can give you no statistics in reference to my contemporaries, as I have never had much communication with any of them since. I have no hesitation, however, in saying that I think the training required for a University Race is too severe for the generality of young men, and that the constitution runs considerable risk of being seriously injured. I should never wish any of my own boys to engage in so severe a contest. I perhaps may as well say that I was passionately fond of rowing.

"GEORGE CARTER."

FARINGDON, May, 1869.

"My own rowing career was only of five seasons duration, namely, at Eton in 1832 and 1833, and at Christchurch 1834, 1835 and 1836. I left Eton with a good reputation, and when I went up to Christchurch in

January or February 1834, I was immediately put into the Racing-Boat of our College, consisting of four Etonians, three Westminster men, and one Charterhouse man. I have often thought since then *that* was the best crew I ever pulled in. We kept head of the river with the greatest ease. * * * I never saw a race *from the bank* during my whole stay at Oxford, being always pulling. * * * I was so fond of rowing that I still forget myself when speaking on the subject. I don't think my health suffered in any way from the exertions either in training or actual pulling during all my career. Nor am I aware that any of those I knew suffered in health afterwards in consequence; but at the same time I believe our training in those days was not nearly so severe or so regulated and looked after by professional trainers as it is now. * * *

"My own idea is, that if a young fellow is well built, muscular, and plenty of him, has a good constitution, and is in robust health, very little real harm will be done even with severe training. But a bad constitutioned man, however muscular and strong, must suffer.

"WILLIAM BAILLIE."

POLKEMMET, *December*, 1869.

"For my own part, I can safely say that I am not aware that my health has suffered in any way either now or in time past. I would observe, however, that in those early days the training was neither so strict nor so protracted as it has become since. Indeed, little was ordinarily done in that respect at that time, beyond an extra beefsteak occasionally, abstinence from pastry &c., and moderation in the use of wine, cigars &c., not, I fear, always very strictly observed. Whether the health

would be more likely to suffer from this loose training than from a stricter system, prolonged for an excessive length of time, you will be better able to judge than myself. I am sorry that I cannot give you more information upon a subject which has naturally much interest for old lovers of the oar.

“T. HARRIS.”

SWERFORD, *May*, 1869.

“No apology was necessary from you for writing to me on the subject of Boat-Racing; a sport in which in former days I took very great interest and pleasure. When I was at school at Westminster I was the ‘Head of the Water,’ and consequently when I was elected from thence a Student of Christ Church, Oxon, I was soon put into the College Eight, and eventually became its Captain and Stroke Oar. In the year 1836 I was also Captain of the University, and rowed the Stroke Oar against Cambridge, and, alas, lost my Race.

* * * * *

“In reply to your question I can honestly say that though in my days our boats were *barges* compared with the crank things used in the present races, I never knew *any one in the slightest degree* the worse for the exertion. I take it that the work was *decidedly* harder, but the training not so severe. My own feeling (expressed often when the *Times* was deluged with letters on the subject, though *I* never appeared in *print*) is, that *over* training is what those who may have suffered from Boat-racing have to thank for their failure. They have not done growing, and have not stamina for such excessive training and such hard work on it.

“FRED. LUTTRELL MOYSEY.”

CHELTENHAM, *May*, 1869.

*Extracts from letters of the friends and relations of
the dead.*

"*Justinian Vere Isham* died in 1846; his health was not in the least impaired by his rowing exercise, and his death was not attributable to that cause.

"*Isham* did not experience injurious effects of any kind whatever from the Boat-Race, and was never heard to express any apprehensions on the subject."

"*John Pennefather*, who pulled in 1836, died of a malignant fever in his forty-second year. I am not aware that he traced ill effects to pulling; I knew him most intimately."

"I had the pleasure of Mr *W. S. Thomson's* acquaintance for many years. He was in holy orders, and served several curacies in this diocese (St Asaph).

"About ten years ago he was left a large property, upon which he ceased discharging the duties of the curacies which he held, and merely occasionally assisted his friends. After he left Oxford he met with an accident while shooting, which necessitated the amputation of one of his arms. He was a man of much bodily strength, and whatever exertions he made in Boat-Racing seemed to have had *no injurious effect whatever* upon him. He died in 1867."

THIRD UNIVERSITY RACE, 1839.

Two years again passed by without a regular University Match, but on the 3rd of April, 1839, the rival Boats once more met on the waters of the Thames. It seems universally admitted that while Oxford pulled with undoubted pluck and energy, Cambridge for the time possessed the true science of the art of rowing, as we are told in *Bell's Life* that her "stroke was really terrific, one of the severest we ever saw, * * * and tremendously swift." The Race resulted in an easy victory for Cambridge, their opponents being nearly two minutes later in reaching the winning-post; time, 31 minutes.

The names of the Crews were as follows:

CAMBRIDGE.

Alfred H. Shadwell, St. John's.
Warrington W. Smyth, 1st Trinity.
John Abercrombie, Caius.
A. Paris, Corpus.
C. T. Penrose, Trinity.
William Hamilton Yatman, Caius.
W. Baliol Brett, Caius.
E. S. Stanley¹, Jesus.
Coxswain, Thos. Selby Egan, Caius.

OXFORD.

Stanlake Lee, Queen's.
John Compton, Merton.
S. E. Maberly, Ch. Ch.
William J. Garnett, Ch. Ch.

¹ Rowed also in the Race of 1836.

R. G. Walls, Brasenose.
 R. Hobhouse, Balliol.
 Philip Lybbe Powys Lybbe, Balliol.
Calverley Bewicke, Univ.
 Coxswain, W. Ffooks, Exeter.

Life-rate of the Crews.

Time has proved that these two Crews were composed of a healthy set of men, whose collective lives may be set down at 686 years after the Race, or 46 years more than ordinary good lives. Hence the average duration of life for the Crews exceeds, by nearly 3 years per man, their estimated life-rate as ordinary sound men. Four of the 16 men are now dead, one of whom died in 1848, one in 1861, a third in 1866, and one in 1867.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
7	7	2

Extracts from the letters of the surviving members of the Cambridge Crew.

"According to my own experience rowing never hurt anyone who rowed much and well. As far as I myself was concerned, I began my rowing life in public by rowing against Westminster as an Eton boy, in 1836. I went up to Cambridge in the October of that year, and rowed in every Eight Oar race during my stay there, so that I never saw a Race at Cambridge until after I had left in 1840. I was in the University Crews racing

from Westminster to Putney; after I left I rowed one Race from Westminster to Putney in 1841, and at the Henley Regatta in the years 1841, 1842 and 1843, and finally at the Thames Regatta in 1845; so that for a gentleman my career was a long one. * * * The Cambridge Crew of 1839 was, I think, about as good a gentleman Crew as ever has been. * * * Of course no one knows so much of the men younger than himself, but almost all the men who were celebrated as rowing men in my time are still well—as are nearly all of the more distinguished ones younger than myself whom I have known.—The word *I* occurs very often in this note, but you asked for personal experience.

“ALFRED H. SHADWELL.”

LONDON, *August*, 1869.

“I rowed in *every* race during my whole career at Cambridge, not even omitting the Autumn Races between Captains and University, and for two years in the University Crew on the Thames against Leander and Oxford. My University Crew of 1839 was reckoned the best, for many years before and after. * * * I have led an exceptionally physically active life, and having to inspect the Prince’s minerals in Cornwall, do my climbing on the ladders for one or two hundred fathoms against most competitors, whence I trust I am sound in wind and limb.

“WARINGTON W. SMYTH.”

LONDON, *June*, 1869.

“At the time that I rowed, the course was from Westminster to Putney, a distance of about $5\frac{3}{4}$ miles,

and this we rowed over at racing pace (one way) every day for eight or ten days; on looking back at this work, I am disposed to think that it was rather more than was judicious for me at the time, but only as regards the point of being in full strength on the day of the Race, for I did not suffer in any way to injure me either at the time or since, nor am I aware that any of my crew were at all injuriously affected by the work, and our Captain rowed in races for twenty years after our Inter-University Race. I have heard the opinion stated that these races are very prejudicial, and even fatal at an early period to all who engage in them. I do not share that opinion; I think that assuming the men to be sound in wind and limb, as the phrase goes, the cases of injury would be exceptional.

“JOHN ABERCROMBIE.”

CHELTENHAM, *July*, 1869.

“In answer to your letter of the 7th, requesting information whether the exertion of rowing in the University Matches during my residence at College has proved in any way injurious to my after health, I beg to say that I do not think it has. * * * Since then I have hunted, and played cricket, and taken much outdoor's exercise, * * * and my heart and lungs are pronounced sound. * * *

“WILLIAM HAMILTON YATMAN.”

TETBURY, *April*, 1871.

“In my opinion, the rowing practised at Cambridge as it was practised in my time, did no harm to any one. I never could trace any mischief done by it to any one

I knew. I myself rowed as much and as hard as any one. Including College Races, I rowed, I believe, seventy-two matches during the years I practised the art. I never suffered in any the slightest degree. On the contrary, being six feet one inch and a half high when I went up to Cambridge at nineteen years of age, and weighing then ten stone four pounds, I developed into a weight of twelve stone four pounds before I left Cambridge, and maintained that weight until middle age.

“W. BALIOL BRETT.”

MANCHESTER, *August*, 1872.

*Extracts from letters of the friends and relatives of
the dead.*

“*Archie Paris* died October 24th, 1861.

“As far as my information goes, *Mr Paris* experienced no ill effects from his rowing labours. On the other hand, previous to his last illness he was considered a robust and powerful man; his ‘tout ensemble’ was that of a squire of the olden time.

“I can only write at present, that so far as I am aware his after health was exceedingly sound, and that he was a fine healthy-looking man until he was attacked by the disease which proved fatal to him.”

C. T. Penrose, my particular friend, died some two years ago, of something unconnected with exercise, however excessive.

“*Mr Penrose* pulled in three University Races, his illness and death were not in the remotest degree traceable to over exertion in those contests.”

*Extracts from the letters of the surviving members of the
Oxford Crew.*

“My own experience has been considerable, and perhaps above the average of most Oarsmen, for I was virtually 3 years in the University Crew. I say virtually, because the first Race in which I pulled was in 1837, when in consequence of not being able to get picked Crews together in time, it was agreed that the *head* boat of Oxford should race the *head* boat of Cambridge. This came off as the University Race at Henley. Cambridge, however, afterwards objected to that Race being considered a University Race, as the Crews were not picked from the whole Universities. We won that Race. In 1838 I was again Bow-Oar of a picked University Crew, and went through all the labour of training; but at the last moment a difference arose about pulling in Passion-week, and there was no Race. In 1839 I was Bow-Oar of the University Crew, and pulled over the then course from Westminster to Putney (six miles). I mention this to shew that I have had a fair share of the experience of a racing Oarsman. * * * As to my impression of the effect of training and racing on the constitution, I think that, if there is a predisposition to disease in the heart or lungs, or even a natural *weakness* in either of them, the severe strain upon these organs in the process of rowing must be injurious. At the same time this would depend upon the *way* in which the training is done. If *gradually*, by not *overtaxing* the heart and lungs before they have been made capable of enduring what, under ordinary circumstances, would be an excess of exertion, I should not anticipate any injurious results. As regards men who are naturally

sound in heart and lungs, the training and racing *do not hurt* them, *provided only* that they carefully and *gradually* prepare themselves for it.

"I may conclude by saying of myself, that I am none the worse for the Boat-Racing, as I have for nine years done three duties every Sunday, and in the shooting season can walk men off their legs who are 25 years my juniors.

"STANLAKE LEE."

STOCKBRIDGE, *May*, 1869.

"I rowed in the Oxford and Cambridge match in 1839, from Westminster to Putney. The race then, I suppose, involved greater exertion than the present ones, as the boats were very much heavier, and the course much longer. On looking back, I cannot see that I have in any way suffered from it, having enjoyed uninterrupted health and strength. The part I imagine likely to be hurt is the heart, but as yet there is not the slightest sign of derangement there. * * *

"I cannot suppose that such very severe exercise (I believe that just after a hard race the pulse is so quick that it cannot be felt so as to be counted) can be good for any one, considering the matter by itself, and if young men were as sedate and prudent as old ones, they would never undertake such foolish things; but if I had a son at the University, who I was sure was *perfectly* sound, I should encourage him to train if he was inclined, as I believe it would, if he were a boy of high spirit and strong energy and physical force, very greatly help to keep him out of mischief.

"JOHN COMPTON."

LYNDHURST, *May*, 1869.

"I don't think rowing ever did me any harm, though I certainly did not like the very *early season* at which the University match in which I rowed took place; I think it is a great mistake to have the University Race so early in the spring, which we all know is the trying season of the year to every one, and when the low temperature and cold winds do not allow of that relief to the system through the skin, which is so essential to robust health. I was always very temperate in my habits, and could almost say I was ready to pull a race at any time, with little or no training; I had gone through some gymnastic training abroad before ever I pulled in a racing boat either at Eton or Oxford, and I consider that to have been much in my favour; for what was often an exertion very trying to others, my contemporaries, I thoroughly enjoyed.

"If men will not take care of themselves, but live intemperate and reckless lives, and then think to go into training for a few weeks and pull in a Boat-Race, they will most likely find out, sooner or later, that they can't escape painful consequences. But if a young fellow has really a pleasure in the exercise of rowing, is robust and vigorous, and will live as he ought to do, I don't think rowing will hurt him.

"WILLIAM J. GARNETT."

LONDON, *May*, 1869.

"It gives me great pleasure to answer your enquiries about the earlier Races between Oxford and Cambridge. I rowed in the years 1839 and 1840—it seems a long time ago. There had been no race between the Universities since 1836: the Race was then

from Westminster Bridge to Putney, a somewhat longer course than the present ; so it was quite as hard work. I never felt any ill effects from the Race, nor did I ever hear of any of my friends suffering in the least. In fact, I do not think the University Race on the London water is anything like so trying as the Race at Henley, or even the College Races. I don't know what time you were at University College, but our College (B. N. C.) had some tremendous contests with University. The Menzies, two brothers, Highlanders, were the great stay of their boat. I was on the water almost every day, winter and summer, and after the Races I used to finish up by rowing down to London and then going down into Lincolnshire by the mail *coach*,—not train in those days, and of course I was very sleepy for the next week ; that was all I ever suffered. I do not suppose that those people who attribute ill effects to rowing were ever much used to it. I do not know anything of the rowing now, I give you my opinion of what it was 30 years ago.

“R. G. WALLS.”

SPILSBY, *May*, 1869.

“I cannot call to mind any instance of a man's health being permanently injured by rowing. I think there may have been some who were obliged to give up the practice from finding themselves not strong enough to continue it. But if any who were able to continue in it suffered in health afterwards, I should expect to find, on enquiry into their cases, that they were persons who did not attend properly to diet and regimen during the time of their boating exertion. For this certainly

was necessary to secure immunity from injury, viz. a plain and wholesome diet, and a regular and proper mode of life: granted this, and sufficient robustness to enable a man to continue the exertion at all, I do not think there would be any fear whatever of injury, nor do I know any cases of it. * * During the earlier part of 21 years of hard and anxious work in a parish, I continually felt that the discipline and training that I had gone through for rowing purposes was of great value to me in a higher point of view. On the whole, my judgment is that the outcry against rowing is baseless, provided first, that those who engage in it have a certain amount of stamina and do not persevere against first warnings; and secondly, that they live soberly and temperately, and on wholesome and muscle-making food.

“R. HOBHOUSE.”

LISKEARD, *May*, 1869.

“Come and see me, and then you can judge whether I look much the worse for rowing. I have been an Oarsman since my boyhood; could row probably before I could write. I was reared on the banks of Thames. My father was a very good Oarsman at St John's, Oxford, and put me to work going down in the boat to Maple Durham church on Sunday afternoons. I rowed all through my Eton and Oxford life, and was seven in an Oxford Crew in 1839. Three years I rowed seven in the Balliol Boat, and about three more years I rowed seven in the Oxford London rowing crew; since that time I have been continually rowing. * * * The very fastest four-oared boat (bar one) was the John +

of your College. * * * I am of opinion that no able-bodied youth or man will be damaged by rowing if he trains. Training is a great art, and very few people can train gentlemen. * * * Boys and young men must do something. I found my College Boat the cheapest amusement in Oxford. I never hunted, but always rowed. I consider match-rowing without training most *dangerous*. * * * * If people take liberties they must stand to the consequences.

“PHILIP LYBBE POWYS LYBBE.”

READING, *May*, 1869.

Extracts from the letters of the friends and relations of the dead.

“*S. E. Maberly*, a most devoted clergyman, died in 1848.”

“*Calverley Bewicke*, a first-rate Oar, died in 1866.”

FOURTH UNIVERSITY RACE, 1840.

This year the Race took place on the 15th of April. The contest was of a most exciting nature, as for some distance Oxford kept the lead, both Crews rowing most gallantly. At length, however, the Cambridge men drew their boat slowly ahead, and after a severe struggle succeeded in leaving their opponents two-thirds of a length astern at the winning-post—time 29 minutes, 30 seconds. Course from Westminster to Putney.

The names of the Crews were as follows :

CAMBRIDGE.

Alfred H. Shadwell¹, St John's.
W. Massey, 1st Trin.
S. B. Taylor, 1st Trin.
John M. Ridley, Jesus.
G. C. Uppleby, Magd.
F. C. Penrose, Magd.
Heighway Jones, Magd.
Charles M. Vialls, 3rd Trin.
Coxswain, Thos. Selby Egan, Caius.

OXFORD.

J. G. Mountain, Merton.
I. J. J. Pocock, Merton.
S. E. Maberly¹, Ch. Ch.
William Rogers, Balliol.
R. G. Walls¹, Brasenose.
E. Royds, Brasenose.
G. Meynell, Brasenose.
John Somers Cocks, Brasenose.
Coxswain, W. B. Garnett, Brasenose.

Life-rate of the Crews.

These two boats were manned by a very healthy set of men, who may be expected to enjoy 692 instead of 640 years of life after the Race; the lives of the individual Oarsmen extending on an average over 43 and a half instead of over 40 years. Those who died before 1869 all belonged to the Oxford Boat, they lived on an average 14 years after they rowed in this Race.

¹ Rowed also in 1839.

Effects of Training and Boat-racing on the Crews.

Benefited.

Uninjured.

3

13

Extracts from the letters of the Cambridge Crew.

“As regards my opinion of rowing, I believe it to be a very healthy exercise, provided the rower has a fairly good constitution. I totally disbelieve half that is said about it, as having no foundation in fact; and you will very well understand what a very convenient thing it is to lay the blame on rowing when the real cause is not in any way so creditable. I was for a short time in the second crew, and I was then put into the first crew, at an oar very much above my strength—No. 4—and I used to feel the strain on me so great that the luxury of sitting down in the boat-house has been a sort of memory with me ever since. This however only lasted one quarter, and I never felt any ill effects from it. I then pulled the Stroke Oar, and remained in that place till I left—winning with our 1st Trinity crew the first Henley Regatta Cup, and I pulled in the University Crew the next year. During all the time I rowed I felt about as well and strong as possible, until the last Race I pulled, which was the Henley Regatta: I had nothing that I knew of the matter with me, but I lost a stone in weight and felt altogether weak and not up to work; I am very sure this was not the fault of rowing, and I never felt any further ill effects from it. I was also during three years playing in all the matches at Cambridge in the Eleven at cricket, and I am now, I believe, thank God, as free from ailments and fresh as anybody could expect to be at my age.

“W. MASSEY.”

BEAUMARIS, *June*, 1869.

"You do not let me into the secret of your own views upon the much debated point on which you write to me. Perhaps, however, you are at present only an enquirer, but anyhow I hope you will not be displeased to learn what I am very pleased and thankful to be able to state, that at the present moment I am in quite as good a state of health as in 1840, when I rowed in the Inter-University Match, and that I have had no illness worth speaking of between these periods. So that I may decidedly be quoted among the examples of those upon whom rowing has not acted prejudicially in after life. Indeed I am often inclined to attribute my present good state of health in a great degree to hard exercise in early life, though this may not be a very logical conclusion.

"S. B. TAYLOR."

EPSOM, *April*, 1871.

"I was a member of the Crews which rowed for Cambridge against Oxford in 1840, 1841, 1842. I have among my acquaintances many who rowed in University Crews, both previously and subsequently to those years, and, except in one instance, I can safely say that I cannot trace any evil effects to exertion from rowing.

"JOHN M. RIDLEY."

HEXHAM, *May*, 1869.

"I rowed in the Cambridge University Crew against Oxford in 1840, and in every Race during my stay at the University; nor am I aware that I have sustained any injury from it, nor do I know of any men that have.

* * * My opinion is that the exertion is too severe and more or less injurious, but not more so than the profound idleness, gluttony and dissipation of those who did not row.

“G. C. UPPLEBY.”

ULCEBY, *June*, 1869.

“I pulled myself three times in those Races, and am, I dare say, now enjoying as good health as most people at 52 years of age can expect. * * * I think I knew of two cases where pulling acted injuriously, two among, say 400.

“F. C. PENROSE.”

LONDON, *November*, 1869.

“There are few of the old Cambridge Oarsmen of my date who pulled in the University Matches, but are still, as far as I know, strong men, and in my opinion quite equal to compete with those of the same age. Men of a weakly constitution certainly have no business to undertake any exercise that taxes their strength to the utmost, rowing of course included; and if they yield under the trial, their imprudence should be condemned, and not the manly games of Old England. The advantages of our athletic competitions much more than counterbalance the few cases that occur of persons yielding. As for myself, after twelve years of colonial work, far more trying than rowing exercises, I may still call myself a strong man in my 53rd year. When I say this, rowing cannot be said to have started me (physically) in life very badly. One thing I think I may safely say, the self-restraints required to keep up to

what is called condition for contesting never did half the injury to the constitution as the laxity of others.

“HAY JONES.”

PONTESFORD, *April*, 1871.

“I have been accustomed to rowing since I was a child, and rowed in many races both at School and College. I am constantly in the habit of meeting those with whom and against whom I rowed. I cannot call to mind any instance, except one doubtful one, in which injury has been sustained from the exertions we underwent. In my opinion rowing was an advantage rather than an injury to a sound constitution, and that at School and at College those who found themselves unsuited to such hard exercise relinquished the practice before they injured themselves. * * * Formerly it was the custom to row to train, simply being careful as to diet and hours, before an approaching Race. Now they train to row, and I think it possible more harm may be done by over-training than by rowing. I frequently hear of crews looking over-trained, and I believe it is the general opinion that rowing has not improved at either University.

“CHARLES M. VIALLS.”

LONDON, *June*, 1869.

*Extracts from the letters of the surviving members of the
Oxford Crew.*

“I am of opinion that the training and exertion demanded of those who engage in the Oxford and Cam-

bridge Boat-Races are *not* of so trying a nature that in numerous instances the constitution is liable to be permanently injured ; I mean of course when the men themselves are strong and healthy in the outset. No doubt many young men of delicate constitutions, some perhaps with the seeds of latent disease about them, engage in these and other violent exercises to which they are physically unequal; but such men I think soon discover, or it is discovered for them, that they are unable to do the work ; and it is not, I presume, from such cases that an argument would be shaped for or against Boat-Racing ; but what those interested in the enquiry would probably ask is, whether among those who have had the reputation of being strong enduring Oarsmen at the Universities, a failure in health some years later may be reasonably traced to their exertions in the boats while at College.

“In speaking of my personal experience it is right that I should state, that when I left off rowing races about 25 years ago I became much alarmed at some pains and discomfort I felt about my heart ; but I always had from a boy a weak digestion, and I attribute what I felt more to the cessation from strong exercise (while eating and drinking freely) than to any harm occasioned by it. I am now nearly 50 years old, and I don't think I am better or worse in health than I was at Oxford.
* * * All my old rowing friends whom I meet with appear to be in the strongest health. I believe cases to the contrary, though of course some exist, are very rare.

“I. J. J. POCOCK.”

MAIDENHEAD, *May*, 1869.

"I am well, and in fact, though I have spent a most laborious life, working in some of the worst parts of the City of London, seldom absent from duty, I have never suffered except sometimes perhaps from mental anxiety, but have always been restored after a short cessation. Though, like an Englishman, I complain, and tell my friends that I am breaking up, they do not believe me, and I do not believe it myself. I do not believe that rowing is injurious, if men are only moderate in the exercise, and moderate after the exercise. I constantly see old rowing men, with whom I was associated at Eton and Oxford, hale and strong.

"W. ROGERS."

LONDON, *April*, 1871.

"Your course as to athletics seems to an unprofessional eye the sensible one. I think I can answer your questions not only for myself but for a good many of my contemporaries as well, as I happen lately to have seen or been in communication with many. At 19 I rowed in the Oxford Crew against Cambridge, from Westminster to Putney, six miles, A. D. 1840; 1841 ditto; 1843 in the Oxford seven oar at Henley, and with an additional man at London Regatta; besides College Races, four oars, pair oars, &c. &c. I have never felt any inconvenience, except that when first ordained want of strong exercise made me unwell for a short time; now I think I could walk or run against most men of my age, and have excellent health. * * * Many of my fellow Oarsmen in the University Boat I have seen and heard from quite lately, and a heartier set for their age I never met with. I do not think

however that University Crews are those likely to be injured, they are 'picked men,' but among my own friends in College Crews I have known very few or none permanently injured; in the University Boats not one. . I can quite believe an unsound constitution might be fatally injured; but again, I think the course of training a great safeguard, as almost certain to bring out the weakness before any serious injury is done; and any doubtful man would be draughted at once.

"EDWARD ROYDS."

CONGLETON, *May*, 1869.

"You are right in your supposition that I rowed against Cambridge in the years 1840 and 1841. I was Stroke Oar each year, and also rowed in the B. N. C. racing boat for three years, as well as having trained hard at Westminster against Eton for three years previously. I find myself as well in health as most of my contemporaries, or as my three brothers, who have good constitutions, but have never rowed in this violent way. * * * But though I can speak thus favourably from my own personal experience and from what I know of my fellow Oarsmen, I do feel that any organic weakness *must* be developed by such intense exertion, however much prepared for by training which in itself is trying, though of course absolutely necessary for the prudent accomplishment of rowing matches. The training however generally proves those athletic frames who appear fitted for their places to be so, or to be wanting in constitution, which of course you are well aware does not always go with muscular power.

"JOHN SOMERS COCKS."

BOULOGNE, *June*, 1869.

*Extracts from the letters of the friends and relatives of
the dead.*

"*Mountain* went as a missionary to Newfoundland, and the privation, voluntary and involuntary, which he underwent may have hastened his death."

"*J. G. Mountain*, the best man in the boat, and so beautifully made that we used to call him the 'Apollo Belvedere,' went out as a missionary and caught a fever of which he died."

"I am not aware that *Mountain* suffered from the University Race, he was constantly rowing for some years after."

"*Mountain* died of acute disease in 1856, while in otherwise excellent health."

"*Godfrey Meynell* died July 3, 1858, from natural causes, which had nothing to do with rowing."

"*Meynell* did not suffer any ill effects from his exertions in boating, and was a strong healthy man until he broke down with an attack of illness; from this he recovered and lived, I believe, a few years pretty well, when he was taken with his last illness, a severe febrile attack, and died. I never think of his death without feeling that I then lost the best friend and the most estimable man I ever knew."

FIFTH UNIVERSITY RACE, 1841.

This match took place on Wednesday April 14, 1841, about six in the afternoon. The water was pretty smooth, but there was rather a strong head-wind, so that the time was longer than in the last Race, being 32 minutes 30 seconds. The Oxford Boat was completely distanced, and came in about a minute after her adversary.

The names of the Crews were as follows :

CAMBRIDGE.

William Croker, Caius.
Hon. L. W. Denman, Magd.
A. M. Richie, 1st Trin.
John M. Ridley¹, Jesus.
R. H. Cobbold, St Peter's.
F. C. Penrose¹, Magd.
Hon. G. Denman, 1st Trin.
Charles M. Vialls¹, 3rd Trin.
Coxswain, J. M. Croker, Caius.

OXFORD.

Richard Bethell, Exeter.
E. Vaughan Richards, Ch. Ch.
*J. G. Mountain*¹, Merton.
E. Royds¹, Brasenose.
H. W. Hodgson, Balliol.
William Lea, Brasenose.
*Godfrey Meynell*¹, Brasenose.
John Somers Cocks¹, Brasenose.
Coxswain, C. B. Woolaston, Exeter.

¹ Rowed in 1840 also.

Life-rate of the Crews.

These Crews seem to have been composed of a sound constitutioned set of men. I have estimated the duration of their collective lives at 664 years after the Race, and their individual lives at about 42 instead of 40 years. Three men died early, one the year after the Race, and the others in 1856 and 1858.

Effects of Training and Rowing on the Crews.

Benefited.

4

Uninjured.

12

Extracts from the letters of the surviving members of the Cambridge Crew.

"With regard to rowing, there is no doubt it is a most healthy exercise in itself, and it is a very good one for *gentlemen*, who are too apt to be indolent, not being obliged to work. The *racing* in boats perhaps is the only means of keeping young men to regular hours of rowing. Of course every thing of this nature *may* be abused, and is abused; but on the whole, I believe that boat-racing at the Universities does good in keeping young men out of mischief, and keeping them to regular hours of exercise. And from all the enquiries I have made, as well as from my own knowledge, the accounts that are circulated as to the fatal effects of boat-racing are very grossly exaggerated.

"L. W. DENMAN."

HENLEY ON THAMES, *June*, 1869.

"Personally I never felt any inconvenience from rowing, but I cannot say how far it may have affected my constitution; I never heard any of my friends say that they thought rowing had done them any harm. Our Boat at St Peter's was head of the river. I only know of the death of one of the crew, and that did not appear to be connected in any way with the exertion of rowing.

"R. H. COBBOLD."

BROSELEY, *June*, 1869.

"As for myself, I rowed in 101 races of all kinds, of which I lost 13. I think there can be no doubt that I thereby turned myself from a weak weedy boy into a tolerably athletic young man. * * * On the whole, I think it all depends upon the man, but take the average young Englishman of public schools, I believe far more of them are improved in health than damaged by taking to the water, and that those who have derived the most benefit have been those who have rowed in the University Crews.

"G. DENMAN."

LONDON, *June*, 1869.

*Extracts from the letters of the friends and relatives of
the dead.*

"*William Croker* died at the University in 1841 of typhus fever.

"*W. Croker*, died, I believe, from a cause quite independent of rowing.

"He never suffered from rowing."

*Extracts from the letters of the surviving members of the
Oxford Crew.*

"I think I may say I have in one way or other done as much as any other man, in excessive exercise, wet and dry.
* * * But for my opinion as to your question, I do not consider that a sound boy or man will materially affect his life by the training and exertion necessarily undergone for the University Boat-Race.

"RICHARD BETHELL."

NEW ZEALAND, *February*, 1872.

"I rowed in the Oxford Crew in the spring of 1841, being at that time 19 years and five months old; I grew to my full height before I was 17 years old; I was five feet eight inches, stout built, and remarkably large round the chest, though short in the arms and legs. I was a remarkably strong boy. * * * I was educated at Westminster, and was Stroke of the Boat there before going to Oxford, and was thoroughly used to rowing hard. I could train well, and was in excellent condition when I rowed the University Match. I cannot trace any evil effects to my health in after life due to rowing; but I consider my build and constitution peculiarly well adapted to the purpose of rowing; and I never would consent to any young man of slender build, or who had not done growing (which I consider a prime point), rowing in an important match, if I had power to prevent him. Much evil arises, in my opinion, from want of care in training, and in supposing that a system which suits one man is necessarily the best for another. I have *heard* of some of my contemporaries falling ill and dying, and have

heard such disasters attributed to rowing; but I cannot, of my own knowledge, give you any information about anybody but myself. If I had a son who wished to row in the University, I should consider,

“1st. Has he ceased to grow?”

“2nd. Is he muscular and of large chest capacity?”

“3rd. Will he stand training well?”

“E. VAUGHAN RICHARDS.”

LONDON, *June*, 1869.

“I underwent a most severe apprenticeship at Westminster School; when training for the race with Eton, we frequently rowed at racing speed from Westminster to Battersea and back in the morning, and from Westminster to Putney and back in the evening, 18 miles in all; but I do not know that any of us were the worse for it. My father says that I looked like a greyhound in those days, and *he* would tell you that I was the worse for it, but I tell him I never sent him in a doctor’s bill. I was at it all the time I was at the University, in my College Crew, in four-oars, and in pair-oars, but I am still in excellent force, and should be in still better if in training.

“H. W. HODGSON.”

BALDOCK, *May*, 1869.

“I was one of the Oxford Eight in 1841. * * * I do not think that my health suffered in any way from the training and exertion of the University Race. For some years after that time I was as well as ever. * * * I do not think that men of average constitutions and sound organs would suffer from the Boat-Race, but I

think it would be injurious if any organs such as the heart or lungs were unsound. It might not be a bad plan to suggest a medical certificate of soundness before a man was admitted to the University Crew.

“WILLIAM LEA.”

DROITWICH, *May*, 1869.

SIXTH UNIVERSITY RACE, 1842.

“The University Race of 1842 resulted in the first victory gained by Oxford on the London waters (the Race of 1829 having been rowed at Henley). Both crews were in first-rate condition, but the Race was shorn of much of its interest by the inexcusable conduct of a steamer which got right in the way of the Cambridge Boat, not only throwing her out of her course, but subjecting her to its swell for a considerable distance, and thereby depriving her of all chance of making a good fight. The Oxford Crew brought in their Boat some 13 seconds ahead of their opponents.

The names of the Crews were as follows :

OXFORD.

J. F. McDougall, Magd. Hall.

Robert Menzies, Univ.

Edw. A. Breedon, Trinity.

W. B. Brewster, St John's.

G. D. Bourne, Oriel.

J. C. Cox, Trinity.

George E. Hughes, Oriel.

F. N. Menzies, Univ.

Coxswain, Arthur Shadwell, Balliol.

CAMBRIDGE.

Ernest Tower, St John's.

Hon. L. W. Denman¹, Magd.*W. Watson*, Jesus.F. C. Penrose², Magd.R. H. Cobbold¹, St Peter's.*J. Royds*, Christ's.Hon. G. Denman¹, 1st Trin.John M. Ridley², Jesus.

Coxswain, A. B. Pollock, Trin.

Life-rate of the Crews.

The lives of these men may be considered good ones. My estimate of their collective after-life amounts to 687 instead of 640 years, while the individual Oarsmen may on an average be expected to live for 43 instead of 40 years after the Race. Three of the rowers who died prematurely, lived between them 50 years after they rowed. One of them died in 1847, one in 1864, and one in 1865.

Effects of Training and Rowing upon the Crews.

Benefited.

9

Uninjured.

7

Extracts from the letters of the surviving members of the Oxford Crew.

"I rowed in the Oxford and Cambridge Match of 1842 as Bow. I believe that in my own case rowing

¹ Rowed also in 1841.² Rowed both in 1840 and 1841.

has strengthened me to go through hard and trying work on the Equator for 20 years, and to be, as I am, the only survivor of all my contemporaries in it, but none of them were rowing men. I can pull a stout oar yet on our quiet Ouse, and hope, please God, to be able to do so for years to come.

“F. J. McDOUGAL.

GODMANCHESTER, *May*, 1869.

“I am sure rowing never did me any harm, either at the time or afterwards, and I think the training we rowing men undergo, who go in for being public Oarsmen, in most cases does a great deal of good, and at all events keeps the rowing men out of worse mischief. Of the seven-oar Oxford Crew that pulled at Henley in 1843 all are now alive and healthy, except one, who died of the effects of a malaria fever caught at the Cape of Good Hope. * * * The others of this Crew met at Oxford last year, and shewed no signs of any harm from their exertions there 25 years previously, but were all sound and well. I think if a young man is sound and has not any constitutional weakness, rowing *will* invigorate his system and have a very good effect on his bodily health in after years, and at all events it agreed well with me and the crews I rowed with.

“ROBERT MENZIES.”

ABERFELDY, *May*, 1869.

“In reply to your letter on the subject of rowing and its effects on myself individually, I am happy to be able to state that I was never in better health than

when I was in training for a race, and that as I have been perfectly well ever since that period, I think I am justified in supposing, that in my case at all events, that noble pursuit has not been productive of injury in any manner whatever.

“EDWD. A. BREEDON.”

LONDON, *May*, 1871.

“As regards myself I began to row at 14 years of age, and I have taken a part in seventeen public races, such as Eton and Westminster, Eton and Guards, Eton and Leander, Thames, Henley, Oxford and Cambridge, etc., besides College Races, and I am thankful to say that now I am as well as ever I was. Of the Crew that rowed in the Oxford and Cambridge Race in 1842, the last that was rowed from Westminster to Putney, all but one are living and hearty. We met last year at Oxford, and some letters having appeared in the papers respecting the injury done to the constitution by this exercise, the subject was discussed; and we were all of opinion that rowing, so far from being injurious, was beneficial. * * * My own only son derived great benefit from the exercise of rowing, and I would encourage it in every way.

“G. D. BOURNE.”

BROADWAY, *May*, 1869.

“I rowed 5 years in my College boat, 2 years at Henley Regatta, 1 year against Cambridge from Westminster to Putney, and 1 year against the Leander at

the Thames Regatta. I was not, when I began to row, strong for my size and weight, and I believe that rowing and training, and all the rest of it, did me not only no harm but a vast deal of good. I am in perfectly good health now. * * * Depend upon it rowing will always do a man more good than harm.

“J. C. COX.”

CHELMSFORD, *June*, 1871.

“I rowed in the O. U. Boat in 1842 and 1843, and am in my 50th year. * * * I enjoy very good health, I can walk all day with my gun or ride all day after the hounds without feeling knocked up, and I am constantly in the habit of taking hard exercise, such as planting and felling trees, of which I am very fond. * * * I think therefore that I may conclude that rowing has not been prejudicial in my case.

“GEORGE E. HUGHES¹.”

LUTON, *April*, 1871.

“I was Captain of the Oxford *University* Crew for two years and rowed stroke oar, pulled the last race that was rowed over the old course from Westminster Bridge to Putney, in which Oxford was victorious. I rowed five years at Oxford, one year 3 in a four-oar, one year 7 in the University College Eight, and three years stroke of Univ. Coll. Eight, and Head of the River the last two years. I am now 52 years old, and I suffer no bad effects. I had my life insured two years ago, and had to be examined by one of the first medical men in Edinburgh, who passed me as a first-class life. * * *

¹ Mr Hughes died May 2nd, 1872, of acute inflammation of the lungs.

I am sure rowing makes *muscle* and improves the health.

“ F. N. MENZIES.”

EDINBURGH, *April*, 1871.

*Extracts from the letters of the friends and relatives
of the dead.*

“ *W. B. Brewster* died July 7, 1864, but his death could in no way be attributed to rowing ; he was a very tall man, 6 feet 4, and of all the men in the Crew I had most doubt of him when he was chosen ; but the exercise did him good and made him a stronger man. He got fever in Africa when on service in the Rifles, and retired in consequence of the effects of it.”

“ He died of the effects of a malaria fever caught at the Cape of Good Hope, under which his health gave way, and he ultimately died in this country.”

“ He met his death from a cold caught by returning wet from a Brighton Volunteer Review ; he being Colonel of the Inns of Court Battalion, and having gone through severe work at the Cape in the Rifle Brigade.”

*Extracts from the letters of the surviving members of
the Cambridge Crew.*

“ I have much pleasure in replying to your note, and without hesitation declare that the training and exertion in rowing were no injury to me ; on the contrary, they were exceedingly useful in keeping me in excellent health during the whole of my Cambridge

time; if my sons grow up and reach Cambridge, I shall certainly recommend them rowing in preference to other athletic sports. I really could not give you, if I were to rack my brain for a week, a single instance of a man who suffered from rowing in my day.

“ERNEST TOWER.”

HINCKLEY, *June*, 1869.

“*W. Watson* died of influenza in 1847.”

He never suffered from his rowing exertions.

“*John Royds* died June 1865, aged 46. I never heard that he was, or considered himself any the worse, for rowing; he grew very stout, and, farming largely, over-exerted himself very much one day in driving some trespassing cattle out of a corn-field. He died after a year or two's suffering, from severe heart disease.”

SEVENTH UNIVERSITY RACE, 1845.

The University Race of 1845 took place at an unusually late hour on Saturday the 15th of March, 1845. The weather was freezingly cold and the water lumpy, but the bitter wind was somewhat in favour of the rival Crews. This was the first year in which the Race was rowed over the present course.

The Cambridge Boat drew slowly ahead, and finally won by 30 seconds; time, 23 minutes 30 seconds.

The names of the Crews were as follows:

CAMBRIDGE.

Gerard Mann, Caius.
W. Harkness, St John's.
W. S. Lockhart, Christ's.
W. P. Cloves, 1st Trin.
F. M. Arnold, Caius.
Robert Harkness, St John's.
J. Richardson, 1st Trin.
C. G. Hill, 2nd Trin.
Coxswain, H. Munster, 1st Trin.

OXFORD.

Mark Haggard, Ch. Ch.
W. Chetwynd Stapylton, Merton.
William H. Milman, Ch. Ch.
Henry Lewis, Pembroke.
W. Buckle, Oriel.
F. C. Royds, Brasenose.
F. Maitland Wilson, Ch. Ch.
F. E. Tuke, Brasenose.
Coxswain, F. J. Richards, Merton.

Life-rate of the Crews.

Collectively, the lives of these sixteen Oarsmen will not, according to my calculations, extend over more than 561 instead of 640 years after the Race; while their individual life-rate will be only 35 years. Hence, in the aggregate, the rowers will probably live 79 years less than ordinarily healthy men, each man on an average falling short of his tale of days by some five years. Four of the Cambridge men died before 1869, only living on an average some 9 years after the Race. One of the Oxford Crew died in 1854.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
2	10	4

Extracts from the letters of the surviving members of the Cambridge Crew.

"In 1844 I went through all the training, the most severe part of the work, more trying even than the Race itself, though in the end Oxford refused our challenge; in 1845 I rowed number five, when we were victors. I rowed in four or five other University Crews. * * * As to myself, I am in perfectly good health. A few years ago I was most carefully examined for an hour or more, and the verdict was that my heart was as sound as any man's, and that I might freely indulge (I was about to start for my favourite ground for walking, the Pyrenees) in any mountain climbing whatever.

"F. M. ARNOLD."

KINGSTON-ON-THAMES, *June*, 1869.

"As an old Captain of the Cambridge University Boat Club, and Lady Margaret B. C., I was much mixed up with boating men, some twenty-two years ago. * * *

"I believe that I myself rowed as much as most men could short of excess. I rowed twice in the University Boat-Race, but I did not row for more than two years, being prevented at first by an accident, and afterwards by a conviction that I could not stand too much of such severe exercise. I do not consider my rowing injured my health.

"ROBERT HARKNESS."

SALISBURY, *June*, 1869.

"I am thankful to say that so far as I know I am in perfect health at the present time; that I was so all the time I rowed, and I have rowed in several severe races, in some of which I have been beaten, in others successful, and that I never suffered either from training or rowing. I write this without the slightest knowledge of your intentions, whether to gain information in favour of or against the Inter-University Boat-Race; I simply state things as they are and were.

"J. RICHARDSON."

BEDFORD, *April*, 1871.

I commenced rowing at Cambridge in 1842, knew a great many of the hardest rowing men of my time, both at Oxford and Cambridge, and cannot say that I can see that any marked injury is common to their lot, now that thirty years have passed. * * * I rowed stroke-oar both in College and University Races, without suffering any inconvenience, and with uniform success, ending my boating days with the Inter-University Race of 1846.

WARBOYS, *Dec.* 1871.

"C. G. HILL."

*Extracts from the letters of the friends and relatives
of the dead.*

"My old friend *Gerard Mann* died from erysipelas driven to the head from bathing, as was his daily custom, in a cold bath in the middle of winter, when he had got erysipelas."

"*Gerard Mann* died October 1855, aged 33. He never suffered from rowing in any way whatsoever."

"*W. Harkness* died in 1863."

" *Walter Scott Lockhart (Scott)* after rowing in the Race alluded to, went into the army (16th Lancers being his regiment), and died in 1851 at the age of 26. He was a remarkably handsome fellow, the grandson of Sir Walter Scott, and succeeded to Abbotsford, assuming the name of Scott on the death of his uncle, the second Sir Walter.

"Uninjured by rowing."

W. P. Cloves. "Was known to be consumptive when he rowed; he was muscularly strong, and it was the general feeling that his rowing had by no means shortened his life."

"You may have heard of *Cloves*, Captain of the 1st Trin., who rowed against Oxford in 1845. He was about the strongest man in Cambridge, and won the sculls, but he died of consumption soon after he left the University."

"*W. P. Cloves* rowed in the University Crew of 1845, and trained that year both for spring and summer crew; in 1846 also he trained and rowed in the spring. After this his health broke down, and he died, I think, in Madeira not long after."

"*W. P. Cloves* died Sept. 25, 1849."

*Extracts from the letters of the surviving members of the
Oxford Crew.*

"I rowed in the Eton Eight for two years, and in the O. U. B. C. Eight and Four for three years, and am not aware that my health or constitution have in any degree suffered.

"W. CHETWYND STAPYLTON."

KINGSTON, May, 1869.

"I have never suffered the slightest inconvenience from my rowing exertions in any way, and few have rowed more than I have. An Eton and Westminster Race, Christchurch Boat for four or five years; two University Races; Thames and Henley Regattas several seasons, especially the latter, where on one occasion I rowed in two eight-oared races, two four-oared, the pairs, and wound up by winning the scratch Eights.

"W. H. MILMAN."

LONDON, *April*, 1871.

"So far as my own health is concerned, I do not think there has been any injury. * * * I have not known personally of any case of injury from boating which I could supply without a very reasonable doubt of its being genuine.

"HENRY LEWIS."

STOWMARKET, *May*, 1869.

"I rowed in the Oxford University Boat for part of three years, and during the time I was in training and afterwards I never had a day's illness which I could attribute to it. I rowed 13 st. 5 lbs., and always rather gained in weight when training than lost; indeed I believe that the regular life and hours necessary in training were useful to me in more ways than bodily health. * * * I am not aware that any of my contemporaries were injured by rowing. * * * I rowed several hard races, but never was so much 'done up' as I was in the College Boat, still I never was the worse for it.

"W. BUCKLE."

LEDBURY, *March*, 1871.

"As far as I am concerned myself, I have always enjoyed and still enjoy excellent health. I have no reason to suppose that I am any way the worse for rowing. I have two brothers who were also University Oarsmen, one older, and one younger than myself, and they would both give the same account of themselves.

"F. C. ROYDS."

CHESTER, *May*, 1869.

"I rowed two years in the Eton Boat against Westminster, and three more in the Oxford University Boat, at all the regattas (only one Race with Cambridge), and am not aware of any ill effects.

"F. MAITLAND WILSON."

BURY ST EDMUNDS, *April*, 1871.

"As an Eton boy I was Captain of the Boats, and rowed in two Races against Westminster, in 1842 and 1843. I went up to Oxford after the Long Vacation in 1843, rowed in the College Races in the summer of 1844, and was appointed President of our University Boat Club. At the end of this term Oxford met Cambridge University and Leander, at the Thames Regatta 8-Oar Race, when we were victorious. I rowed stroke. I rowed the following week in a University Four-Oar Race, at Henley, winning; also in a Race for the Eight-Oar Cup in an Oxford crew composed of old Etonians, winning this also. The next Easter (in 1845) I rowed against Cambridge at Putney, and was beaten.

"F. E. TUKE."

SITTINGBOURNE, *May*, 1869.

"*Mark Haggard* died of consumption on his way home from Madeira in the year 1854."

EIGHTH UNIVERSITY RACE, 1846.

This Race came off upon Friday the 3rd of April, and was rowed from Mortlake to Putney, the day being very fine. The Race was one of the closest upon record, and with the exception of the 1868 and 1869 Matches, was rowed in a shorter space of time than any other, namely 21 minutes 5 seconds. The Crews were in capital condition, and unusual interest was aroused by the fact that on this occasion outriggers were used for the first time in a University Race. The lead was gallantly contested for many minutes, but Cambridge at last distanced her rival, and succeeded in passing the winning flag some two lengths ahead—wind and tide were favourable, and the water calm.

The names of the Crews were as follows :

CAMBRIDGE.

George Francis Murdoch, St John's.

G. F. Holroyd, 1st Trin.

Stephen T. Clissold, 3rd Trin.

*W. P. Cloves*¹, 1st Trin.

Edmond Wilder, Magd.

Robert Harkness¹, St John's.

Edwd. P. Wolstenholme, 1st Trin.

C. G. Hill¹, 2nd Trin.

Coxswain, T. B. Lloyd, Lady Margaret.

¹ Rowed also in 1845.

OXFORD.

H. S. Polehampton, Pembroke.*E. C. Burton*, Ch. Ch.*W. U. Heygate*, Merton.*E. H. Penfold*, St John's.*J. William Conant*, St John's.*F. C. Royds*¹, Brasenose.*W. Chetwynd Stapylton*¹, Merton.*W. H. Milman*¹, Ch. Ch.Coxswain, *C. J. Soanes*, St John's.*Life-rate of the Crews.*

The aggregate longevity of these 16 men is materially lowered by the early deaths of three of their number, one of whom perished in the Indian mutiny. Collectively their allowance of life will not exceed 613 years instead of 640, while their individual lives may be estimated at 38·3 instead of 40 years after the Race. Two of the Cambridge men died 3 years after they rowed, 37 years before their time. One of the Oxford men only lived till the year 1857.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
1	13	2

Extracts from the letters of the surviving members of the Cambridge Crew.

"In reply to your letter respecting my rowing experiences, I think I may say that I was benefited in my

¹ Rowed also in 1845.

health by rowing rather than otherwise. I think that I must have strong lungs, as I can and always could ascend steep ascents rapidly without difficulty. My general health too is always better when I am taking hard exercise.

“G. F. HOLROYD.”

LYMINGTON, *July*, 1872.

“In answer to your enquiries, I have great pleasure in assuring you that I never suffered the slightest inconvenience from rowing in the Inter-University Races. I have seen in America and Australia several old University Oarsmen within the last few years, and in no instance did I hear of any of them having suffered in any way from rowing.

“STEPHEN T. CLISSOLD.”

SOUTHSEA, *April*, 1871.

“As regards the particular enquiry which you have submitted to me, viz. whether in my opinion the training and exertion demanded of men who take part in the Oxford and Cambridge Boat-Race are of so trying a character that the constitution is liable to be permanently injured, I should say, speaking from an experience of nearly thirty years, that neither the training nor the exertion are calculated to have that effect.

“EDMOND WILDER.”

EMSWORTH, *June*, 1869.

“I have myself derived great benefit from rowing ; and, though now 45, keep it up as far as my engagements

will allow, and still find the benefit of it. Of course I have long given up racing. * * * When a man is sound in constitution, and rows properly, with ordinary care and training, he will not injure his constitution, he will improve it—that has happened with myself.

“EDWD. P. WOLSTENHOLME.”

LONDON, *June*, 1869.

Extracts from the letters of friends of the dead.

“G. F. Murdoch died of decline in the year 1849.”

“In my opinion rowing never did him any harm.”

*Extracts from the letters of the surviving members of the
Oxford Crew.*

“I do not consider my health was at all injured by Boat-Racing, and perhaps for five years I did as much or more of it, than most of my contemporaries. I was trained twice for the Westminster Crew in our Match against Eton, and at Oxford in every term for four successive years. The only thing I suffered from was indigestion after it was all over and I came to reside quietly at home. I attributed it to the sudden change, or rather the want of that excitement I had gone through, but it passed off in about a twelvemonth, and I have never had really a day's illness in my life. * * * I rowed upwards of 50 Boat-Races, including the Champion Sculler's Cup at the Thames Regatta, and the Sculls at Oxford (both of which I won), and was only beaten three times.

“E. C. BURTON.”

DAVENTRY, *June*, 1869.

"For myself I can only say that I rowed in every kind of race for six years at Eton and three-and-a-half years at Oxford, and have certainly suffered in *no* way from it.

"W. U. HEYGATE."

LOUGHBOROUGH, *May*, 1869.

"I have much pleasure in replying to the questions contained in your letter. I have no reason to suppose that the frequent Boat-Races in which I was engaged in my earlier years have proved in any way injurious to my health; nor can I call to mind any one of a very numerous boating acquaintance whom I believe to have been permanently injured by his exertions on the river. I have lived the greater part of my life on the banks of the Thames; from the time that I first went to Eton (1836) until I left Oxford (in 1847), I was constantly working in a racing boat. Even now, although the activity of youth has left me, and I have no longer the zest for racing, my powers of endurance are hardly diminished, and I not unfrequently row 30 miles or more in a day. So much for my personal experience.

"J. WILLIAM CONANT."

SURBITON, *April*, 1871.

*Extracts from the published Memoir of the Rev. H. S.
Polehampton.*

"*Henry Stedman Polehampton* was always of a peculiarly fearless, honest nature, much liked by his companions, and attached to those manly sports of swimming, boating, and cricketing, for which Eton is famed; he

became a stout swimmer, a good 'Oar,' and before he left Eton was the first choice out of the 'Eleven;' in which, on one occasion, he played in the Public School Matches at Lord's. When at Oxford in 1845, at considerable risk he saved a man from drowning, and received in consequence the silver medal of the Royal Humane Society (*ob civem servatum*). The uniform success of his College Boat during his Captaincy proved at once his energy and his influence over men. In 1846 he was chosen to row in the University Boat in the Match with Cambridge; the latter being the winners of a well-contested race. After he took orders, it is said that 'his preaching, as well as his visitation of the sick in the time of the cholera in 1849, will ever be remembered in St Chad's.' He afterwards obtained a chaplaincy in India, but in November 1855, before he left this country, he went in for a 'scratch' race at Oxford, when his Boat came in second, and he won a pint pewter, which he much prized, and took with him to India. He there rowed a good deal, besides being a most devoted pastor of his flock; but during the summer of 1856 had a most dangerous fever brought on by his incessant and unwearied care of the men of the 52nd regiment during a severe visitation of cholera. On the 8th July, 1857, he was shot through the body at Lucknow, and soon afterwards succumbed to an attack of cholera which carried him off on the 20th July, 1857."

"Rowing never hurt him in any way."

NINTH UNIVERSITY RACE, 1849.

This Race took place on Thursday the 29th of March. The day was cold and showery; after a severe struggle Cambridge drew ahead, and kept the lead easily, reaching Mortlake exactly 22 minutes after the start was effected at Putney. The Oxford men laboured under some disadvantage in their boat, which was heavier and less springy than that of their opponents; but they made a most chivalrous effort to gain the victory, and rowed with indomitable pluck.

The names of the Crews were as follows:

CAMBRIDGE.

H. Proby, 2nd Trin.

W. J. H. Jones, 2nd Trin.

A. de Rutzen, 3rd Trin.

Charles James Holden, 3rd Trin.

W. L. G. Bagshawe, 3rd Trin.

W. H. Waddington, 2nd Trin.

W. C. Hodgson, 1st Trin.

J. Copley Wray, 2nd Trin.

Coxswain, *George Booth*, 1st Trin.

OXFORD.

David Wauchope, Wadham.

J. W. Chitty, Balliol.

Henry H. Tremayne, Ch. Ch.

*E. C. Burton*¹, Ch. Ch.

¹ Rowed also in the Race of 1846.

Charles H. Steward, Oriel.
 Arthur Mansfield, Ch. Ch.
 Edward Sykes, Worcester.
 W. Gordon Rich, Ch. Ch.
 Coxswain, C. Soanes, St John's.

Life-rate of the Crews.

The death-rate among the Cambridge men who rowed in this Race has been very heavy. Four of them died early, two from accidental causes, one being killed by poachers and the other drowned. Hence, the calculated life-rate of the two Crews cannot be set down at more than 584 instead of 640 years after the Race. The individual lives, therefore, must be estimated at 36.5 instead of 40 years.

Effects of Training and Rowing on the Crews.

Benefited.	Uninjured.	Injured.
5	10	1

Extracts from the letters of the surviving members of the Cambridge Crew.

"I rowed two races against Oxford over the London course before I was 20 years of age; my experience both before and after those Races; in training, has been very considerable, and I do not think that I ever suffered in any way from the effects of it.

"A. DE RUTZEN."

LONDON, June, 1869.

U. O.

"I am, as you suppose, one of the Crew that rowed in the Oxford and Cambridge Race at Easter, 1849; I was at Trinity College, Cambridge, at the time. I always trained carefully for the Races, and never experienced the slightest inconvenience from the violent exertion; my health has ever since been singularly robust, and I long travelled in the East under circumstances of great fatigue and hardship, without a day's illness. * * * A man of sound constitution has nothing to fear, provided he undergoes a proper course of training and adheres to it strictly; on the contrary, the training will often harden and improve his constitution permanently; such has been the case with myself after four years of continual boating and frequent training.

"W. H. WADDINGTON."

AISNE, FRANCE, *July*, 1869.

"I am glad to answer your enquiries respecting the effect of rowing. I went up to Trinity, Cambridge, in October, 1846. I began rowing directly, and soon got into the First Trinity Eight at the head of the river, and as 7, or stroke, took my part in keeping the Boat in its place for nearly three years. As stroke I had some very severe races; in March, 1849, I rowed at Putney, our Crew was a very good one, and our time over the course was a quick one. In December, 1849, I rowed again at Putney, the second race in one year; our Crew was almost the same as in the beginning of the year. We were said to have fouled at Hammersmith bridge, and though we rowed in first by some distance, we lost the Race. The exertion of this Race was not as great as the other. In the winter of 1849, in addition to this Race, I was stroke to the 1st Trin. Four-oar, and we won

after as hard a Race as I ever rowed. I was in also for the Sculls and the Pair-oars. I tell you these things to shew I rowed almost as much as any man, and after 20 years I can say I have scarcely ever had any illness save a very severe attack of small-pox. Three or four years ago I thought I was threatened with heart disease; I went to —, and he told me I was as strong as a horse. So I think I can say very hard rowing has never hurt me, and, as far as I can recollect, it has done very little harm to those who rowed in my time.

“W. C. HODGSON.”

ASHBY DE LA ZOUCH, *June*, 1869.

“I rowed twice as stroke in the Oxford and Cambridge Boat-Race, and in many other races over shorter courses. I can certainly say as regards myself that I never experienced the smallest ill effects from rowing, or rather racing. On the contrary, I think it improved the strength of my constitution, as well as my muscular strength. * * * I could give you a long list of names of men, my own contemporaries, none of whom have been in any way injured.

“J. COPLEY WRAY.”

LONDON, *June*, 1869.

Extracts from the letters of friends and relations of the dead.

H. Proby. “Was drowned in Australia many years since.”

"*Proby* died in the year 1852; drowned while swimming a young horse across a river in Australia. He was a wiry man, about 5 feet 8 in height, and I think about 10 st. 6 lbs. in weight. There never was anything the matter with him."

"*W. J. H. Jones* died of fever in the year 1857 in the Barbadoes, where he was minister of St Alban's and St Silas."

"Rowing never hurt him in any way."

"He was as game an Oar as ever lived."

Charles James Holden died of a chest affection, May 26th, 1862.

W. L. G. Bagshawe "was killed many years ago in an affray with poachers."

"Murdered on the 24th July, 1854, by poachers."

"I do not believe that *Bagshawe*, as good an Oar as I ever saw, was a bit the worse for his exertions; he was killed by poachers about 15 years ago."

Extracts from the letters of the Oxford Crew.

"I rowed in the Putney and Mortlake Race in the year 1849, and I do not think that I received the slightest permanent injury either from the training or from the race. * * * I do not know that any of our men have suffered; several of them I know to be strong men now; and I may add that in the same year I rowed stroke to my own College Boat (Wadham), against the first Cambridge Boat at Henley, beating them, though half their

Crew were University Oars ; and I think I may safely say that every one of that Crew is alive and well, with the exception of one who was killed in California. A curious circumstance with regard to training I would mention, and that is that one of the most sinewy and lasting men of my friends, who had been accustomed to rowing since he was little more than a child, and who was a particularly steady and temperate man, and so good an Oar as to be chosen stroke for a time, never could stand training. After a few days of it he invariably broke down, and therefore never rowed in a race.

“DAVID WAUCHOPE.”

RUGBY, *May*, 1869.

“In answer to your questions, I may state that during my residence at Oxford I rowed in the University Eight against Cambridge three times at Putney, and once at Henley. I also rowed in the University Four, and in Pair-Oar Races at Oxford, Henley and the Thames Regatta. My own personal experience extends over a period of about five years, during a great part of which I was rowing in races. I am not aware that I have in any way suffered in health, either from the training or the rowing ; on the contrary, my belief is that I derived from them great benefit physically.

“JOSEPH W. CHITTY.”

LONDON, *May*, 1872.

“I rowed in the University Race from Putney to Mortlake in the spring of 1849, and in the Eton and Westminster Race from Barker's Rail to Putney in 1847 ; as regards *myself*, which is the only piece of

evidence worth having that I can give you, I can only say that neither at the time nor since am I aware of being any the worse for the training, or either Race.

“HENRY H. TREMAYNE.”

EXMOUTH, *June*, 1869.

“I do not think that rowing is more dangerous to health than other athletic exercises. Probably if the trapeze or other more violent exercises had been invented in the last century, they would have also shared the reputation of some of the breakdowns attributed solely to rowing; at the same time I may as well observe, that as far as my own personal knowledge goes, these latter amount to actually nothing. I still know and occasionally see many of my contemporary Oarsmen; they are apparently in good health and strength, and never complain of having done themselves harm by rowing.

“CHARLES H. STEWARD.”

TEWKESBURY, *May*, 1869.

“I rowed a great many races myself. In my 20th year, before I went up to Oxford, I rowed two races at Bristol Regatta. I rowed three years in the College (Ch. Ch.) Boat, pulling No. 4 and 5 oar; also in the Four-Oars once, and in the Pair-Oars once. I rowed one vacation at Worcester Regatta, and I rowed one year at Henley for the Ladies' Cup in the Christchurch Boat, and for the Grand Challenge in the University; and another year in the Oxford and Cambridge Race at Putney, pulling No. 6 oar both times. I am now in my

43rd year, stout and hearty, with nothing that I know of the matter with me."

"ARTHUR MANSFIELD."

SHIREHAMPTON, *May*, 1869.

"In answer to your letter, I may safely say that my labours at the oar have in no way (to my knowledge) told prejudicially on my health. On the contrary, it is to my four years in the University Boat that I impute my after robust health, from the habit of training, and from the love of hard exercises for exercise sake I then acquired.

"EDWARD SYKES."

READING, *June*, 1871.

"I rowed Races from the age of 16 to 23. Four of these over the London course besides many others at different Regattas, and in all the College Races from 1847 to 1852. I have never felt any ill effects either from training or rowing. Nor do I consider that it is in any way more injurious than any other athletic exercise. * * * As regards long and short courses, the former I think more tiring, but the latter more exhausting. In the latter there is no chance of developing the strength of a crew *gradually*, it must be done at once.

"W. GORDON RICH."

TONBRIDGE, *May*, 1869.

TENTH UNIVERSITY RACE, 1849.

A second aquatic meeting took place between the two Universities in 1849, on the 15th December.

The day was most unpropitious, with a biting head-wind and heavy showers of rain, and the water very rough. The Crews however were in first-rate condition, and the start was successfully accomplished about half-past three o'clock ; but unfortunately the interest of the Race was completely lost by the occurrence of a foul, which was given in favour of Oxford, though the Cambridge Boat led at the winning-post. This is the only occasion on which a University Boat-Race has been decided by a foul.

The names of the Crews were as follows :

OXFORD.

J. J. Hornby, Brasenose.

W. Houghton, Brasenose.

James Wodehouse, Exeter.

J. W. Chitty¹, Balliol.

James Aitken, Exeter.

Charles H. Steward¹, Oriel.

Edward Sykes¹, Worcester.

W. Gordon Rich¹, Ch. Ch.

Coxswain, R. W. Cotton, Ch. Ch.

CAMBRIDGE.

A. Baldry, 1st Trin.

Henry E. Pellew, 3rd Trin.

¹ Rowed also in March, 1849.

A. de Rutzen¹, 3rd Trin.

Charles James Holden¹, 3rd Trin.

W. L. G. Bagshawe¹, 3rd Trin.

Henry John Miller, 3rd Trin.

W. C. Hodgson¹, 1st Trin.

J. Copley Wray¹, 2nd Trin.

Coxswain, George Booth, Trin.

Life-rate of the Crews.

The lives of the 16 men who belonged to these two Boats may be set down at 629 years after the Race, or eleven less than their estimated expectation of life. One of the Oxford Crew and two of the Cambridge died before the year 1869. Two of these deaths were attributable to accidental causes, the health of the Oarsmen being in no way injured by their rowing labours.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
8	6	2

Extracts from the letters of the surviving Members of the Oxford Crew.

"I rowed a *great* deal, between 50 and 60 Eight-oared Races (counting the College Races), and *many* Four-oar and Pair-oar Races. I rowed twice in a University Crew against Cambridge, once at Putney and once at Henley. I have never felt any ill-effects from it. On the contrary, I think I was considerably strengthened by it. I have taken a great deal of very

¹ Rowed also in March, 1849.

hard exercise in the Alps for some years, and I have had at times a great deal of very hard College and School-work ; if I should break down under my present work (which I hope will not be the case), I should certainly see no reason to attribute it in any degree to Boat-Racing in my earlier days. I take a row now whenever I can get an opportunity.

“ J. J. HORNBY.”

ETON, *May*, 1869.

“ The training and exertion of rowing Races, so far as I am concerned, have been attended with great benefit to the constitution. When I first went to Oxford in 1847, though I had always strong health I was a rather “ weedy ” sort of fellow ; rowing soon developed chest and shoulders, and made me a heavy muscular man. I have never suffered the least inconvenience from rowing, beyond of course the necessary temporary fatigue at the end of a four-mile Race ; my health since I left Oxford could not well be better. I frequently walk some 60 miles a week, and can do 20 miles a day without trouble. I do not think that any of the men with whom I rowed at Putney in 1849 and 1852 are at all the worse for the exertion.

“ W. HOUGHTON.”

SALOP, *May*, 1869.

“ Your letter reached me at a most opportune time, as I was in company with my old friend Mr J. Chitty, and we at once discussed the subject of it together ; we both agreed that rowing and training had not done us the very slightest harm, and what is more, we could not

remember any one of our old Oxford boating friends who had suffered from it. So far from considering training to be dangerous, I believe that most men would be infinitely the better for it.

“JAMES AITKEN.”

CHARLEYWOOD, *May*, 1869.

Extract from the letter of a Friend.

“*James Wodehouse* was one of my most intimate friends; I was talking about him only a fortnight ago to his cousin. He never suffered from rowing. Soon after taking Deacon’s orders he went out to Australia; there he passed through considerable hardship and bore it well; he came to England, and on his return voyage was lost in the “*London*.” I should think his case would not prove the slightest evil effects from hard rowing.”

The “*London*” foundered on the 10th of January, 1866.

*Extracts from the letters of the surviving Members
of the Cambridge Crew.*

“Judging from an extensive knowledge (18 years ago) of rowing men, on the Thames as well as the Cam, I believe the sport innocuous to the majority who indulge in it.

“A. BALDRY.”

BOURNEMOUTH, 1869.

“I have pleasure in being able to state that nothing (in my opinion) contributed so much to my full development in body and mind, as the labour of the oar which

fell to my share at the University. Although an Etonian I knew nothing about rowing until I went up to Trinity, and I rowed hard as Captain of my Boat (the 3rd Trinity) which I took up to, and kept at the head of the river, * * * My frame was developed by training and work in the Boat; while I have been enabled in consequence to undergo great fatigue in travelling in South America and elsewhere.

“HENRY E. PELLEW.”

LONDON, *April*, 1871.

“I can't at all say if my health would have been better now than it is, if I had never been engaged in any of the numerous Boat-Races which I rowed from the time I was 15 to say 21 years of age; but I think I injured my digestion, and I always believed that a bad illness I had four years after I left College was partly caused by indigestion brought on by boating exertions. However, my health now is quite good, and I daresay I am not much the worse for it all; I shouldn't wonder, if the truth could only be known, that smoking would have quite as much to answer for as aquatic exertions.

“HENRY JOHN MILLER.”

OTAGO, NEW ZEALAND, *Aug. 30*, 1871.

ELEVENTH UNIVERSITY RACE, 1852.

The University Race of 1852 was rowed upon Saturday, the 3rd of April. Oxford proved victorious, her Crew this year being a singularly good one; the Race was won by about six boat-lengths, or 27 seconds.

Time: 21 minutes 36 seconds. The day was very cold but pretty calm.

The names of the Crews were as follows:

OXFORD.

K. Prescott, Brasenose.
Richard Greenall, Brasenose.
Philip Henry Nind, Ch. Ch.
Reginald J. Buller, Balliol.
Henry Denne, Univ.
W. Houghton¹, Brasenose.
W. O. Meade King, Pembroke.
J. W. Chitty², Balliol.
Coxswain, R. W. Cotton, Ch. Ch.

CAMBRIDGE.

E. Macnaghten, 1st Trin.
Henry Brandt, 2nd Trin.
H. E. Tuckey, St John's.
H. B. Foord, 1st Trin.
E. Hawley, Sidney.
W. S. Longmore, Sidney.
W. A. Norris, 3rd Trin.
Fred. Wm. Johnson, 3rd Trin.
Coxswain, C. H. Crosse, Caius.

¹ Rowed in December, 1849.

² Rowed twice in 1849.

Life-rate of the Crews.

The mortality among the Cambridge men who took part in this Race has been high. Hence the two Crews collectively cannot be expected to enjoy more than 608 instead of 640 years; while the lives of the individual Oarsmen will, on an average, be brought down from 40 years to 38 after the Race; one man dying three years after he pulled, another seven, and a third eleven. None of them, however, were injured by their rowing labours.

Effects of Training and Rowing upon the Crews.

Benefited.

Uninjured.

5

11

Extracts from the letters of the Oxford Crew.

"I rowed constantly for five years at Oxford, and, as you say, took part in the Oxford and Cambridge Matches. I rowed in the Oxford Crew at Putney in 1852, in a University Eight and Four at Henley in 1853. I do not think that I have any grounds for saying my rowing did me any harm, and in many respects it did me much good. * * * I do not know any man of my standing who was injured by rowing. * * * I have never heard of an Oxford man who was seriously injured by rowing.

"K. PRESCOT."

PONTELAND, *May*, 1869.

"I have great pleasure in giving you my experience and opinion on the important question, whether those

who take part in the Oxford and Cambridge Boat-Race are liable to receive harm from the nature of the exertions required in the training and race? I have put this question to myself frequently, and have always been able to make a satisfactory answer, as I have never felt any harm myself, nor have I heard of any of my contemporaries being any the worse. I went up to Oxford not being able to row a stroke, yet during my career there I rowed something like 250 races. So continually was I employed, that to be out of training for a fortnight was a novelty and a treat.

“RICHARD GREENALL.”

HAWKSHEAD, *May*, 1869.

“Since taking my degree in 1855 my constitution has been put to the test in many climates, for I have lived in Canada, on the west coast of America; and in Australia, and I can safely aver that I have never in trying circumstances found a failure of physical power; and that when hard pressed by fatigue and want of food, the recollection of the endurance developed by rowing and other athletics gave me fresh spirit and encouragement.

“PHILIP HENRY NIND.”

QUEENSLAND, *June*, 1871.

“My experience in training and rowing does not lead me to think that the exertion demanded of men engaged in the University Race is so trying, that in ‘numerous’ instances the constitution is liable to be permanently injured; for I cannot call to mind a single instance of one

of my contemporaries suffering any ill effect from training. I have lost sight of some of those who rowed with me (now 17 years ago), but I have never heard of any being injured by rowing.

“REGINALD J. BULLER.”

HEYBRIDGE, *May*, 1869.

“I am very happy to be able to say that to the best of my belief rowing has in no way impaired my health or strength. I am in robust health, as active as in those days, and hardly have had a day's illness since that time. I have been examined with stethoscope two or three times, and have been passed quite sound.

“HENRY DENNE.”

OSTENDE, *May*, 1871.

“I am not aware, and have no reason to believe, that I did myself any permanent injury by rowing. In my last year at Oxford, I was guilty of—what was at that time more than it is at present—an uncommon act of indiscretion—I allude to the practice of entering for several races at Henley or elsewhere, which entails the necessity of practising with two or more crews daily. I regard rowing as a most salutary exercise, though, of course, one may expect to suffer more or less from any *excessive* violent exercise. * * * I insured my life about two and a half years ago, and no objection was made to the state of any of my organs.

“W. O. MEADE KING.”

MANCHESTER, *August*, 1871.

*Extracts from the letters of the surviving members
of the Cambridge Crew.*

"I never rowed until I went to Cambridge; when I was there I rowed I think as much as any one, and certainly my health did not suffer in the least in consequence; on the contrary, I think I was much the better for it.

LONDON, *April*, 1871.

"E. MACNAGHTEN."

"I rowed in the University Boat at Henley, in the year 1851, when we entered for the Grand Challenge Cup, and were opposed by Oxford. On the same occasion I rowed with my College Club (1st Trin.) for the Ladies' Plate, and also in a Four-oar Race for the Stewards' Cup. The following year I pulled in the Oxford and Cambridge Match from Putney to Mortlake. I rowed in all the College Boat-Races during the three years I was at Cambridge; I therefore saw as much of the system as most men. * * * The only time I ever felt shaky after a race, was at Henley, when one of our crew broke his rowlock a quarter of a mile after starting, and we pulled the rest of the course with three oars only on the bow-side; when we came in I was weak in the legs, and could hardly stand, but I was able the same day to pull, and win, against the Brasenose Four-oar. * * * Looking over the names of the rowing men, my contemporaries, I cannot find *any* of whom I could positively say, that they had injured themselves by rowing. * * * To a man of sound constitution and average strength, the amount of risk from rowing is infinitesimally small, *provided that he takes ordinary care of himself.*

"HENRY BRANDT."

MELTON MOWBRAY, *July*, 1869.

U. O.

"I am not aware of any one point in which I may have received injury from rowing. * * * I have what is commonly called a capital wind for climbing hills, and I think the Boat-Racing may be fairly credited with having helped to produce that.

"H. E. TUCKEY."

WELLINGTON, NEW ZEALAND, *August*, 1872.

"If I speak first of myself you will pardon me in this case, as of necessity being best able to tell you how rowing has affected me. When I went up from an inland county to the University, I was utterly ignorant of rowing in any form. At Cambridge I at once took to it, and fearlessly say I have never had reason to regret having done so.

"I have met men (who rowed with me in the above boat) at Putney this year, looking well and hearty, as, thank God, I am, and others, the same who rowed with me at Henley in 1853 (I was then Captain of the C. U. B. C.).

"At Cambridge I almost lived on the river, and during the whole time I was there scarcely ever saw a race, being engaged in every possible one.

"E. HAWLEY."

SHIRE OAKS, *July*, 1869.

"As regards myself, I am glad to say I have always and still do enjoy very good health. * * *

"W. A. NORRIS."

CIRENCESTER, *June*, 1871.

*Extracts from letters of friends and relations
of the dead.*

"*H. B. Foord* was a very strong, healthy-looking man. * * * I don't think rowing had any thing to do with his death."

"Died within a few years of the Race, of a sudden attack of inflammation."

"Died in the year 1863 ; rowing did him no harm."

"*W. S. Longmore*, one of the best and most finished Oars Cambridge ever produced, died of rapid decline in March, 1855."

"Rowing never injured him, though I always considered him delicate : I knew him well."

"*Fred. Wm. Johnson*, who rowed stroke in 1852, was at all times a most regular and temperate man."

"We have no reason at all to suppose that my relative, *Frederick Wm. Johnson*, who rowed in the Cambridge University Boat in 1852, injured his health thereby in any degree. He lived for some years after in robust health. He was a very hard-working clergyman at Yarmouth until the time of his death. His death was caused by inflammation after four days' illness, in Dec. 1859. He had been feeling unwell for two or three weeks before this, but there was supposed to be nothing serious the matter, and his indisposition was regarded as the result of hard parochial work and anxiety."

TWELFTH UNIVERSITY RACE, 1854.

The weather on the 8th April, 1854, was exceptionally fine, and the Race was rowed rather earlier than usual—soon after 11 o'clock in the morning.

Both Crews were good, but in spite of the utmost efforts of the Cambridge men their opponents won by 11 strokes; the race being rowed in 25 minutes 29 seconds.

The names of the Crews were as follows:

OXFORD.

W. F. Short, New Coll.
Ad. Hooke, Worcester.
W. Pinckney, Exeter.
T. Blundell, Ch. Ch.
T. A. Hooper, Pembroke.
P. H. Nind¹, Ch. Ch.
Geo. L. Mellish, Pembroke.
W. O. Meade King¹, Pembroke.
Coxswain, T. H. Marshall, Exeter.

CAMBRIDGE.

R. C. Galton, 1st Trin.
Spencer Nairne, Emm.
John C. Davis, 3rd Trin.
Stair Agnew, 1st Trin.
Edwd. Courage, 1st Trin.
*F. W. Johnson*¹, 3rd Trin.
Henry Blake, Corpus.
John Wright, St John's.
Coxswain, C. T. Smith, Caius.

¹ Rowed also in 1852.

Life-rate of the Crews.

The health of these 16 men, as measured by their chances of life, may be looked upon as satisfactory; 14 out of the 16 being alive at the end of the year 1869. 647 years may be allotted to the two Crews after the Race, or seven more than the estimated average. Two of the Cambridge men died prematurely, one seven years after he rowed, and the other nine. It is not thought that either of them suffered from his aquatic exertions.

Effects of Training and Rowing upon the Crews.

Benefited.

5

Uninjured.

11

Extracts from the letters of the Oxford Crew.

"I can honestly say that I believe I have never suffered from my exertions on the river at Oxford, and few men were so constantly rowing as I was. I rowed four times for the Pair-oars, winning three times; three times for the sculls (winning twice, and once coming in second), and once for the Fours, and two years in the College Races. I rowed three times for the grand Challenge at Henley (winning twice), three times for the sculls, three times for the Pair-oars (winning once), I also rowed in the winning Crew at Putney, and often in smaller Regattas without regular training. I believe it to have been this constant and regular exercise and training which enabled me to stand the strain of over

head work longer and harder than most men undergo.
* * * I have always said that, given a sound constitution and careful training, no amount of rowing ought to hurt a man; indeed the action is so distinctly a healthy one, that, as compared with other exercises, I should have thought it decidedly beneficial. I grew, I remember, two inches round the chest in my first year's rowing at Oxford.

“W. F. SHORT.”

WOOLWICH, *July*, 1871.

“I probably know as many old Varsity Oars as any one who has rowed in the Oxford and Cambridge Race, for I know either personally or by repute nearly all the men who rowed in the Oxford Boat, from the times of the Menzies to my own, 1854, and I may say even to the year 1860, for I was in Oxford up to that date. Of all these, I know but one man who is said to have suffered from rowing, and that is ——, perhaps the most finished Oar Oxford ever had; the mischief, however, even in his case, was not incurred at Oxford, but at Eton¹. I am thankful to say my own health has not suffered.

“AD. HOOKE.”

BANBURY, *June*, 1869.

“As for myself, I don't think I am any the worse; and when I tell you that about eight years ago I had concussion of the brain, and though *fit for nothing* for about four years, am now as well as ever I was, you will

¹ I am personally acquainted with the old Oar referred to, and he now enjoys excellent health. J. E. M.

infer that my constitution was not hurt by rowing. I think it took me about three years to get over my first year at Oxford, and I still think it unadvisable for any one to row in the University Crew under 21. I thought so at the time, but was over persuaded to row in it *directly* I went to Oxford, having just left Eton, where I had been two years in the Eights. I also rowed in my College *Four*, *Torpid*, and *Eight* that first year, each of which to my mind was harder work than the University Crew. Still, all four together rather shut me up. * * * I know of none *that I consider* have hurt themselves by rowing.

“W. PINCKNEY.”

SALISBURY, *August*, 1869.

“In answer to your enquiries about what effects I have felt from rowing in the University Match in 1854, I must say that I never felt the least ill effects from doing so.

“T. BLUNDELL.”

HULSALL, *Sept.* 11, 1871.

“As to my experience in rowing in the Inter-University Race, I can most unhesitatingly say that it did not affect me in the slightest degree prejudicially. * * * I was within a few months of 20 years of age when I rowed; I stood just six feet in my stockings; rowing weight was 11 stone 3 lbs., my ordinary weight then was 11 stone 7 lbs. My weight now, at 37½, is 12 stone exactly, height 6 feet ½ inch. I insured my life about 12 months since, and was accepted at the lowest rate of

premium. I have had a good deal of 'roughing it' since leaving Oxford, having served 12 months in the Crimea, and lived in the colonies since I left the army.

"GEO. L. MELLISH."

CANTERBURY, NEW ZELAND, *Feb.* 1872.

*Extracts from the letters of the surviving members of the
Cambridge Crew.*

"I rowed in the Oxford and Cambridge Race in 1854, and trained for that of the previous year at Henley, and up to this time I certainly am aware of no ill effects whatever. Of the 1854 Crew No. 1 is the only member of whom I have entirely lost sight, all the others (with the exception of *Johnson*) are to my knowledge in good health, and sound.

"SPENCER NAIRNE."

HUNSDON, *May*, 1869.

"I can state from experience that there is nothing so conducive to health and improvement to the frame generally as the exercise of rowing, provided that a man has nothing the matter with his heart or lungs. I have a very large circle of acquaintance of rowing men who were in different University Crews, from the ages of 25 to 45 (I myself rowed in 1854), and I can confidently assert you can't find a finer set of men than they are.

"JOHN C. DAVIS."

ILFORD, *June*, 1869.

"Individually I have suffered no injury from the exertion of a University Boat-Race, and during 15 years which have passed since the one in which I rowed I have not had an illness. * * * I cannot recollect the case of any person of my acquaintance who has been injured by over exertion in rowing; but I could mention some who were forbidden to row for fear of injury.

"STAIR AGNEW."

LONDON, *June*, 1869.

"I rowed a good deal before I went to the University as well as afterwards, and without intermission during the time I was there. Personally I felt no bad effects; on the contrary, the abstemiousness I learnt during my rowing career has enabled me since to take very active exercise without any sort of distress.

"EDWD. COURAGE."

BRENTWOOD, *June*, 1869.

"I have rowed three University Matches, and I am thankful to be able to say that I am not aware that my constitution has in the slightest degree suffered from the necessary exertion.

"HENRY BLAKE."

NORWICH, *July*, 1869.

Extracts from letters of friends and relatives of the dead.

"Robert Cameron Galton, M.D., died of fever, caught in the exercise of his profession."

“*Galton* died, I believe, two years ago, but from circumstances with which rowing could have had no connection.”

“On the 22nd of March (1866), at Hadsor, Worcestershire, *Robert Cameron Galton*, M.D., aged 35.”

“I never heard that *Galton* injured himself in rowing.
* * * He had great pluck and great muscular strength for his build.”

THIRTEENTH UNIVERSITY RACE, 1856.

“The University Race of March 15th, 1856, was rowed from Mortlake to Putney, as the tide was unfavourable for the usual course. The day was cold, the water rough, and the wind dead against the rival Crews. The struggle for victory was very keen, neither Boat clearing the other during the whole Race, but Cambridge at last succeeded in drawing half-a-boat's length ahead at the winning post, thus closing one of the best Races on record, though owing to the foul weather the time occupied was 25 minutes 50 seconds, rather longer than usual.

The names of the Crews were as follows :—

CAMBRIDGE.

Peter King Salter, Trin. Hall.

F. C. Alderson, 1st Trin.

R. Lewis Lloyd, 3rd Trin.

Edward H. Fairrie, Trin. Hall.

H. Williams, St John's.
 Joseph McCormick, St John's.
 H. Snow, St John's.
 H. R. Mansel Jones, 3rd Trin.
 Coxswain, W. Wingfield, Trin.

OXFORD.

Philip Gurdon, Univ.
 W. F. Stocken, Exeter.
 R. J. Salmon, Exeter.
 Alfred B. Rocke, Ch. Ch.
 Richard Newman Townsend, Pembroke.
 A. P. Lonsdale, Balliol.
 George Bennett, New Coll.
 J. T. Thorley, Wadham.
 Coxswain, F. W. Elers, Trin.

Life-rate of the Crews.

The men who manned these two Boats were all alive in 1869. Between them they are likely to survive the Race 694 instead of 640 years, while each man may be expected to live 43·3 instead of 40 years after he rowed.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
I	13	I

Extracts from the letters of the members of the Cambridge Crew.

"I can at once answer your questions on the subject of injury caused by rowing with regard to myself; with

regard to friends or contemporaries there may be cases, but I have not heard of them.

I did, no doubt, lose my health and strength for some time about eight or ten years ago, but I do not think it can fairly be placed to rowing or training; on the contrary, I trace it now to giving up active exercise and living a quiet home life, *without* regular strong exercise. I have taken to rowing, fencing, etc. again, and am gradually recovering my old strength.

"I should say, on the whole question, that I do not know of one single instance of any real injury from rowing in the University Race. * * * I believe anyone who would take up this subject and put it before the public would be a real benefactor.

"I think, on mature consideration, i. e. looking at it as an old Oarsman of liberal views in all athletic matters, that rowing is the very finest and safest exercise in the whole world.

"J. PETER KING SALTER."

HAMMERSMITH, *May*, 1871.

"I do not think that I suffer in the least degree *now* from the effect of rowing. I remember, however, immediately after the Race, which was rowed on a very tempestuous day, so that we all got thoroughly wetted, the day also being very cold indeed, having pain and numbness in my limbs. For about three weeks I could not walk for more than a hundred yards without feeling considerable pain there, and almost unable to raise my legs. I was, however, speedily cured by hot water sea-baths which were prescribed for me. All my colleagues are, I believe, alive and well, though I have lost sight of

almost all of them. I know of no case where rowing has been hurtful to health except my own case, as explained.

“F. C. ALDERSON.”

NORTHAMPTON, *June*, 1869.

“I beg to state that of those who rowed with me in the University Boat-Race I do not know that any have ever felt any ill effects in consequence. I rowed in four Races. Twenty-one others took part in them with me, that is Cambridge men; of the 22 men three are dead, but in no case can their death be attributed to rowing. * * * For myself I can safely say I have never felt the smallest evil from rowing, as since I have left the University I do not recollect having had a day's illness, and can do as much in walking or other exercise as most men. Between School and the University I find I rowed 132 Races. Of those who rowed with me, I have lost sight of a few, but the greater part are without exception in perfectly good health.

“R. LEWIS LLOYD.”

RHAYADER, *July*, 1869.

“During the five or six years in which I rowed in Cambridge, and afterwards in London, I always enjoyed the very best health, with the feeling that the exercise which I was taking agreed with me entirely. * * * I am now in a pretty fair state of health, being able to stand a considerable amount of hard work, in the shape of a 20 or 30 miles walk or a good long pull on the river.

“EDWARD H. FAIRRIE.”

LONDON, *June*, 1871.

"I am now a Nova Scotian missionary, and, thanks to my training and rowing, I am able to do any amount of work. * * * I rowed five years at Henley, and four University Races at Putney, winning three; I rowed in 1859, the year we sank. I rowed four years head of the river at Cambridge, and won innumerable scratch and other races, and now I am as strong as ever, and would very much like to have another turn at the Oxford Crew.

"HUGH WILLIAMS."

NOVA SCOTIA, *Feb.* 1870.

"I am not aware that rowing has done me any injury. I was not, however, a rowing man; I pulled against Oxford in 1856, but only once for my College, when there was some danger of our Boat's losing the head place on the river. * * * I do not personally know of any one who was injured by rowing.

"JOSEPH MCCORMICK."

LEWISHAM, *June*, 1869.

"I am very glad to be able to inform you that I have never yet experienced any ill effects from rowing; but am quite sound and warrantable.

"H. SNOW."

ST LEONARD'S-ON-SEA, *April*, 1871.

"As far as my own experience goes, I can only say that from six years of hard rowing at Eton and Cambridge I derived benefit, rather than the contrary, in health and strength; with regard to my own contemporaries, of course, I have lost sight of many of them,

but those I do meet give one the idea of being decidedly 'weight carriers' in more senses than one.

"H. R. MANSEL JONES."

LONDON, *June*, 1869.

*Extracts from the letters of the members of the
Oxford Crew.*

"My health was certainly injured for some time by rowing; but I attribute it mainly to rowing *with bad Crews in College Races*. With the present system of training, if a man has a fairly powerful frame and a good constitution * * * he might, in my opinion, row for one or two years at Putney without injury. * * * I think you would find that no University Oarsmen who belonged to a College that had no boat on the river, had suffered in any way from the Putney Race. * * * I know that I was much stronger my second Putney Race than I was my first, and I would sooner row 5 miles with a good Crew, than $1\frac{1}{2}$ with a bad one.

"PHILIP GURDON."

BULKINGTON, *May*, 1871.

"I am happy to be able to inform you that I have no reason to think that my health has been in any measure injured by the training, &c., of 13 years ago. I know not what it is to have a medical man in my house, I mean of course for myself; neither can I call to mind any 'rowing man' with whom I was personally acquainted whose health has suffered from the exertion which Boat-Racing necessitates.

"W. F. STOCKEN."

LONDON, *May*, 1869.

"I rowed in the celebrated University Eight Race of 1856, the best Race on record, neither boat *having ever* cleared the other throughout the whole course, and I cannot say that I have any reason to regret the part I took in that Race. I am not that I know of any worse for it, nor have I ever heard that any of the Crew suffered; to the best of my knowledge they are all alive and in the enjoyment of good health, at least I have never heard anything to the contrary. Collateral evidence is sometimes useful. When I was ordained, the Bishop spoke most highly of the Clergy in his diocese who had been boating men, and made special mention of a University Oar.

"R. J. SALMON."

LONDON, *May*, 1869.

"Since 1856, when I rowed in the match, * * * I have taken *no violent exercise*. At times I have felt very good for nothing, and have had pains in the region of the heart, which made me at one time think it was affected; however, I am now convinced it is only 'liver.' * * * I have come to the conclusion that all I require is *violent* exercise, and have just bought a boat and am going to take to rowing again, although I have not had an oar in my hands now for 11 years.

"ALFRED B. ROCKE."

BIRMINGHAM, *July*, 1869.

"As regards the effect of training on my own health personally I can lay nothing to its charge. I do not think that any of the affections which from time to time

I have suffered from can in all fairness be attributed to the effects of rowing or training. However, I happen to be physically qualified (if ever any one was so) for undergoing the labour and fatigue of training. * * * I hope that you may succeed in placing truth (which is the ultimate object of all honest investigation) clearly before the public.

“RICHARD NEWMAN TOWNSEND.”

CORK, *August 27, 1869.*

“In my own case I enjoy the most perfect health, and am wonderfully well. I began rowing when at school at 13 years old, and constantly rowed Races there. At Oxford I was always rowing, and every term was in training, more or less, for some Race or other, College or University. Amongst all my rowing acquaintances I cannot now call to mind one who was injured by *rowing alone*. I know some where the disease has been laid at the door of rowing, but if enquiry was made, it would be found either that the man had rowed against his doctor's advice, or else had not strictly kept the rules of training. * * * I rowed two years in the Putney Race, and I do not think a single man of those two Crews is at the present time the worse for those exertions, now 12 or 13 years ago, and one Race was the hardest and closest ever rowed between the two Universities.

“A. P. LONSDALE.”

STAFFORD, *May 6, 1869.*

“Personally I believe myself to be none the worse for having rowed *v.* Cambridge in 1856. I have been

rowing more or less ever since, at Surbiton and elsewhere, and, except for the inevitable effects of time, I feel as ready for it and as little incapacitated by past exertions as I could hope to be. * * * Of course, if a man comes to the post improperly prepared, he may suffer severely and feel the after effects, but if he has taken proper pains and has been carefully attended to, by the time he gets to Putney the work is merely pastime to him and without danger.

“GEORGE BENNETT.”

LONDON, *April*, 1871.

FOURTEENTH UNIVERSITY RACE, 1857.

The University Race of April 4, 1857, was rowed as usual from Putney to Mortlake. Oxford won the toss, and, rowing in perfect form, gained and kept the lead the whole way, gradually increasing the distance between the two boats until at the winning post Cambridge was left 35 seconds astern. Time 22 minutes 55 seconds; this was the first race rowed in keelless boats, and both Universities also used round oars for the first time.

The names of the crews were as follows :

OXFORD.

Robert W. Risley, Exeter.

Philip Gurdon¹, Univ.

John Arkell, Pembroke.

Richard Martin, Corpus.

¹ Rowed also in 1856.

W. Hardy Wood, Univ.
 Edmond Warre, Balliol.
 A. P. Lonsdale¹, Balliol.
 J. T. Thorley, Wadham.
 Coxswain, F. W. Elers, Trin.

CAMBRIDGE.

Arthur P. Holme, 2nd Trin.
 Anthony Benn, Emm.
 W. H. Holley, Trin. Hall.
 A. L. Smith, 1st Trin.
 J. J. Serjeantson, 1st Trin.
 R. Lewis Lloyd¹, Magd.
 P. Pearson (now Pennant), St John's.
 H. Snow¹, St John's.
 Coxswain, R. Wharton, Magd.

Life-rate of the Crews.

In the year 1869 no death had occurred among any of the members of these two crews. Consequently to the 16 men who rowed, 704 instead of 640 years of life after the Race may be allotted, each man living 44 instead of 40 years after he rowed.

Effects of training and rowing upon the Crews.

Benefited.

Uninjured.

5

11

Extracts from the letters of the Members of the Oxford Crew.

"I never yet knew a man's health permanently injured by training, when he had in the first instance a

¹ Rowed also in 1856.

constitution naturally strong enough for such hard work, when he paid attention to the rules when in training, or when he began or left off training *gradually*, and not all at once. As far as I am concerned myself, I can say honestly I have never been so well as when in training. * * * I can say this after 12 years' hard racing, and I only regret that I am no longer in a position to go on with it.

“ROBERT W. RISLEY.”

HOUNSLOW, *July*, 1869.

“For myself, I can only say that from the time I was a schoolboy of about 15 years of age to the time I took my degree at Oxford, I rowed some 60 Races in all, and amongst them three of the annual Races against Cambridge at Putney ; and if I had my time to come over again with the knowledge I now possess, I would enter upon the same course, not only without hesitation, but without the *least misgiving*. * * * I would also add, that a physician who has known my family for many years, gave it as his opinion, that so far from being injured by rowing, I was much stronger than I should have been had I not been a rowing man at Oxford. I hope therefore my case at least will afford an instance in which rowing has been *beneficial*.

“JOHN ARKELL.”

GATESHEAD, *June*, 1869.

“I think no man should undertake the training and rowing of the University Race without undergoing a thorough medical examination. * * * It was what I did myself as soon as I was asked to pull in the University

Boat, and I certainly have never had to regret for one moment any bad effects from training ; on the contrary, I was never so well as when in training. The year I pulled at Henley was the only year that I ever escaped my annual attack of hay fever, which generally completely prostrates me with asthma. * * * I certainly never was in such a state of robust health in my life.

“RICHARD MARTIN.”

BARNSTAPLE, *May*, 1869.

“I rowed in the University Eight twice at Putney, in 1857 and 1858, and once at Henley, and I have never felt any ill effects whatever. I am as well now as I ever was in my life, and should of all things enjoy another such a course of training and exercise. I have no ailment, and never have had, which I would in the smallest degree connect with the University Race.

“W. HARDY WOOD.”

BENWICK, *April*, 1871.

“Personally I have found no inconvenience from rowing hard now, or from having rowed hard. I continue to row in Races against the Boys’ Eight here when in training, that is just before Henley.

“EDMOND WARRE.”

ETON, *May*, 1869.

Extracts from the letters of the Cambridge Crew.

“I do not call to mind any one single person of my time permanently injured through their exertions. My

own opinion has been, and I think will remain, that a healthy, sober fellow may train and row as much as he likes.

“ARTHUR P. HOLME.”

YARMOUTH, *June*, 1869.

“Twelve years have now expired since I rowed in the Cambridge University Boat, during the whole of which time I have been in perfect health; * * * so my experience would lead me to believe that the hard training and exertion required does not in the least injure a naturally strong man's constitution. I am not aware that any of the men who rowed with me are the worse for it; they are all, or were a few months since, alive and in good health. Not only did I row in the University Boat, but in 32 Eight-Oar first division Races, in my College Pairs every year I was up, in all Scratch Four Races it was possible to row in, in the University Pairs, and in fact in every Race I could go in for.

“ANTHONY BENN.”

CREDITON, *May*, 1869.

“I have not found my health in any way injured by training for and rowing in the University Boat-Race; it is now 12 years since I did so. * * *

“W. H. HOLLEY.”

OKEHAMPTON, *May*, 1869.

“I rowed without intermission during the years 1855, 1856, 1857, 1858, and down to Easter 1859. During that period I rowed three Races at Putney, and one at

Henley for the Cambridge University ; besides some 100 others for the First Trinity Boat Club. I have not the least hesitation in saying that I have never, up to this moment, experienced the slightest ill effects from either the rowing or training I was subjected to ; and I can only add, that I heartily wish that circumstances permitted my still having recourse to the river. I can honestly say that I do not myself know of a single individual who has been damaged by rowing, but, on the contrary, I know men who from being weeds have grown into strong and healthy men on the river.

“A. L. SMITH.”

LONDON, *June*, 1869.

“I am very glad you have undertaken the task of collecting statistics about ‘Varsity Oars.’ As far as I am concerned, I have never felt the least harm from the training, and when I had occasion to insure my life about a year ago, the medical man who examined me gave a most satisfactory account of my constitution. * * Our Boat was a good reading one too, as it contained one Senior Classic, three Seniors Ops., one Junior Op., and two Scholars of their College.

“J. J. SERGEANTSON.”

LICHFIELD, *June*, 1869.

“No case of injury (from rowing) has come within my experience. I gave some attention to this subject some time ago, but I could ascertain no case of injury to health among University Oarsmen who were my contemporaries at Oxford or Cambridge. * * * My own experience consists of three trainings for a University

Race (I rowed two Races, the third time an attack of scarlet fever at the last moment prevented my taking part in the Race), and rowing four years at Henley Regatta. I have never felt the slightest after inconvenience in health or otherwise that I could attribute to rowing.

“P. P. PENNANT.”

LONDON, *June*, 1869.

FIFTEENTH UNIVERSITY RACE, 1858.

The University Race of 1858 was rowed on the 27th of March. The day was cold and inclement, the wind almost dead against the competitors, and the water somewhat lumpy and troubled. Though Oxford made a gallant struggle for the victory, her opponents gradually drew ahead, and succeeded in reaching Mortlake twenty-two seconds before their rivals; the Race being rowed in 21 minutes 23 seconds.

The names of the Crews were as follows:

CAMBRIDGE.

H. H. Lubbock, Caius.
 A. L. Smith¹, 1st Trin.
W. J. Havart, St John's.
 Duncan Darroch, 1st Trin.
 Hugh Williams², St John's.
 R. Lewis Lloyd², Magd.
 A. H. Fairbairn, 2nd Trin.
J. Hall, Magd.
 Coxswain, R. Wharton, Magd.

¹ Rowed also in 1857.

² Rowed also in 1856.

OXFORD.

Robert W. Risley¹, Exeter.
 John Arkell¹, Pembroke.
 Charlton G. Lane, Ch. Ch.
 W. G. G. Austin, Magd.
 Ernald Lane, Balliol.
 W. Hardy Wood¹, Univ.
 Edmond Warre¹, Balliol.
 J. T. Thorley, Wadham.
 Coxswain, H. Walpole, Balliol.

Life-rate of the Crews.

Two early deaths among these 16 Oarsmen materially lessen their collective life-rate, which may be estimated at 636 instead of 640 years after the Race. Each man may however be credited with a fair average allowance of life, as, by the law of life chances, he will only enjoy some few months' less of existence than his 40 anticipated years.

Effects of Training and Rowing upon the Crews.

Benefited.

Uninjured.

9

7

Extracts from the letters of the surviving Members of the Cambridge Crew.

"As far as I am concerned, I have never felt any bad effects, and I rowed several Races at Cambridge

¹ Rowed also in 1857.

after the Putney Race in 1858. * * * I should say, from my own experience, that the present Eight-Oar course at Cambridge, $1\frac{1}{4}$ mile, is far more likely to do harm, especially to an *honest Oar* and *no shirker*, as the pace for the distance is far more severe, and your companions in the struggle not always willing to do their utmost.

“H. H. LUBBOCK.”

NORWICH, *June*, 1869.

“In answer to your question as to the effects of training on my health, before I went into regular training for the University Race I was very fat and soft; so much so that at Harrow I weighed about 13 stone, and was never good at active exercises. I also remember that the year before I commenced regular training I used to feel in the boat as if I would die, and at about the same time got completely shut up in going up a hill in the north. The two years of training in 1858 and 1859 seem to have changed all that, for I have found that I have far better staying powers and endurance, and I don't think have ever felt so shut up as I used to do. I have enjoyed excellent health ever since; my weight last November was 13 stone $7\frac{1}{2}$ lbs.

“DUNCAN DARROCH.”

LONDON, *May*, 1871.

“To speak from my own experience I am able to say that my health has hitherto sustained no injury from rowing at Cambridge 10 years ago; on the contrary, I believe I derived benefit from the exercise. My chest increased in breadth, the muscles of the back and legs were strengthened, and I think the training and

discipline I then underwent have enabled me to bear with more ease any bodily exertions I have since made. I think it well to mention that I took to violent exercise at an early age, and when at Rugby was accustomed to run long distances at a good pace without stopping. * * * When I call to mind my friends who rowed with me at Putney against Oxford, in 1858 and 1860, I find there is not one who, to my knowledge, has been injured in any way by his exertions. Those of them whom I meet occasionally, always bear witness to the *good* effects they have derived from rowing.

“A. H. FAIRBAIRN.”

TWYFORD, *June*, 1869.

Extracts from the letters of friends of the dead.

“*W. J. Havart*, Rector of Milton-Bryant, Beds, died in 1866, of typhus fever caught when visiting parishioners who were ill of it.”

“He was uninjured by rowing.”

“*J. Hall* died of brain fever in the year 1868, aged 33.”

“He was a powerful man, and was uninjured by rowing.”

Many old Oars refer to him as being a universal favourite.

Extracts from the letters of the Oxford Crew.

“As regards myself, I feel certain that so far from having been injured, I benefited in health and strength

by the severe training, but I must add that I had always been used to hard exercise and generally was in good condition, so that there was not the same sudden change in diet, &c., that was the case with some men. * * * Of the men who rowed with me I don't *know* one who has been injured ; some I have followed in after life and know to be perfectly sound.

“CHARLTON G. LANE.”

GREAT BERKHAMPSTED, *May*, 1869.

“My health is as good as when in 1858 I rowed in the University Eight, although I now have been residing for eleven successive years in Demerara, the climate of which is generally thought to be very trying for Europeans. Had my constitution been in the slightest degree affected by any boating exertions, the effect would certainly have been apparent by this time.

“W. G. G. AUSTIN.”

DEMERARA, *May*, 1871.

“My personal experience and knowledge of many Oarsmen who were my contemporaries, or were not so, would lead me to say that as a general rule it is not an injury to the constitution to row in the University Boat. * * * My own experience tells me that, given training, a short course is far more trying than a long one, from the greater quickness of stroke. Two of my own contemporaries in University Crews are dead, one a Cantab and the other Oxon, but from causes wholly, as I believe, unconnected with rowing.

“ERNALD LANE.”

OXFORD, *May*, 1869.

SIXTEENTH UNIVERSITY RACE, 1859.

The Race, which was rowed on Friday, the 15th of April, 1859, took place under circumstances which proved peculiarly trying to Cambridge. Their Crew was universally admitted to be a good one, but their boat was unfortunately too slightly built to encounter safely such wind and sea as she had to face on the appointed day. After the first few strokes she became completely waterlogged, and though the Crew struggled manfully, persevering even when completely overwhelmed by the waves, their efforts were unavailing, and their boat at length sank beneath them. Some of the rowers were unable to swim, still the whole Crew were rescued, fortunately none the worse for their immersion.

The names of the Crews were as follows :

OXFORD.

H. Fleming Baxter, Brasenose.

R. F. Clarke, St. John's.

Charlton G. Lane¹, Ch. Ch.

Hon. V. Lawless (now Lord Cloncurry), Balliol.

G. Morrison, Balliol.

R. W. Risley², Exeter.

Geo. G. T. Thomas (now Treherne), Balliol.

John Arkell², Pembroke.

Coxswain, A. J. Robarts, Ch. Ch.

¹ Rowed also in 1858.

² Rowed also in 1857.

CAMBRIDGE.

Nat. Royds, 1st Trin.

H. J. Chaytor, Jesus.

A. L. Smith¹, 1st Trin.Duncan Darroch², 1st Trin.Hugh Williams³, St John's.R. Lewis Lloyd³, Magd.*George Paley*, St John's.*J. Hall*², Magd.

Coxswain, J. T. Morland, 1st Trin.

Life-rate of the Crews.

These sixteen men will probably enjoy an average allowance of life. The early deaths of two of the Cambridge men reduces the aggregate sum of years which as healthy men they might be expected to enjoy after the Race, from 640 to 632 years.

Effects of Training and Rowing on the Crews.

Benefited.

12

Uninjured.

4

Extracts from the letters of the Oxford Crew.

"I rowed three times in the University Eight at Oxford, twice at Putney, and once at Henley, and besides that did as much rowing as any man during the

¹ Rowed also in 1857.² Rowed also in 1858.³ Rowed also in 1856.

time I was at the University, having won every aquatic honour that was to be won either in the College or the University at large. I was 'sounded' before I rowed, and I have been sounded several times since, and my honest belief is that I am not in the least injured by the rowing. Last year one of the first medical men in London said this after examining me carefully: 'I don't know when I have seen a healthier chest and lungs, and so far from having damaged yourself with rowing, if I were going to certify for you for an insurance office, I should say that they ought to make a reduction in your favour.' * * * I cannot lay my finger upon any man who rowed with me that has been injured by it.

"H. FLEMING BAXTER."

WOLVERHAMPTON, *May*, 1869.

"I rowed at Putney in 1859, and have rowed for seven years in the College Races here and also in various other Races. Indeed I was almost 'boating mad' when I was an undergraduate, and still retain an intense fondness for it. It seems to me, that all things taken into account, I have derived very great benefit from rowing and training; it is of course hard to tell how far any present ailments are due to rowing, but I am of opinion that in no possible respect have I been injured by the very considerable number of Races in which I have rowed, and that, on the contrary, it has been very beneficial to me. I came up to Oxford an overgrown, sickly London-bred boy of 17½. I soon took to rowing, and gradually lost my weaknesses, filled out, and improved physically in every respect. Indeed, my doctor in Oxford advised me to row in the University Eight after a very careful examination of my

chest. * * * Of the men who rowed with me in 1859, all are, so far as I know, perfectly well and strong: I have seen several of them lately.

“R. F. CLARKE.”

OXFORD, *May*, 1869.

“I do not know personally of any one on whom the exertion or the previous training of the Putney Race has had an injurious effect. * * * In my own case no injury of any kind whatever has resulted, although I was younger than the average of men who row in the University Eights (having been under 19 years of age in April, 1859), and although I continued in a similar course of training in connexion with the College Fours and the College Eights. On the whole my opinion is, that to a naturally sound constitution the exertion of the Putney Race is beneficial rather than the reverse.

“CLONCURRY.”

HAZLE-HATCH, *April*, 1871.

“In reply to your letter respecting the alleged injury to rowing men from the Putney Race, I think I may say that I only know of one instance in which anything like permanent injury resulted, and that was the case of ——¹. I have either rowed in, or trained most of the Oxford Crews since 1859, and consequently know pretty intimately most of the men, and hear constantly of the remainder, and a healthier set of men could not be found. * * * With ordinary care the University Race is the safest Race that a fairly strong

¹ This Oarsman in a letter to me speaks of his “general health” as “excellent.” J. E. M.

man can engage in, and I am certain that many men derive great benefit from it.

“G. MORRISON.”

DOWNTON, *June*, 1869.

“I myself rowed in my College Eight when she was head of the river three years running; in the years (if I recollect rightly) 1858, 1859 and 1860; and I rowed at Putney in the Oxford Crew under my then name of ‘Thomas’ in 1859. I have also rowed at Henley, Kingston, and other Regattas, and feel satisfied that my health, so far from being injured, has been invigorated and established by the exercise. I often wish I had the opportunity of indulging in the same way now. I have a large acquaintance with boating men of my day, and I know of *no instance* of constitution impaired by the rowing they have done. To the best of my belief, my seven ‘assessors’ in the Race of 1859 are to this day in as ‘good form’ and as ‘fit’ as they could wish to be. I maintain that the stiffest Race, following upon a sufficient amount of judicious training, cannot by any possibility injure a healthy subject.

“GEO. G. T. TREHERNE.”

LONDON, *May*, 1869.

*Extracts from the letters of the surviving Members
of the Cambridge Crew.*

“As regards myself, I feel sure that rowing had a most beneficial effect on my health, and I don’t know a single instance among my friends or contemporaries where any injury has been sustained. * * * I am one

who has always enjoyed perfect health ; so those who think rowing injurious say they won't accept me as an instance, for nothing would harm me.

“ NAT. ROYDS.”

SAINT NEOTS, *June*, 1869.

“ With respect to the question you ask me, I have only to tell you that I underwent the training four times ; three times for the Race at Putney, and once for Henley, and have felt myself no ill effects from it. It is now 10 years since I first rowed in the University Race, and I passed the medical officer of a Life Insurance Company at the beginning of this year ; he assured me that heart, &c., were all right. Very few men row so often as I did, and only one, or two at most, have rowed oftener. I never heard of any one who injured his constitution by rowing in a University Race. * * * I have heard several say that they were the better for their rowing, and never heard any one complain. * * * Of my contemporaries in the Cambridge Boats, all I believe but two are now alive ; * * * neither of these deaths had anything to do with rowing.

“ H. J. CHAYTOR.”

BREWOD, *May*, 1869.

Extracts from the letters of friends of the dead.

“ *George A. Paley* died of typhus fever in 1866, caught in sessions at Leeds.

“ Rowing never did him any harm.”

SEVENTEENTH UNIVERSITY RACE, 1860.

The Race of Saturday the 31st of March, 1860, was very hotly contested; Cambridge only succeeded in distancing her adversary by one length at the finish. Though the day was cold and rainy, yet the wind was not sufficiently strong to ruffle the water, and the rowing of both Crews was admirable.

The names of the Crews were as follows:

CAMBRIDGE.

S. Heathcote, 1st Trin.
H. J. Chaytor¹, Jesus.
D. Ingles, 1st Trin.
Joseph S. Blake, Corpus.
M. Coventry, Trin. Hall.
Benjn. N. Cherry, Clare Hall.
A. H. Fairbairn², 2nd Trin.
*J. Hall*², Magd.
Coxswain, J. T. Morland, Trin.

OXFORD.

J. N. McQueen, Univ.
G. Norsworthy, Magd.
T. F. Halsey, Ch. Ch.
J. Young, Corpus.
G. Morrison¹, Balliol.
H. Fleming Baxter, Brasenose.
C. J. Strong, Univ.
R. W. Risley³, Exeter.
Coxswain, A. J. Robarts, Ch. Ch.

¹ Rowed also in 1859.

² Rowed also in 1858.

³ Rowed also in 1857.

Effects of Training and Rowing on the Crews.

Benefited.

8

Uninjured.

8

Extracts from the letters of the surviving Members of the Cambridge Crew.

"I beg to state that, so far as my experience goes, the training and rowing in University Boat-Races are not at all injurious to after health.

"S. HEATHCOTE."

DEVIZES, *March*, 1872.

"I have much pleasure in answering your question on a subject which interests me so much. So far from injuring the constitution, I believe that rowing is generally an immense benefit to it. I was a weak and rather unhealthy man when I went up to Cambridge, and weighed about 11 stone, and came away in strong health, weighing 12 stone 7 lbs. within six months of my last training. During the two years and half I was at Cambridge I was in strict training 10 times and rowed in nearly all the principal races of the day, and I am now in perfect health and up to any amount of work, and weigh 13 stone 7lbs.

"I know no one who is said to have suffered from the work of a Putney training.

"D. INGLES."

HEMEL HEMPSTEAD, *Sept.* 1869.

"I rowed two University Races, 1860 and 1861. Two years ago, when the discussion on the subject took place

in the 'Times,' I was examined by a medical man to satisfy myself upon the point, and he failed to observe any abnormal symptom. Last spring year I passed a medical examination for an Insurance Society quite satisfactorily, the examining doctor knowing of my former aquatic exertions. For myself, I can trace no evil result to my training or rowing whatsoever, unless it be that I suffer from the want of exercise, more perhaps than I might have done under ordinary conditions.

"JOSEPH S. BLAKE."

SALISBURY, *July*, 1869.

"I may say that I have not heard of any cases among men of my own time where rowing in the University Race has done any permanent injury. I should perhaps qualify this by restricting it to Cambridge. * * * Rowing very seldom does any permanent injury, and for this reason, that the process of training finds out any weak point, and a man is obliged to stop rowing before any harm is done.

"M. COVENTRY."

MANCHESTER, *May*, 1871.

"From my own experience I feel confident that the training does not injure a *sound* man, provided he *goes out* of training fairly. * * * I really cannot call to mind one single man that I know to be injured by boating. For myself, I have not had, or needed, the services of a doctor from 1858 to this present time; in fact, I always hold that the training did me good.

"BENJ. N. CHERRY."

STONY STRATFORD, *May*, 1869.

*Extracts from the letters of the surviving Members of
the Oxford Crew.*

"So far as it concerned me, training seemed to have had a beneficial effect at the time, and afterwards I have felt no ill consequences.

"I am now a stout man, weighing 15 stone, but able to be in the saddle all day without fatigue, or, if necessary, walk my 10 or 15 miles without any distress. I can only hope the rest of the Crew are as well as I am.

"J. N. McQUEEN."

BENGAL, *February*, 1872.

"In reply to your note, I beg to say that I have not, to my knowledge, suffered any injury from rowing at the University. I do not consider that any injury is likely to be caused by rowing in the Race at Putney unless men row too young; but in that case, I expect that all violent athletic sports might have a bad effect.

"G. NORSWORTHY."

LONDON, *August*, 1871.

"I rowed in the University Boat-Race in the year 1860, and I can safely say that (with the exception of ordinary colds, and a very slight touch of gastric fever in 1865) I have *never known a day's illness from that time to this.* * * * My own experience as Captain of my College Boat-Club, and secretary of the O. U. B. C., has always been, that those who are not strong enough for the work get *ample warning* before they have been

at it long enough to injure themselves. * * * Shortly after the Race in 1860 a well-known London physician, who knows my constitution thoroughly, told me he 'thought I was all the better.'

"T. F. HALSEY."

HEMEL HEMPSTEAD, *June*, 1869.

"I rowed in the Boat-Race at Putney in 1860, and the only way in which I personally suffered from it was slightly from rheumatism, the season having been very wet, and I hereditarily subject to it. Of course there are exceptions, and instances of men of delicate constitutions suffering from the training usual for the Inter-University Boat-Race, but in my opinion there is nothing in it that is likely to injure a tolerably robust young man; and the Oarsmen for such a race are naturally chosen 'ceteris paribus' of the strongest constitution. It is right that I should say that my opinion is not founded on a long experience of boating. I never rowed before going to Oxford, was there only three years, and have never rowed since; and I have lost sight, to a great extent, of the men with whom I rowed in the University Eights of 1859 Henley, and 1860 Putney.

"C. J. STRONG.

"Also late Captain of the John +."

DERBY, *June*, 1869.

Extracts from letters of friends and relations of the dead.

"*J. Young* was one of the Oxford Crew in the year 1860. He died in the full vigour of manly strength (of an attack of typhoid fever, November 26, 1866), and I have no reason whatever to suppose that his constitution

had been in the slightest degree affected by his exertions either in rowing or cricket."

"*J. Young*, who was in the Boat with me in 1860, was one of the finest men in it—tall and broad, apparently of as fine physique as any I ever saw; and during the time I remained I knew him well, and he always seemed to have good health."

EIGHTEENTH UNIVERSITY RACE, 1861.

On Saturday March 16, 1861, Cambridge was successfully distanced by one of the finest Crews which Oxford ever sent to Putney, and which succeeded in reaching the winning post in 23 minutes 30 seconds from the time of starting, having to row part of the time against an unfavourable tide and a head-wind. The Cambridge men, who rowed with great pluck, came in about 48 seconds behind their opponents.

The names of the Crews were as follows :

OXFORD.

Weldon Champneys, Brasenose.

Ed. B. Merriman, Exeter.

Henry E. Medlicott, Wadham.

Wm. Robertson, Wadham.

G. Morrison¹, Balliol.

A. R. Poole, Trinity.

H. G. Hopkins, Corpus.

W. M. Hoare, Exeter.

Coxswain, S. O. B. Ridsdale, Wadham.

¹ Rowed also in 1859 and 1860.

CAMBRIDGE.

G. H. Richards, 1st Trin.
 H. J. Chaytor¹, Jesus
 W. H. Tarleton, St John's.
 Joseph S. Blake², Corpus.
 M. Coventry², Trin. Hall.
 Henry H. Collings, 3rd Trin.
 R. U. Penrose Fitzgerald, Trin. Hall.
 J. Hall³, Magd.
 Coxswain, T. K. Gaskell, 3rd Trin.

Effects of Training and Rowing on the Crews.

Benefited.	Uninjured.	Injured.
5	10	1.

Extracts from the letters of the Oxford Crew.

"My own personal experience goes to prove that a Race such as the Oxford and Cambridge is not injurious to the constitution. I rowed in 1861, and though for nearly two years before I engaged in almost every Oxford Race for which I was eligible, and likewise for a similar period after, including two Henley Regattas, in the latter of which I had to row three deciding heats on a sultry day, in almost as many hours, I have never suffered the slightest inconvenience from my exertions, and was, only a few months ago, pronounced perfectly sound by a doctor who examined me.

"WELDON CHAMPNEYS."

LONDON, May, 1869.

¹ Rowed also in 1859 and 1860.

² Rowed also in 1860.

³ Rowed also in 1858, 1859, and 1860.

"Replying to your queries, I must say that personally I have discovered no evil effects to result from the exertion and training incidental to my contest with Cambridge. I should however say, that when I was asked to represent my University, I went to my doctor and was examined and overhauled by him, and pronounced sound before I consented to row. The exertion no doubt is great, bringing as it does all the muscles of the frame into play, but I cannot see that with due caution on the part of the rower evil effects ensue; of course this pre-supposes that the man is sound before he engages in the trial. * * * My experience leads me to say that nine out of every ten cases of breaks-down amongst rowing men may be traced to previous disease, or foolish excess on the termination of training, and not to over-exertion for which rowing is so much abused.

"ED. B. MERRIMAN."

MARLBOROUGH, *June*, 1869.

"I rowed No. 3 in the Oxford Boat in the year 1861. I have no reason whatever for supposing that I received any injury to my constitution by doing so. * * * All the members of the Oxford Crew of 1861 were well-grown and powerful men, and, with one exception, new Oars in a University Boat. I left Oxford at the end of the year, and did not row again. * * * All my comrades are at the present time in the enjoyment, to all appearances, of sound working health.

"HENRY E. MEDLICOTT."

LONDON, *June*, 1869.

"I am happy to say that I am not sensible of having in any way injured my health or constitution by rowing;

indeed, I may go so far as to express my belief that I am at the present moment as sound in wind and limb as I was in the year 1861 when I rowed against Cambridge.

“WM. ROBERTSON.”

MELBOURNE, AUSTRALIA, *August*, 1871.

“It entirely depends upon a man’s previously sound condition whether or not the training for the University Race be injurious. * * * In my own case, I took care to consult a medical man, and got myself well sounded, and can trace no special influence upon my system to my rowing in the University Crew. I look upon it as one event in my rowing life from the *whole course of which* I derived great benefit.

“H. G. HOPKINS.”

CHELTENHAM, *May*, 1869.

“I do *not* believe the constitution to be permanently injured in numerous instances by the system of training and rowing in the University Boat-Race. I rowed in 1861, 1862, 1863, and have not heard of the death of, or even injury felt by, any single one of the 18 or 20 men who composed the Crews of those years. * * * If a medical man of experience warrants a young man sound (and this ought always to be required, even in self-defence, to prevent the probability of a man’s breaking down in training), I do believe he would be *far from likely* to injure himself.

“W. M. HOARE.”

THETFORD, *June*, 1869.

*Extracts from the letters of the surviving Members of
the Cambridge Crew.*

"I am very happy to be able to report myself in excellent health. I have not required the assistance of your profession during the last nine years, and, so far as I myself am concerned, I feel sure that I am a stronger man than I should have been if I had not rowed at Cambridge. I rowed in the Crews of 1861 and 1862, besides rowing a number of Races at Henley, in my College crew, and the usual College Races. In 1861 I rowed three Races in one day, all of them hard Races, and many of us thought the Henley Races even more severe than those at Putney, on account of the quick stroke.

"G. H. RICHARDS."

BOSTON, UNITED STATES, *May*, 1871.

"With regard to your questions, I had good opportunity of judging of the effect of boating and training, as I was first Captain of the Lady Margaret. I think that if a man *can* train, boating does him good, and by training I mean pursuing such a system as will rid the body of what is really superfluous matter, purify the blood, and harden the muscles. * * *

"Personally I invariably got heavier in training. * * * I believe boating has done me a great deal of good. * * * One thing I have noticed about old University Oars, and that is, if they get fever of any kind it is very likely to kill them. I think, however, it is possible that the constitutions which make a good Oar may be peculiarly liable to fever.

"W. H. TARLETON."

BIRMINGHAM, *June*, 1869.

"In reply to your note, I beg to say that after leaving Cambridge I served eight years in the army, and have never suffered any ill effects from my training, which commenced in 1858 and was continued at intervals until 1862 for the University and other Boat-Races, and I believe myself to be perfectly sound at the present time. •

"HENRY H. COLLINGS."

LONDON, *June*, 1871.

"I rowed two Putney Races, and after the second was supposed to have injured myself. I was sent abroad, and finally went to India. * * * Four years very hard work, shooting in the Himalayas and Cashmere, have not brought out any further signs, and I had some roughish times out in those parts. My second year I took no tent and no bed, and slept on the ground on a waterproof sheet, finding no ill effects from hard mountain marching and bad food. * * * I think that so far as lungs are concerned I am as sound as can be.

"R. U. PENROSE FITZGERALD."

LONDON, 1869.

NINETEENTH UNIVERSITY RACE, 1862.

The Race of Saturday, April 12, 1862, resulted in an easy victory for Oxford. The Cambridge men rowed gallantly throughout. The day was very fine, but bitterly cold with a stiff north-easter, which was dead against the Crews in the latter part of the Race. The water was comparatively calm, though the steamers, as usual, behaved disgracefully, throwing a heavy wash on the losing boat, and thereby deprived her of all chance of retrieving the day. The Race was rowed in 24 min. 41 sec., the winning Crew coming in 30 seconds ahead of their opponents.

The names of the Crews were as follows:

OXFORD.

W. B. Woodgate, Brasenose.
O. S. Wynne, Ch. Ch.
William B. R. Jacobson, Ch. Ch.
R. Edward L. Burton, Ch. Ch.
Allan Morrison, Balliol.
A. R. Poole¹, Trin.
Charles Ridley Carr, Wadham.
W. M. Hoare¹, Exeter.
Coxswain, F. E. Hopwood, Ch. Ch.

CAMBRIDGE.

P. Freeland Gorst, St John's.
J. G. Chambers, 3rd Trin.
Edward Sanderson, Corpus.
Wm. Cecil Smyly, 1st Trin.

¹ Rowed also in 1861.

R. U. Penrose Fitzgerald¹, Trin. Hall.
 Henry H. Collings¹, 3rd Trin.
 J. G. Buchanan², 1st Trin.
 G. H. Richards¹, 1st Trin.
 Coxswain, F. H. Archer, Corpus.

Effects of Training and Rowing on the Crews.

Benefited.	Uninjured.	Injured.
4	11	1

Extracts from the letters of the Oxford Crew.

"My own experience of rowing is that heart and lungs never suffer, with a man in real training, from rowing in a Crew. * * * As to myself, not three weeks ago I was passed by an Insurance office as A 1, in the doctor's own words, after I had told him what I had done. I believe I have rowed more than any other amateur or professional.

"W. B. WOODGATE."

LONDON, July, 1871.

"I don't think, as far as I am concerned, that having rowed once in the University Crew has done me any harm.

"OWEN S. WYNNE."

RHUABON, Dec. 1872.

¹ Rowed also in 1861.

² Mr Buchanan died in 1870; his illness and death could in no way be traced to his rowing exertions.

"Rowing never did me any harm as far as I know ; but then my father sent me to a doctor before rowing even in the Torpid, and he told me my heart was one of the most regular he ever heard, and that I might do anything I liked without danger. Perhaps this may lead me to speak warmly of my favourite amusement ; but I think it would be well if every man, at any rate before rowing at Putney, were to be examined by some doctor.

As to my general health, I think rowing and training did me a great deal of good.

"WILLIAM B. R. JACOBSON."

LONDON, *May*, 1869.

"As far as my rowing in the University Crew was concerned, my health is quite as good as it was before.

"R. EDWARD L. BURTON."

SHREWSBURY, *January*, 1872.

"In reply to your letter, in which you enquire whether I consider that my health has been damaged by having rowed (three times) in the Oxford and Cambridge Boat-Race, I must state that I cannot trace any bad effects to those exertions.

"ALLAN MORRISON."

READING, *May*, 1871.

"My health up to this time, has not, as far as I can judge, been affected in the least degree by my rowing in

the Putney Races of 1862 and 1863; but I have such a lively recollection of the state of extreme exhaustion I was often in two miles off the end of the course, and of the resolutions often formed never to touch an oar again, that I am by no means sure that my life is as good a one as it would have been had I never partaken in such immoderate exercise. That any one can go through such desperate heart-rending work without more or less impairing his vital powers, seems to me a very bold assertion to make; and I have often said that I should not wonder if I had taken 10 years off my life by over-tasking my powers of endurance on the river. But this is guess-work, you want facts. As I said before, I am all right as far as I know at present, and my experience is that of one whose chest was pronounced to be a pattern of all that a chest ought to be, and whose habits have always been strictly temperate, and who never 'shirked' a stroke in training or in the Race. After the severest rows I always recovered immediately on stopping.

"CHARLES RIDLEY CARR."

MARLBOROUGH, *June*, 1869.

*Extracts from the letters of the surviving Members of
the Cambridge Crew.*

"In answer to your enquiries, I am happy to be able to state that as far as I know I have suffered in no way whatever by rowing the University Race; I think, considering that I rowed almost every College Race at Cambridge for four years, it would hardly be fair to lay any ill effects (supposing I had received them) to the one Race, which after all is not much more trying

than others. Whilst I know many men whose health has materially improved with rowing, I do not know any that have been injured by it. I never felt better in my life than when in training, and I now miss the hard exercise I was so fond of.

“P. FREELAND GORST.”

MELTON MOWBRAY, *June*, 1869.

“I have never experienced any ill effects from rowing, running, walking or swimming 200 Races in which I have competed. * * *

“J. G. CHAMBERS.”

LONDON, *May*, 1871.

“In answer to your question I beg to state that in my opinion the training and exertion demanded of men who engage in the University Race, are not of so trying a nature that in numerous instances the constitution is liable to be permanently injured. In a few cases it may be an injurious, in many, and I think in my own case, it has been a highly beneficial exercise. I do not know that any of my friends or contemporaries have suffered from their exertions in rowing in the University Crew.

“EDWARD SANDERSON.”

ACTON, *August*, 1869.

“You ask me whether the rowing and training at Cambridge has had a good or bad effect upon my health, I can confidently say that I have never felt any bad effects from it. Since I took to rowing I have never been confined to my bed, or even to the house for

a single day, and have never felt a pain that I could connect with it; on the contrary, I believe it has done me much good, both physically and morally. * * * During the latter years of my stay at Cambridge I was very frequently in hard training. The principal Races for which I trained after I got into my Club, 1st Boat (1st Trinity), were 1861, May Races (Head of the River), Henley Grand Challenge, Ladies' Plate Eight-Oars, Stewards' and Visitors' Fours (all won); November, University Fours (dead heat with Trin. Hall), December, Trial Eights (lost); 1862, April, rowed against Oxford at Putney (lost), May Races (third on the river); University Pairs (lost), November, University Fours (2nd); 1863, March, rowed against Oxford at Putney (lost); June, Henley Grand Challenge, Ladies' Plate Eights, Stewards' and Visitors' Fours (all lost); out of training I rowed in numerous University Scratch-Fours, and in Club Trial Eights, &c.

“W. C. SMYLY.”

MANCHESTER, *July*, 1871.

TWENTIETH UNIVERSITY RACE, 1863.

The University Race of 1863 was rowed from Mortlake to Putney to take advantage of the tide, on Saturday the 28th of March, at about half-past ten. The two Boats were fairly started, the wind was highly favourable, and the distance was covered in 23 minutes 6 seconds by the winning Crew; Oxford gaining an easy victory over her adversary, and the Race being virtually over before Barnes Bridge was passed.

The names of the Crews were as follows :

OXFORD.

Robert Shepherd, Brasenose.
 F. Hume Kelly, Univ.
 William B. R. Jacobson¹, Ch. Ch.
 W. B. Woodgate¹, Brasenose.
 Allan Morrison¹, Balliol.
 William Awdry, Balliol.
 Charles Ridley Carr¹, Wadham.
 W. M. Hoare², Exeter.
 Coxswain, F. Hopwood, Ch. Ch.

CAMBRIDGE.

J. Clarke Hawkshaw, 3rd Trin.
 Wm. Cecil Smyly¹, 1st Trin.
 R. H. Morgan, Emm.
 J. Bowstead Wilson, Pembroke.
 Claude H. La Mothe, St John's.
 Robert A. Kinglake, 3rd Trin.
 J. G. Chambers¹, 3rd Trin.
 John Stanning, 1st Trin.
 Coxswain, F. H. Archer, Corpus.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
2	13	1

Extracts from the letters of the Oxford Crew.

"From my own personal experience in rowing in Boat-Races at Oxford, Henley, Putney and elsewhere, I think all injuries from rowing may be classed under

¹ Rowed also in 1862.

² Rowed also in 1861.

three heads:—1. From accidents.—2. From over-training.—3. From under training. I myself strained a muscle through a quick jerk to right the boat in stormy weather, with a strong wind off shore. This strain incapacitated me from rowing in 1864 as requested, but I feel no ill effects from it now.

“ROBERT SHEPHERD.”

BILLESDON, *Sept.* 1871.

“I can only say with regard to myself I rowed two years at Putney, besides three years in the College Eight, and at Henley, and have since then undergone some very hard roughing in South America. I am as sound as possible.

“F. HUME KELLY.”

LONDON, *Dec.* 1871.

“I rowed in the years 1863 and 1864, but on the first occasion I was not in the Crew for the whole of the training, having been put again into the Boat ten days before the Race, after comparative rest for three weeks. I never had the trial of a hard race with Cambridge, but probably it would not have been much greater than that which we had in 1863 with a picked Crew of watermen, who kept just in front of us over the whole course. Rowing has not, so far as I know, made any difference in my health, and though for a considerable time I was more dependent than many are on regular and hard exercise, even that effect seems to have passed away.
* * * I cannot judge of after effects on lungs or heart, except from my own case, in which they appear to be

nil, but I was told (by my medical adviser) that with my slow circulation and very expansive chest, there was nothing to fear. * * * I never was in better condition myself than at my first University Race, when I had 10 days of training, then 3 weeks of rest, and then 10 days of very hard work and training. * * * I think that in the main, rowing at Oxford is the best and healthiest of the regular amusements ; and having rowed for six years consecutively in a College Eight-Oar, and known a very large proportion of the rowing men, I can speak with some knowledge of what passed between 1860 and 1867.

“WM. AWDRY.”

WINCHESTER, *July*, 1869.

Extracts from the letters of the Cambridge Crew.

“I know of no case of a man who has rowed in the University Race who can be shewn to have suffered in health solely on that account. There are many who would be pointed out as examples of the ill effect of rowing, but it will generally be found that there is more reason in considering their ill-health as the result of the life they have led when out of training. As regards my own Crew, I am not aware that any of them are much the worse for rowing ; they were all powerful men. * * * The good resulting from rowing outweighs, in my opinion, the evils of it. It teaches men to put a moral restraint upon themselves, and leads many to consider their health, who would probably never otherwise have thought of it.

“J. CLARKE HAWKSHAW.”

HULL, *June*, 1869.

"I have great pleasure in informing you that though I was in hard training seven out of the nine terms I was at Cambridge, and rowed many hard and close Races, I have never felt any the worse for it in any way. * * * I was just 20 years old when I rowed in the 'Varsity.'

"R. HERBERT MORGAN."

BLANDFORD, *April*, 1871.

"I myself rowed in the Race of 1863, and during the four years which I spent in Cambridge I knew all the 'Varsity Oars' of my own time, and also many more who had been there before me, and I cannot mention to you a single case where I have known one of them to be permanently injured (or injured at all) by their training or rowing in the Race.

"J. BOWSTEAD WILSON."

BROMSGROVE, *May*, 1869.

"In reply to your letter I am happy to say that I have not in the least suffered from my rowing, either on the Cam or on the Thames; I am at this moment perfectly sound in every respect, and do not find as yet any evil effects from such strains upon the constitution as every one must undergo who is ambitious of distinction in aquatic sports. * * * I rowed in the year 1863, No. 5, at 12 st. 3 lbs., and now my weight is nearly 15 st. If weight of body be a criterion of health and physical vigour, then you may consider that I have not suffered much harm by my exertions on the Cam.

"CLAUDE H. LA MOTHE."

GALATZ, *June*, 1871.

"I began to row at 10 years old and have rowed regularly from that time till the last two years, and now have an occasional race in the Leander, to which I belong. I was in the Eton Eight at 16, rowed three years in that, rowed as a freshman in the C. U. B. C. at Putney and did so for four years. In fact for those four years, from the 15th of October until the end of June, I was rowing almost every day. In the summer I have occasionally knocked up with a sore throat, but have never broken down in training in my life, and have from first to last rowed more than 140 Races.

"ROBERT A. KINGLAKE."

LONDON, *June*, 1869.

"I am very happy to be able to say that, so far as I know, I have not received any injury at all from rowing. Having not yet arrived at the age when a man, as it is said, must be either a fool or a physician, I cannot speak with absolute confidence as to whether there may not be some terrible disease lurking in my system though entirely unsuspected by me; but I can in all honesty say this, if I have sustained any injury I do not know it, and since I rowed in 1863 I have been in tolerably hard work, but have never had a single day's illness during the time.

"JOHN STANNING."

HALLIWELL, *April*, 1871.

TWENTY-FIRST UNIVERSITY RACE, 1864.

The University Race of 1864 was one of peculiar interest, as in the long list of aquatic struggles, the winning Boat had in ten Races borne Cambridge colours, and in the remaining ten the dark blue of Oxford. Victory however was destined once more to crown the efforts of the older University. Saturday the 19th of March, 1864, was a lovely day, and more genial than is usually the case; the water was calm, and the wind though slight, very favourable. The Race was rowed in a shorter time than that of the preceding year, occupying only 21 min. 40 sec. The Cambridge Boat came in 26 seconds behind her opponent.

The names of the Crews were as follows:

OXFORD.

C. P. Roberts, Trin.

William Awdry¹, Balliol.

F. Hume Kelly¹, Univ.

J. C. Parson, Trin.

William B. R. Jacobson², Ch. Ch.

A. E. Seymour, Univ.

M. Meredith Brown, Trin.

D. Pocklington³, Brasenose.

Coxswain, C. R. W. Tottenham, Ch. Ch.

¹ Rowed also in 1863.

² Rowed also in 1862.

³ Mr Pocklington died in 1870. He considered himself rather benefited than injured by his rowing exertions.

CAMBRIDGE.

J. Clarke Hawkshaw¹, 3rd Trin.
 E. V. Pigott, Corpus.
 H. S. Watson, Pembroke.
 W. W. Hawkins, St John's.
 Robert A. Kinglake¹, 3rd Trin.
 Geo. Borthwick, 1st Trin.
 D. Fenwick Steavenson, Trin. Hall.
 J. R. Selwyn, 3rd Trinity.
 Coxswain, F. H. Archer, Corpus.

Effects of Training and Rowing on the Crews.

Benefited.	Uninjured.	Injured.
7	6	3

Extracts from the letters of the Oxford Crew.

"Boating was my chief recreation at Oxford, and I went into training 10 times for various Races, and I look back upon those periods, as having not only left me without injury, but been the source of much strength to me in every way. I was brought up to think that my chest was weak, and forbidden to take any violent exercise at school, such as running; and when I went up to College I was looked on as a very weakly fellow, and not taken down in the boats for trial amongst the other freshmen until a 'scratch four' Race shewed that I might be made something of. I then rowed in the Torpid and in the Eight for succeeding years. I grew in height, breadth and strength. Sore throats, to which

¹ Rowed also in 1863.

I had been very liable, and often had severely at school, left me, and my whole state of health improved. The 'University Boat Race' is a trying one certainly, and the training severe, but I always made a point of being examined by a surgeon before entering on any severe course of preparation; this I think every man ought to do, for his own sake and for the sake of the Crew in which he rows. I did not feel the exertion of the Oxford and Cambridge Race so much as the shorter Henley Course; the time of year and the difference in temperature may partially account for it. * * * I know no instance in my own experience of a man who lived a temperate and pure life, without indulging in any excesses, who has been injured by training. * * * I look upon rowing as a most healthy and strengthening exercise in every way if the quantity is adapted to the constitution of him who goes in for it.

"C. P. ROBERTS."

BURY, *June*, 1869.

"I really cannot tell you how far rowing affected *others*, but as far as I *myself* am concerned, I think that it did me considerably more good than harm.

"J. C. PARSON.

HADDAM, *June*, 1869.

"My general health always was and still is excellent.

"A. E. SEYMOUR."

KIDDERMINSTER, *June*, 1869.

"I went to Radley to school in 1855. In 1857 I began to row, and in due course became one of the school racing Crews. In 1863 I went to Oxford, where I rowed in the University Eight in 1864, 1865 and 1866, besides rowing in College Eights, and University Fours and Pairs for four years. I rowed at Henley three years, besides Paris, Kingston, Walton. I calculate I was in training for rowing more than four months in each of the eight years from 1858 to 1866. During that time I may safely say that I never was ill, and I am convinced the effect rowing had on my health was only salutary.

"M. MEREDITH BROWN."

LONDON, *June*, 1872.

Extracts from the letters of the Cambridge Crew.

"I can truly say I have never experienced any effects from rowing but what are the most beneficial. During my training I was always conscious of enjoying an intensity of good health and general buoyancy which I have never experienced at any other time. During the years that have passed since I rowed (my years were 1864 and 1865, for I rowed in two Races) I have never experienced the least ill effects; on the contrary, whatever vigour, whether physical or intellectual, I now enjoy, I attribute as much to the very healthy and steady life which I was compelled to live at Cambridge, as to any other cause. I feel, in fact, that I have derived *nothing whatever but benefit* from it.

"E. V. PIGOTT."

MALPAS, *July*, 1869.

"I am glad to tell you that I have *not* experienced any ill effects from rowing, and indeed I can testify to its being most beneficial to myself. Since the time I rowed in the University Race I have enjoyed the best of health.

"H. S. WATSON."

BIRMINGHAM, *April*, 1871.

"I am thankful to be able to say that my health is usually very good, and, as far as I know has *not* been injured by my rowing labours.

"W. W. HAWKINS."

DONCASTER, *May*, 1871.

"I have much pleasure in informing you that I do not know of a single instance in which permanent injuries, or indeed any injuries, have resulted from rowing in the University Boat-Race. Personally I am, and always have been, in the enjoyment of most excellent health; and I attribute this, in no slight degree, to the training I underwent in my rowing days. I am intimately acquainted with many old Oarsmen, and I can safely say that a sounder, healthier set of men could not be found.

"GEO. BORTHWICK."

LONDON, *June*, 1869.

"I feel sure that for a man of sound limbs, lungs and heart, the training and rowing done whilst *at the University*, even if he rows three years in his University Boat, does him good instead of harm. It keeps him

from many pernicious habits, such as smoking, drinking, late hours, large suppers, &c. * * * More than this, training gets men into a steady and regular habit of life at an early age. I think I may most confidently state that I know no more healthy body of men than 'Varsity Oars.' I fear you will think me prejudiced, * * * but I most seriously think I have kept within the mark.

"D. FENWICK STEAVENSON."

LONDON, *May*, 1869.

"I feel no ill effects from much rowing. I know many instances of old University Oars who are now elderly men, and strong and hearty.

* * * * *

"I am sure that if rowing were abolished from the Universities—and the curtailment of the Race would go far to do that—the men would do something infinitely worse for their constitutions, pockets and characters.

"J. R. SELWYN."

LICHFIELD, *May*, 1869.

TWENTY-SECOND UNIVERSITY RACE, 1865.

The University Race of 1865 took place on Saturday, the 8th of April. The hour of starting was about one o'clock; the day had cleared into bright sunshine, and the contest for some considerable distance was very exciting; but the slow, sure and steady swing of the Oxford Oars gradually told, and just beyond Chiswick church the Race was virtually over, as the Light Blues became disorganized, though their boat was barely four lengths astern at the winning post.

The time was 21 minutes 24 seconds, being the fastest Race ever rowed by the Oxford Boat in a University Race hitherto; though Cambridge in 1846 only took 21 minutes 5 seconds, and in 1858, 21 minutes 23 seconds.

The names of the Crews were as follows :

OXFORD.

R. Taunton Raikes, Merton.

H. P. Senhouse, Ch. Ch.

Edward F. Henley, Oriel.

Gilbert Coventry, Pembroke

Allan Morrison¹, Balliol.

Thomas Wood, Pembroke.

Henry Schneider, Trinity.

M. Meredith Brown², Trinity.

Coxswain, C. R. W. Tottenham.

¹ Rowed also in 1862 and 1863.

² Rowed also in 1864.

CAMBRIDGE.

Herbert Watney, St John's.
 Meyrick H. L. Beebee, St John's.
 E. V. Pigott¹, Corpus.
 Robert A. Kinglake², 3rd Trinity.
 D. Fenwick Steavenson¹, Trin. Hall.
 Geo. Borthwick¹, 1st Trin.
 W. Russell Griffiths, 3rd Trin.
 C. B. Lawes, 3rd Trin.
 F. H. Archer, Corpus.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
8	7	1

Extracts from the letters of the Oxford Crew.

"I can only say that my experience, which now extends over 8 years, and in particular instances a great deal longer, goes entirely to support those who believe that rowing generally is a healthy exercise, and that the training and exertion demanded of those who engage in the Oxford and Cambridge Race do not so try the constitution as to injure it permanently. I myself rowed in that Race in 1865 and 1866, and have been intimately acquainted with those who have taken part in it for eight years, and with some of the now prominent Oxford Oarsmen since 1856. During that time I have

¹ Rowed also in 1864.² Rowed also in 1863 and 1864.

only known one instance of a man being permanently injured by the training. * * * I myself have never suffered any ill effects; in fact, I was during the two periods of training heavier and more uniformly strong than I ever was before, or (except during periods of considerable physical exercise) have been since. For 3 years I have now led a sedentary life in London, with a short holiday in the summer, and have during that time enjoyed uniform good health, the only perceptible difference being that I am thinner and lighter than when I indulged in the constant hard exercise of my Oxford life.

“R. TAUNTON RAIKES.”

LONDON, *October*, 1869.

“I myself rowed in the University Race in the years 1865 and 1866; in fact, I have been constantly at it from 1857 to 1866, and do not in any way feel that it has done me the slightest harm. The training time of 1865 was very trying; rain bringing snow; cold high winds, and sometimes towards the end very hot days. * * * As far as the length of the Putney course is concerned I have no doubt it really takes more out of men than a shorter course, but for a quarter of an hour after the Race is over I have always felt more exhausted after the Henley $1\frac{1}{4}$ mile than the Putney $4\frac{1}{4}$ miles.

“H. P. SENHOUSE.”

MARYPORT, *June*, 1869.

“I am glad to say, in answer to your enquiries, that I have never experienced in any way any evil effects

from having rowed in the Inter-University Matches of 1865 and 1866, and that my health since then has been quite as good if not better than before.

“EDWARD F. HENLEY.”

LONDON, *June*, 1871.

“As far as I can I will give you a true account about the Oxford training and its effects. With regard to myself it did me an immense deal of good, I am confident; I am as strong as a man well can be, and I have never had an hour's illness since the Race, that I know of. My height is 5 ft. 11 $\frac{1}{4}$ in., I now weigh 14 st. 2 lbs., and I am 43 inches round the chest. * * * I can also assure you that in my opinion the training for the long course does not hurt one like the short courses that are rowed up at Oxford; and for this reason, you have not the same power of properly and steadily expanding your chest as you do over the long course; added to which, I consider that if you row in the Varsity Boat you must (as a rule) have been scratched out of the 'weeds' who row on the short course. * * * There is one thing I have forgotten to say, which is, that I never rowed until I went to Oxford at 19.

“GILBERT COVENTRY.”

WORCESTER, *June*, 1869.

“I rowed in the Oxford University Eight *v.* Cambridge, 1865, and am very pleased to tell you that *it has not injured my health in the smallest degree.*

“THOMAS WOOD.”

OXON, *April*, 1871.

"* * * I may state that as far as I myself am concerned, I am able to discover no particular symptoms, either good, bad or indifferent, specially attributable to rowing. I say 'specially,' because in all probability if I had not taken plenty of exercise, either in that form or some other, my constitution would not have been half so good as I have every reason to believe it to be at the present moment.

"HENRY SCHNEIDER."

QUEENSLAND, *October*, 1869.

Extracts from the letters of the Cambridge Crew.

"In answer to your letter as to the purely physical effects of the University Races, my belief is that if a man is medically examined before rowing, so that it can be certified that he has no structural defect in any of his organs, and if he is of a reasonable age, not less than 19, and has had some rowing previously, say for one year, so that what are called his 'rowing muscles' are set, no apparent harm is likely to accrue.

"HERBERT WATNEY."

CAMBRIDGE, *April*, 1871.

"In reply to your enquiries, I beg to inform you that I do not think I have suffered in any way from rowing, either when up at Cambridge or out here, where I have been for five years; I have rowed a good deal in this country, about seven months out of the twelve in each year, and in some half-dozen races."

"MEYRICK H. L. BEEBEE."

CALCUTTA, *June*, 1871.

"I know of no case within my personal knowledge where any harm has happened to a man's constitution from rowing in the University Boat. * * * I do not really think that a man with an ordinary constitution and with ordinary care is likely to suffer any harm from rowing in a University Crew; on the contrary, I think he may find it very beneficial to his health.

"W. RUSSELL GRIFFITHS."

LONDON, *June*, 1869.

"You may perhaps have heard that I was more than usually successful in rowing as well as running. * * * I went immediately after my last Race into a studio, where I have been for three years without one day's even moderate exercise. * * * But I have not found any evil effects at present. * * * It is plain that rowing without racing would be much healthier for every one, but that cannot be. * * * You say, is the constitution in numerous instances liable to be injured? Yes, it is liable; but to the question is it injured in numerous instances? I should answer, no; in very few, even indirectly: but this can only be a guess guided by a few years' experience. * * * In my opinion nothing would give you reliable data, but the actual longevity of University Crews over a period of many years.

"C. B. LAWES."

BERLIN, *August*, 1869.

TWENTY-THIRD UNIVERSITY RACE, 1866.

The Race of Saturday, March 24, 1866, took place at an unusually early hour in consequence of the state of the tide. The start was successfully accomplished shortly before 8 A.M., and a most exciting race ensued. The water was somewhat lumpy, and the wind foul, but the rival Crews rowed in good form, while the chances of Cambridge were watched with breathless interest by her numerous adherents. The issue of the Race was still uncertain, when within a short distance of its termination the untimely appearance of a large barge right across the Cambridge course somewhat interfered with the even tenor of her way, and Oxford, drawing slowly but surely ahead, completed her 13th victory over the light blues, passing the flag-boat some 15 seconds before her adversary; the time being unusually slow, owing to the commencement of the ebb tide, 25 mins. 35 secs.

The names of the Crews were as follows:

OXFORD.

R. Taunton Raikes¹, Merton.

Fred. Crowder, Brasenose.

W. L. Freeman, Merton.

F. Willan, Exeter.

Edward F. Henley¹, Oriel.

W. W. Wood, Univ.

H. P. Senhouse¹, Ch. Ch.

M. Meredith Brown², Trin.

Coxswain, C. W. R. Tottenham, Ch. Ch.

¹ Rowed also in 1865.

² Rowed also in 1864 and 1865.

CAMBRIDGE.

John Still, Caius.

J. R. Selwyn¹, 3rd Trin.

J. Ulick Bourke, 1st Trin.

Hugh J. Fortescue, Magd.

D. Fenwick Steavenson¹, Trin. Hall.Robert A. Kinglake², 3rd Trin.Herbert Watney³, St John's.W. Russell Griffiths³, 3rd Trin.

Coxswain, A. Forbes, St John's.

Effects of Training and Rowing upon the Crews.

Benefited.	Uninjured.	Injured.
8	7	1

Extracts from the letters of the Oxford Crew.

"I myself have rowed twice in the University Race (in 1866 and 1867), besides many other College Races at Oxford, and have no hesitation in saying that in my case I found that I suffered more from the College Races than from either of the University Races.

* * * * *

"As to the University Race, my opinion is that if a man having a good constitution to start upon, trains strictly throughout the whole seven weeks usually set apart for that purpose, he is not likely to experience any ill effects from the Race.

* * * * *

¹ Rowed also in 1864.² Rowed also in 1863, 1864, and 1865.³ Rowed also in 1865.

"For the last few years I am not aware of any one in the *Oxford* Crews being permanently or even seriously injured by the University Race.

"FRED. CROWDER."

READING, *June*, 1869.

"When I rowed in 1866 my weight was 12 st. 7lbs.; the term after, when I rowed in our College Eight, I was nearly 13 stone; and when I won the sculls the same term I was 13 st. 3lbs. I came out here in 1866, and I have never felt the slightest effects from my training; I weigh now 15 st. 7 lb., and have gone up to 16 st. 6 lbs.; so you see I have not been very ill since I rowed. I used to go in for foot-racing when at Cheltenham and won several long Races, running one year second in a two-mile Race picking up 50 stones, and half an hour or so afterwards running another two-mile Race, when I came in second also; so you see I was accustomed to hard training. When I went up to Oxford I also belonged to the Boat-club at Cheltenham, and won several Races. I rowed stroke to the four, and rowed the first Race between Cheltenham and Shrewsbury, which we won.

"W. L. FREEMAN."

INDIA, *June*, 1872.

"I think I may be considered a good subject or example in regard to rowing, for I imagine I have rowed as many Races as any man of my age. I do not *exactly* know how many Races I have rowed, extending over a period from the spring of 1863 to August, 1869. * * * But I rowed in Races at Henley Regatta every year for seven years in succession; and the chief Races in which

I have rowed are Oxford and Cambridge four times, Grand Challenge at Henley Regatta four times, Oxford and Harvard, U.S., both the Eight and Four-oared Race at the International Regatta at St Cloud, 1867, Ladies' Plate at Henley, &c. But I will not inflict any more of my deeds upon you; however, I think for the seven years I was rowing as constantly in Races as any man ever has done. Now with regard to my health, I can only tell you *facts*; I have *never felt any* ill effects from rowing. * * * I hope you will not think that all this recapitulation of my rowing deeds is mere egotism. I only meant it to shew that I have at any rate been pretty well 'put through the mill' (as they say on the turf), and am therefore a good specimen of the rowing man, either for good or evil report.

"F. WILLAN."

LONDON, *April*, 1871.

Extracts from the letters of the Cambridge Crew.

"I may safely say that as yet I have felt no bad effects whatever from my rowing; but on the contrary, consider it to be the source of much of the good health I now enjoy. In my last race, 1869, being called upon to row without training I certainly expected to suffer for it, but I have not felt any harm at all; my wind was in very good order at the time, from playing football, which I believe saved me; for rowing a quick stroke in the light racing-boats there is no doubt that the lungs must be quite sound, and if so, I have never heard of any harm being done. Of course strength makes a boat go, but good lungs will carry most over

the course somehow. I was always very careful in going out of training gradually, generally going a short walking tour after the Race. I have known of bad results, but in each case the man either started unsound or went into heavy dissipation after training was over.

“JOHN STILL.”

LICHFIELD, *May*, 1871.

“I know of no men with whom I am individually acquainted who have done themselves the slightest harm (that I am aware of) by rowing in the Varsity Race. I think that very often men who have been rowing, and therefore taking hard exercise, on coming up to live in London and taking little or no exercise for a short time (say the first year or so), feel the sudden change; but I cannot understand how rowing, to a man who is not consumptive, can do him any harm. * * * Individually I never was in better health than while rowing, and only wish I had time to row now, as I am sure it does a man good instead of harm.

“J. ULICK BOURKE.”

LONDON, *June*, 1869.

“I am afraid I can give you very little information as to my friends or contemporaries who rowed in the Putney Race. With regard to myself, though I was not thought to have stood the training well, yet I do not think that I have suffered the least permanent injury from it; but I am, I think, quite as strong and healthy as I was before I rowed. A great change appeared to me almost always to be seen in a man a few months after he rowed in the Putney Race, as almost all appeared stronger and more powerful men, and at the

same time by no means less healthy, nor have I heard of any of them who have suffered since from their exertions.

“HUGH J. FORTESCUE.”

KIDDERMINSTER, *July*, 1869.

TWENTY-FOURTH UNIVERSITY RACE, 1867.

The Race of Saturday, April 13, 1867, will long be remembered as one of the most exciting which was ever rowed between the two Universities. As was the case in 1856, the winning Boat only led by half a length at the finish; and though the wind was foul, the water lumpy, and the tide on the turn, the distance was covered in 22 minutes 40 seconds, marvellously quick considering the opposing elements; the rowing of both Crews being really splendid.

The names of the two Crews were as follows :

OXFORD.

W. Paget Bowman, Univ.

J. H. Fish, Worcester.

E. S. Carter, Worcester.

W. W. Wood¹, Univ.

James C. Tinné, Univ.

Fred. Crowder¹, Brasenose.

F. Willan¹, Exeter.

R. G. Marsden, Merton.

Coxswain, C. R. W. Tottenham, Ch. Ch.

¹ Rowed also in 1866.

CAMBRIDGE.

W. Herbert Anderson, 1st Trin.
 John M. Collard, St John's.
 J. Ulick Bourke¹, 1st Trin.
Hon. J. H. Gordon, 1st Trin.
 F. E. Cunningham, King's.
 John Still¹, Caius.
 Herbert Watney², St John's.
 W. Russell Griffiths², 3rd Trin.
 Coxswain, A. Forbes, St John's.

Effects of Training and Rowing on the Crews.

Benefited.

Uninjured.

11

5

Extracts from the letters of the Oxford Crew.

"As far as my experience goes, the question whether or no permanent injury results from rowing in the Oxford and Cambridge Race, depends almost entirely upon the *previous* constitutional soundness of the men who are selected to row. * * * Judging from my own case, I can say (as far as I know) with perfect truth that I went into training for the Race sound, and I am as sound as a bell at the present moment; and perhaps my testimony may have the greater weight, inasmuch as besides rowing against Cambridge, I have led anything but an inactive life at Oxford. I have rowed three years at Henley, twice rowing in the winning Crews of G. C. C., L. C. C. and V. C. C. Races. I have rowed (as you have) four years in the University College Eight, and

¹ Rowed also in 1866.² Rowed also in 1865 and 1866.

I have rowed three times in the winning Four at Oxford. Besides this I have filled up the intervals with running, not without success. Out of 17 terms spent at Oxford, I was in a state of training during some part of 15, that is, all except my first and last, and I can only say that I never felt better than when in a state of training. It is perhaps too early for me to say positively that I have received *no* injury from rowing, but I can safely affirm that nothing has appeared yet, and, as far as mortal man can judge, nothing is likely to appear.

“W. PAGET BOWMAN.”

LONDON, *June*, 1869.

“For the health of my friends I should not, in their absence, feel inclined to answer. Mine own could scarcely be affected by a single year’s rowing in the Eight.

“J. H. FISH.”

OXFORD, *June*, 1869.

“I have just returned from Australia, and therefore only now received your note. * * * In my own mind I am convinced that far from the University Race doing me or anybody else engaged any harm, if even *moderately* careful, it is calculated to do very much good ; and I am confident if I had not undergone what I had done in that Race and previous training, I should not have got over my illness (pleurisy) as well as I have. * * * I speak for myself when I say that in no University Race did I feel half the exhaustion that I always did in the College Eights, that is, if we rowed the whole course, ($1\frac{1}{2}$ miles), without making our bump. I believe the

system of training in Oxford, of course I mean in the case of the University Crew, is so perfect that men are generally in capital condition on the day, and not overworked in the practices, which is *the* great thing in training. This is what I felt in my case both years I rowed, and I must say that I felt *very* much better all the time of training than ever I did before, and certainly never felt in the least degree worse for it afterwards, as one might have expected with the reaction.

“E. S. CARTER.”

YORK, *August*, 1869.

“My own impression as to whether the ‘Varsity training’ is or is not injurious to men is very much the same as I daresay you have heard from others, namely that

- “1. If a man be sound to start with,
- “2. Trains honestly,
- “3. Does not play the fool when he comes out of training,

he will come to no harm.

“Speaking for myself, I can say that I never was in such perfect health and comfort as when in training at Putney.

“JAMES C. TINNÉ.”

OXFORD, *June*, 1869.

“In answer to your enquiries as to the effect of training for, and rowing in the University Race, I must first give my own experience, of which at least I may be sure. As far as I can judge myself, rowing has done me no harm. I never in my life enjoyed such exube-

rant health as when training for the Putney Race. So much so that I have often experienced a feeling of perfect health at such times, which is almost peculiar to training. I have heard other rowing men observe this towards the end of a long training. * * * To conclude, I may say that the University Oarsmen with whom I am acquainted are almost, without exception, uninjured by their labours, that is, as far as I can judge myself by observation and some little attention I have given to the subject for some years.

“R. G. MARSDEN.”

HARWICH, *June*, 1869.

Extracts from the letters of the surviving Members of the Cambridge Crew.

“In answer to your letter, I may confidently say that I do not think I have received any bad effects from rowing, and I am all the more pleased to give my evidence in support of that much maligned pastime. * * * I many a time feel the great advantage of having spent my leisure time in rowing; it makes one feel so much more compact, so hard and hardy, and any one who has rowed knows how much perseverance it requires and developes.

“W. HERBERT ANDERSON.”

CEYLON, *June*, 1871.

“I rowed in 1867, the year when neither Boat was clear of the other during the whole Race. To begin with, it is my opinion that the Race is not of so trying a character that in numerous instances the constitution is liable to be injured. I believe this, judging from my

own case, and all those of my own contemporaries who have rowed that long course. My health has been vastly improved by rowing. I was quite a weed when I went up to the University, and now am very strong and well, and much heavier and increased in girth round the chest. This has been the fact with all my friends. Of my own Crew one met his death by an accident, all the rest are in no way altered except for good.

“JOHN M. COLLARD.”

RUGBY, *June*, 1869,

Personally I have not suffered the least ill effects from rowing in a University Boat. So far as actual rowing is concerned, I do not think that it is in any way injurious to the constitution, and I cannot call to mind any men who have suffered in consequence of it.

“F. E. CUNNINGHAM.”

LONDON, *June*, 1869.

Extracts from the letters of friends and relations.

“The *Hon. J. H. Gordon*, a universal favourite and a very plucky Oar, met with a fatal gun accident which caused his untimely death on Wednesday, the 14th of February, 1868.”

“He never suffered in any way from the training and rowing connected with the University Race.”

TWENTY-FIFTH UNIVERSITY RACE, 1868.

The University Race of 1868 was not one of much interest, the style of rowing in either Boat being inferior to that of the preceding year, though Oxford, from her well-known slow and steady stroke, secured herself the victory before half the course was over. There was no wind, and the water being very calm the time occupied in the Race was the shortest hitherto recorded, 21 minutes, Cambridge being six lengths behind.

The names of the Crews were as follows:

OXFORD.

W. D. Benson, Balliol.
Alf. C. Yarborough, Lincoln.
Roberts Ross, (of Bladensburg,) Exeter.
R. G. Marsden¹, Merton.
James C. Tinné¹, Univ.
F. Willan², Exeter.
E. S. Carter¹, Worcester.
S. D. Darbishire, Balliol.
Coxswain, C. R. W. Tottenham, Ch. Ch.

CAMBRIDGE.

W. H. Anderson¹, 1st Trin.
J. P. Nichols, 3rd Trin.
James G. Wood, Emm.
W. H. Lowe, Christ's.
H. Trafford Nadin, Pembroke.
W. F. MacMichael, Downing.
John Still², Caius.
W. J. Pinckney, 1st Trin.
Coxswain, T. D. Warner, Trin. Hall.

¹ Rowed also in 1867.

² Rowed also in 1866 and 1867.

Effects of Training and Rowing upon the Crews.

Benefited.

13

Uninjured.

3

Extracts from the letters of the Oxford Crew.

"I am at present in the enjoyment of perfect health, and have been so for many years, so that I feel no effects from the long course of training for aquatic races which I have undergone. The last seven years I have been constantly trained in the summer; the last four, during which I have been at Oxford, I have trained nearly all the time, the summer and winter vacations of course excepted. I feel quite as strong as ever I did, and shake off any little complaint as quickly as can be expected from anyone.

"W. D. BENSON."

WALES, *April*, 1871.

"I and one or two others of this Crew have rowed ever since we have been at Oxford almost without cessation. Since October last I have only missed about eight weeks from rowing or training for one Race or another, and do not feel any ill effects from it. Our Race against Harvard comes off to-day, and the whole Crew are, and have been all through the seven weeks training, in excellent health.

"ALF. C. YARBOROUGH."

PUTNEY, *August 27*, 1869.

U. O.

"I am very glad to hear that you are going to take this matter in hand, you having rowed yourself, and not being too old yet to sympathize with youths and their pastimes, will have a better chance of coming to a satisfactory and trustworthy conclusion than others who have talked and written a great deal without really knowing anything about it. * * * As to myself I can confidently say that the rowing and training have done me a great deal of good. I have always been very well during training, and the more I row and train, the stronger and healthier I seem to get. In this year's Crew we were all quite well, and as yet none have experienced any evil consequences. * * * If my testimony is of any weight, I can assure you that, as far as my experience goes, the 'Varsity Race' and the training for it is not injurious; but it is when men row continually in Races, both in training and out, or when they keep in training too long, or break it too suddenly, that they injure themselves.

"S. D. DARBISHIRE."

OXFORD, *May*, 1869.

Extracts from the letters of the Cambridge Crew.

"I have much pleasure in answering the letter I received from you on the subject of my experience of the effects of training and rowing.

"All I can say is, that the whole time I was rowing I was in as good health as possible; that I have never experienced any ill effects from the training for the University Race, and think that both the rowing and training were very beneficial to me.

"J. P. NICHOLS."

LONDON, *January*, 1873.

"I believe I may safely say that I never passed two months in more perfect health (except a slight cold for a couple of days) than I did during the training for the University Race; I was then in my sixth year at the University, and had regularly engaged in Boat-Races and Regattas during the whole of my University career, and therefore I suppose have done as much, if not more, rowing than most men of my age. At the same time I was always engaged in hard study, and in fact at the time I rowed at Putney I was a fellow of my College; so the two things combined, you will say, ought to have damaged me if anybody. * * * The opinion I have formed as above is not a mere prejudice, but based upon my own observations during the many years in which of course I formed the acquaintance of a large number of rowing men.

"JAMES G. WOOD."

LONDON, *July*, 1869.

"All I can tell you is, that I think that rowing has done me good rather than harm, and that I am never so well as when I take a great deal of rowing exercise.

"W. H. LOWE."

CAMBRIDGE, *May*, 1871.

"I may state, to begin with, that I rowed No. 5 in the Cambridge Boat of 1868, and that I am perfectly certain I sustained no permanent or even temporary injury from so doing. During my College life I rowed almost every day, and I am certain I gained health and strength by it, except in the May terms; every May term for three years I rowed in our first Boat, and was

made more or less ill * * * by the absurd system of training insisted on by the captains of small Colleges. * * * The training for the University Race was as good and sensible as the College was bad and ridiculous. Our food was constantly changed; on Sundays, for instance, we had fish and hare and were only allowed a very light meal before going to bed. * * * I mention all this to shew that I firmly believe that, be the distance one mile or four, everything depends upon the training beforehand, whether injury will result or no. * * * My opinion, founded on personal experience, is, that a healthy man will sustain no injury, permanent or temporary, from the training for or rowing in the Inter-University Boat-Race. I may add that I know many men who have rowed against Oxford, and not one has ever complained of injury.

“H. TRAFFORD NADIN.”

DERBY, *June*, 1869.

“I did not go up to the University till I was twenty, which is rather later than most men, and I knew nothing of rowing till I went up. For the five years immediately preceding I had been in continual bad health, suffering greatly from head-ache, tooth-ache, &c.; I believe these were chiefly caused by want of exercise. On going to College I took steadily to rowing, and have found the most beneficial results arising from it. * * * I have found myself in every way stronger and healthier. * * * The work you are undertaking will, I am convinced, prove that rowing is one of the most, if not the most, healthy of exercises.

“W. F. MACMICHAEL.”

COLCHESTER, *August*, 1869.

"I rowed in the Oxford and Cambridge Race in 1868, and a good deal besides in College Races, so I am very glad to tell you my own experience as to the effect of training and rowing on the constitution. I may mention, first, that it is a common mistake among people who know little or nothing about rowing, to think that the Inter-University Race is a much greater trial and tax upon the constitution than Races for head of the river or at Henley, &c. * * * I had rowed short Races often before I was called on to practise at Putney, and found I could always last to the end in them, but felt very anxious as to how I should hold out over the four and a half miles; but I found that I soon became accustomed to the greater length of the course, and did not find it more trying on the whole than the shorter ones. * * * As regards myself, I may say that I consider Boat-Racing to have done me *unmitigated good*. Before I took to rowing much I was far from strong, and never thought that I should have been able to have raced, but I got stronger as I went on, and always felt better when in training than at any other time. I used to be subject to frequent attacks of asthma, which I imagined would have entirely prevented my taking part in any important Race, but I soon found that when in training I could throw off the attacks with such ease, that only once was I inconvenienced by them, and on that occasion I was not prevented from rowing the Race. * * * As regards the University Race in which I took part, I can safely say that I never remember to have felt so well and strong as I did during the fortnight of our stay at Putney preceding the Race, and that so far from feeling any ill effects from it afterwards, I was the better for it. * * *

"Among those of my friends who have rowed in the Race I do not know any who are in any way injured by it.

"W. J. PINCKNEY."

LUDLOW, *July*, 1869.

TWENTY-SIXTH UNIVERSITY RACE, 1869.

The last Race which I have to record, namely, that of the 17th of March, 1869, was also the swiftest upon record, being rowed in the short space of 20 minutes 5 seconds. It must, however, be remembered that the wind and tide were highly favourable, and the waters calm.

The Cambridge men rowed with great pluck, but fortune once more smiled upon the Dark Blue; and Oxford, winning the Race by three clear lengths, was enabled to add a sixteenth victory to her already long list of aquatic achievements.

It is satisfactory to be able to state that Cambridge has again succeeded in holding her own against her sister University, and that her victories of 1870, 1871, and 1872 have raised her score to 13, as against the 16 of Oxford.

The names of the Crews were as follows :

OXFORD.

S. H. Woodhouse, Univ.

R. Tahourdin, St John's.

Thomas Southey Baker, Queen's.

F. Willan¹, Exeter.

¹ Rowed also in 1866, 1867, and 1868.

James C. Tinné¹, Univ.
 Alf. C. Yarborough², Lincoln.
 W. D. Benson², Balliol.
 S. D. Darbishire², Balliol.
 Coxswain, D. A. Neilson, St John's.

CAMBRIDGE.

J. Arthur Rushton, Emm.
 J. H. Ridley, Jesus.
 J. W. Dale, St John's.
 F. J. Young, Christ's.
 W. F. MacMichael², Downing.
 W. H. Anderson¹, 1st Trin.
 John Still³, Caius.
 John H. D. Goldie, St John's.
 Coxswain, H. E. Gordon, 1st Trin.

Effects of Training and Rowing upon the Crews.

Benefited.

13

Uninjured.

3

Extracts from the letters of the Oxford Crew.

"I have rowed for the last three years in the University Match, the last two being the most severe races I have ever rowed. I have never felt any ill effects either from the rowing or training, though I have done a good deal in the last few years; for instance, in 1868 and 1869, I commenced operations with the College Fours in November, followed by the trial Eights. After Christmas I rowed in the University Race, followed by the

¹ Rowed also in 1867 and 1868.² Rowed also in 1868.³ Rowed also in 1866, 1867, and 1868.

College Eights and Henley Regatta, where I rowed in three distinct Crews. After this I had six weeks training with the Oxford Four for the Harvard Race, though I did not actually take part in the Race. All these Races, as you know, involve a considerable amount of training and practice. * * * I have never known men injured by rowing. * * * I consider I owe a good deal of the health and strength I enjoy to the rowing which I began at Eton eight years ago.

“S. H. WOODHOUSE.”

OXFORD, *May*, 1871.

“I am delighted to have an opportunity of testifying my gratitude to my Putney rowing; it has been of immeasurable benefit to me, and I have never felt the least suspicion of harm in any quarter from it.

“R. TAHOURDIN.”

HEYTESBURY, *May*, 1871.

“In my case I feel that rowing has done me immense good.

“THOMAS SOUTHEY BAKER.”

HURST GREEN, *July*, 1869.

Extracts from the letters of the Cambridge Crew.

“As to the effects of rowing on my own health, I can so far say that I have experienced no evil results from the exertion, to my knowledge; indeed, I quite think that to the regular exercise taken on the river I owe the good health I had while in Cambridge. My constitution is, I believe, naturally a strong one, and I

was careful of myself as much as possible, both in and out of training, and perhaps specially *in going out of training*.

“J. ARTHUR RUSHTON.”

YORK, *May*, 1871.

“I certainly think that the training for the ‘Varsity Race’ could not possibly damage a man unless he was in a weak state of health to begin with, and such a man is not likely to be chosen. As for myself, I felt more ‘fit’ and well each day as we got on in training; in fact, I never was better in my life.

“J. H. RIDLEY.”

ISLAND OF ISLAY, *June*, 1869.

“You ask if the severe exercise I have taken has ever injured my health or constitution, I can say—certainly not.

“I have played at cricket I may say all my life, but did not take up rowing until I entered at the University. * * * I rowed in my College second Boat in the Lent Term 1866, in my College first Boat the next Term, after which I devoted the rest of my summer to cricket. The following Term I rowed in the University Four-Oar Races, and also in the Trial Eights at Ely. In the May Term, 1868, I refused to row, and took hard to cricket, and played in the University Match at Lord’s, and in the following Term rowed again in the Four, and Trial Eights at Ely; then, in the Lent Term I rowed in the University Boat. The following May Term I had harder work to do than in any previous one, for I played in the different Matches for the University during the day, and rowed in our College first Boat in the evening, and so on to the end of the Races; this I found to be

rather too hard work. Again, in the following October Term (1869) I rowed in the University Fours, and again in the Lent Term (1870) in the University Crew. The next May Term (1870) I did not row in the Race, but contented myself by playing again in the University match at Lord's. That is the amount of exercise I took while up at the University, and certainly feel the stronger for it. I was examined by a doctor before I rowed in the 'University Boat,' in fact, I think everyone ought to be. * * * The man who takes this kind of exercise is ten times stronger and more healthy than the man who does nothing but smoke and frequent billiard-rooms, never taking exercise at all.

LONDON, *April*, 1872.

"J. W. DALE."

"As far as my observation goes (and I happen to know a great number of past and present 'Varsity Oars') my opinion undoubtedly is, that to a man of sound constitution the training for the Race can do no harm, provided always that he uses great care. As for the statement about such men dying young, you have only to run over the list of names of 'Varsity Crews' for the 40 years since the Race was first rowed (as given in the *Rowing Almanac*) to see the falseness of that.

CHELTENHAM, *August*, 1869.

"F. J. YOUNG."

"My experience is as yet limited to one Boat-Race. All I can say is, that I have never experienced any ill effects from the training, &c., for that Race, and I have never heard of any one else who has rowed in a University Race suffering from the exertion.

CAMBRIDGE, *July*, 1869.

"JOHN H. D. GOLDIE."

*Subjects of special interest connected with Boat-Racing
are discussed in the following letters.*

*From the Right Reverend CHARLES WORDSWORTH,
D.C.L., Lord Bishop of St Andrews.*

Oxford University Eight, Number 4, 1829.

“The subject upon which you have written to me is one in which I naturally take a more than common interest. Not only was I one of the Oxford Crew in the first Inter-University Boat-Race in 1829, but the Race was entirely *got up by me*, owing to the fact that though I was myself at Christ Church, Oxford, my home was at Cambridge (my father being Master of Trinity), and I had a large acquaintance *there*, and sometimes (especially in Easter vacations) was invited to pull in one of their boats, e.g. that of St John's, in which were the now Bishops, Selwyn and Tyrrell, and Charles Merivale the historian, all now vigorous and flourishing. I may also mention, as bearing upon your enquiry, that as soon as my father heard that I had been chosen one of the Oxford Eight, and was practising for the Race, he wrote me an earnest letter, in which he desired me not to row any more, simply from anxiety lest my health should suffer. Though I was always much given to athletic exercises, even before I went to Harrow (where I was one of the Eleven in the first Matches against Eton, for four years, 1822—1825), my constitution was in some respects rather a delicate one.

When I received his letter I went at once to my physician, told him the difficulty in which I was placed, begged him to examine my state of health, and got his authority to assure my father that so far as he could judge, rowing had not done me any harm. By this my father was satisfied, and I was allowed to go on. The Race itself, which was at Henley (two miles up stream), certainly did me no harm, though at the time I was incommoded by the change to an unusual diet,—underdone beefsteaks, porter, dry bread, no butter, no tea, no vegetables. After the Race, which was on Wednesday or Tuesday (I think), I was able to play cricket, as one of the Eleven also, against Cambridge on the following Friday. The match was at Oxford. We were victorious on both occasions.

“For myself, I am now in my 63rd year, yet my constitution is not seriously impaired, as you may conclude when I mention that I still am able to skate, to play at cricket occasionally with my sons, and that last year I rowed with them upon the Tay, a distance of eight miles, as stroke of a Four-oar? Nor when I think of others whom I knew as a young man at both Universities, can I remember *any instance* of injury being done to the health which could fairly be set down to the exercise of rowing as then practised. It is true we used to be told, even in those days, that no man in a Racing-Boat could expect to live to the age of thirty. * * * But in giving this testimony, I am no less anxious to state my strong conviction that *there is a* limit beyond which the practice of rowing, especially in races, cannot be carried without injury, more or less serious both to body and mind, and I sadly fear that this limit may have been exceeded at the present day. If you can do anything to check not the use but the abuse by sober,

sensible arguments, founded upon well ascertained facts, the public in general, especially parents and others interested in our country's welfare, will have reason, I am sure, to be deeply thankful to you. I write as one who now, in the decline of life, looks back and finds himself responsible in some degree as a promoter, if not a first father of the practice, and I would gladly assist in bringing the rising generation to a sounder mind in regard to the 'mania' as it has been called (not without reasons) for this and other 'gymnastics' which now prevails. I think that far too much consideration and encouragement is given by educational authorities themselves (and here I speak as one who was once a tutor and a schoolmaster) to pursuits and distinctions of this kind in comparison with the more important objects and successes of education.

An athlete, as I myself have been, I must confess that I sympathize if not with the sterner denunciations of Mr Grant Duff, and, if I remember right, of Mr Froude, yet at least with Sir John Coleridge, when he writes in his memoir of Keble, that 'insane and excessive passion for athletics, indulged in our great schools as well as at Oxford, damps industry, and diverts from that severe mental labour which is among the guards to preserve the mind from yielding to sophistry.' We seem to have reached a point at which *παιδία* (bodily sports) have taken the place of *παιδεία* (mental culture), and the *πάρεργα* of our fathers have become the *ἔργα* of our children, and vice versa."

PERTH, *May*, 1869.

*From the Right Reverend G. A. SELWYN, D.D.,
Lord Bishop of Lichfield.*

Cambridge University Eight, Number 7, 1829.

I was in the Race of 1829, when Bishop Wordsworth rowed in the winning Oxford Boat, and I in the losing. The Crew at Cambridge to which I belonged was the Lady Margaret of St John's College, which for a long time was at the head of the Cambridge river. Among the Crew of our College Boat were the present Dean of Ely, Bishop Tyrrell of Newcastle, the Rev. S. Banks of Cottenham, the Rev. W. Hoare, and many others now alive, not one of whom (so far as I know) has ever experienced any bad effects from rowing. One great benefit of our rowing was that we were by rule, if not by inclination, habitually temperate, and I suppose all medical men will agree that little danger can arise from strong exercise in youth, if the body is always kept in a fit state. Many of us were great pedestrians. Bishop Tyrrell and I walked from Cambridge to London in 13 hours without stopping. Many were also psychrolutes, bathing in winter in all states of the river. All these processes, combined with strict diet and regular habits, had, I think, a most beneficial effect upon the constitution, and certainly enabled Bishop Tyrrell and myself, on horseback and on foot, in Australia and New Zealand, to make very long journeys without inconvenience. My advice to all young men is in two sentences: be temperate in all things, and 'incumbite remis.' "

LICHFIELD, *June*, 1872.

*From A. F. BAYFORD, LL.D., Chancellor of the Diocese
of Manchester, Senior in Civil Law.*

Cambridge University Eight, Number 2, 1829.

“You are quite right in supposing that I am an old University Oarsman. At the same time, though I rowed in the first Race between the two Universities, we rowed on the Henley course, which is not much longer than on the Cam; so that I can hardly help you in respect to University Races for a long distance. I was, however, in the habit of rowing long Races in London, from Westminster bridge to Putney (six miles), with London men, both with a pair of oars and in Four-oared and Six-oared Boats. I also rowed constantly in the short Races at Cambridge. My brother perhaps rowed the largest number of Races (all from four to six miles) on the Thames of any man of his day. I am personally unable to mention a single man, either on the Thames or at Cambridge, whose health suffered in after life from rowing. I have heard of such, but I knew no one myself. My own health is, thank God, as strong as any man’s of my age. My brother has attained the age of 64, and has enjoyed capital health, except from causes which have had nothing to do with rowing. With regard to long and short Races, I have found in my own experience that the long ones are the least trying, they do not of course occur so frequently, and if rowed properly there is less exertion at the utmost stretch of the strength. I have been far more beaten by a short Race at Cambridge than ever I was by a long one upon the Thames; though the actual fatigue went off of course sooner. The only time I ever saw my brother really knocked up by a Race was when he rowed in an Eight-oared Boat, manned by London men at Henley, against

eight Oxford men. The Londoners won: but it was a hard Race. I acted as umpire on the London side. In the days when my brother and I rowed there was no such thing as regular training. We used to practise together, and generally abstained from things unfavourable to wind for a few days, but that was all; and as we all did the same and were always on the water, nothing further was needed.

“The men who rowed were much more constantly engaged in rowing than they are now. Speaking of the Thames, most of those who rowed then did nothing else from about May (often earlier) till September (often later). They were always rowing, and the exertion was far less to them than it is now to most men who row. With regard to the modern University rowing, I have seen as fine rowing on the Cambridge side in the days when they used to win as ever I have seen in an Eight-oar, and since Oxford has so decidedly taken the lead, I have seen equally fine rowing on their side. The present Cambridge system is, however, the very worst for a long Race, and frequently loses them Races they ought to win. They go upon the idea that the quicker the stroke the faster the pace. That is so at a start; and from the short distances between the Boats when starting at Cambridge, the nature of the bumping Race and the shortness of the course, it answers there. In a long Race, however, after the start it is suicidal. It beats the men, and then in order to keep time their exertion weakens.

“The distress to a large powerful man, upon whose strength the success depends, is greater than upon a smaller man, and he gets, if not beaten, to be weaker; when in this state, and excited, I can easily imagine him straining himself: but this applies to a short Race

as well as to a long one. We also in London, and in the Universities in London, and in days past, had heavier boats, and sat higher, and could thus alter our position by moving our feet, looking ahead. All this is denied to the present rower."

LONDON, *May*, 1869.

From the Rev. CHARLES WARREN, M.A., Editor of Synodalia.

Cambridge University Eight, Number 3, 1829.

"The effects of the present system of Boat-Racing on the health of the rowers ought most certainly to be ascertained. You will do a good work if your enquiries enable you to furnish an answer to the question.

"I rowed in the first Oxford and Cambridge Race, and for two years in the Cambridge Races. The Henley course was not, I think, above half the length of the present London course; the Cambridge course was not so long as the present course. In neither case was there anything like the present interest or excitement. The boats too were the old and lower boats. At Cambridge there were sometimes severe Races; but rowing twice a week, as we did through the whole term, and in two terms (if my memory does not fail me), the Races in general were not so sharp as at present: whatever evil attended the old system must be much increased now.

"I am inclined to think that in not a few cases permanent disease and shortening of life has ensued. I have myself escaped with little harm; I attribute to Boat-Racing something of a tendency to palpitation of the heart, which is sufficient to shew one harm that may be done. We want full statistics, that is, a list of all

rowing men, not confining the list to the Oxford and Cambridge Crews, but extending it to all the racing Crews, and returns of disease and deaths. I fear that these returns would be above the average. It is very clear to my mind that no man ought to row in the Oxford and Cambridge Race unless he has been warranted sound in wind and limb, by a surgeon who has known him long and tried him thoroughly, and unless he has been *sufficiently* trained by a *professional* trainer. The present attempts to train are absurdly insufficient; you cannot bring a man into a fit state for a four-and-a-half mile Race, with everything to stimulate him to exertion, in a few weeks. And the captains who pretend to train their Crews know little of training, and have not power enough over their men. For such a Race a man ought to be trained as a Newmarket horse, or a Greek athlete; that is, he *must* sacrifice his mind to his body. It is not the training that injures the health, but the want of training—the sudden and extremely violent exertion when the body is not prepared for it.

“There are two things to be abhorred in the present day: Athletics and Æsthetics, both of them are unduly exalted.”

ST IVES, *June*, 1869.

From Mr E. S. STANLEY.

*Cambridge University Eight, Number 3, 1836,
and Stroke 1839.*

“Provided a young man or boy has no tendency to disease of the heart, and is what is termed ‘sound,’ I believe that rowing for these Matches does no harm. I began myself as a young boy of 13 at Eton; took a

great liking to rowing—wishing to distinguish myself—and worked very hard at it. I was not a strong boy at that age, but the care I took of myself, and the violent exercise, certainly improved my health and caused me to grow up a strong enduring young man; but I suppose all the internal organs were perfectly sound.

* * * * *

“Upon the whole, I do not consider that the rowing in the University Matches would be prejudicial to any young man in sound health. I am rather inclined to believe that at the present day they are too much given to overwork their men in training; certainly the Crews are much heavier than they used to be. But if a man of twenty does the work properly that is required of him in the Boat, he cannot have much left in him to run so many miles in addition. It is all very well for older men, whose bones are formed, but cannot do much good, I think, to growing lads. I well recollect that I could always pull harder and better on a Monday, on account of my rest on Sunday.”

JERSEY, 1869.

*From the Rev. A. K. B. GRANVILLE, M.A.
Vicar of Iffley.*

Cambridge University Eight, Stroke 1839.

“I have, like yourself, followed Boat-Racing for years with much interest, thinking very much on the subject when it has been before the public; and my conclusion is, that with proper selection no harm can come of it. The strong man, with good heart and lungs and adequate muscle, will sustain no ill effects from the

excessive exertion which racing demands. But it is sheer madness for any one of feeble frame, or defective constitution in any respect, to attempt it. No excessive exercise has ever ill affected me, simply because a beneficent Providence has endowed me with great physical powers, and in my college days I could perform various athletic feats which were not then, as now, matters of contest. But it is only the sons of Anak who should attempt these things. You would not hunt a hare with a toy terrier, or race against an 'Eclipse' with a dray-horse. In the same way a man must be qualified by nature for the peculiar exertion which is needed in feats of strength. If he is not, and undertakes them, he runs the risk—I had almost said—the certainty, of injury. In determining the point, one or two trials are enough. If a man can't stand a sharp practice, he can't stand a race; and I never felt any difficulty in making my selection where there was staple enough to select from; I had a good look at my man *as he got out of the Boat*. If a man dropped his head and held his sides, and could not speak for a minute or two, and shewed continuance of distress after the effort was over, out of the Crew went he, as certain as I had charge of it. If on arrival he could laugh and romp and jump high over a boat-hook, or square up for a right and left, he was one 'born to the giant,' the right sort, and no mistake; a man who would repay the trainer's trouble, and do a good eighth part of the work."

IFFLEY, June, 1869.

*Letter from Mr THOMAS SELBY EGAN, Coxswain of
the Cambridge University Eight, 1836 and 1839.*

“As it is not possible to get behind the scenes and become acquainted with men’s private lives, I think it quite fair to argue from cases which we do happen to know about, to others of which we must necessarily be ignorant. On looking over my log books I find that I have had to do with the training of about 14 or 15 University Crews at various intervals from 1836 to 1860 inclusive, and during most of those years I was intimately acquainted with nearly all of the Oarsmen at both Universities. Many either during that period, or since, died; and you may be sure that the death of such a man at once gave rise to the question among his friends, whether rowing had in any way hastened it. I can safely say not only that I never heard such a thing asserted, but in the majority of cases the cause of death has been well known to have had absolutely nothing to do with rowing. I think indeed this question would never have arisen if it were generally known by what easy steps and gradations a University Oarsman is fitted for the final struggle, as it is called, and how he is (or used to be) so prepared beforehand, that distress is a thing almost unknown to him. It must also be remembered that men constitutionally unfit will in all probability have been found out early in training and rejected; but take an average healthy young man, and surely, if not too often called upon, training must be of immeasurable benefit to him, bringing with it as it does habits of temperance and daily work. Of course I have known instances where men, to their own risk and that of their University, have inconsiderately neglected their

training, but they need not be mentioned because (unfortunately for our argument) they are still alive."

LONDON, *December*, 1872.

*Extract from a letter from Mr J. M. RIDLEY, late
Scholar of Jesus College, Cambridge.*

*Cambridge University Eight, Number 4, 1840 and 1841,
Stroke 1842.*

"I am of opinion that, on the whole, rowing is a most excellent 'institution' at the University. It necessitates a regular and steady life. It teaches habits of self-denial and obedience to orders, and if there are evils attending it, they are on the whole less than would probably occur to the same number of men engaged *energetically*, as youth will, in anything they take in hand. No man with delicate lungs should undertake it any more than mountain climbing, or any severe exertion. The great secret to avoid evil is, not to undergo severe exertion without proper preparation. By observing this I never had a man of my College Crew laid up, and by that means in a great measure succeeded in getting my College Boat (Jesus) Head of the River, while other Crews were being broken up by disabled men, who were unable to undergo hard work immediately after coming up after the vacations."

WALWICK HALL, *May*, 1869.

*From the HON. GEORGE DENMAN, M.P., Q.C., now
MR JUSTICE DENMAN.*

Cambridge University Eight, Number 7, 1841 and 1842.

"My experience about rowing is, that though I have *heard* of some few cases in which men are said to have

injured themselves seriously by rowing, I cannot myself speak from actual knowledge of any such case.

"I think I could quote 20 cases of weak lads who have turned out strong men, for one case of a strong man who has had any appearance of breaking down, during a boating career at either of the Universities; and in the few cases in which men have been *said* to have died, or failed in health, there has generally been some ridiculous excess to account for it.

"I have tested many of the most current anecdotes of men and Crews ruined in health by rowing. The Guards' Six-Oar, which rowed from Oxford to London in one day, some forty-five years ago, was currently rumoured to have died to a man within a very short time. But about 40 years after the event, the present Lord Penrhyn, who was one of the Crew, told me, that of the six, four were still alive, and the other two had been killed in battle. I was myself told, about six years ago, that I was the only survivor of *my own* Crew, which was Head of the River at Cambridge in 1842. The fact is, that they were then, and, as far as I know, still are all alive.

* * * * *

"The present Lord Justice Selwyn about the same time (six years ago) told me that he had heard the same thing about his own Crew, which was Head of the River at Cambridge in 1835, and that they also were then alive to a man.

"Of the first Crew in which I rowed in 1841, all but one are still alive. * * * My experience is that of all the Boat-Races a young and tolerably strong University man rows, the one *least* likely to be injurious is the University Race. First, because he is generally a picked man for health and strength. Secondly, because his

training is most carefully attended to. Thirdly, because from the length of the Race it is a steadier, less convulsive, less spurting affair, in which it becomes more or less of a duty for a man to husband his strength, a thing he never thinks of over a short course. One other fact. There had been 31 winners of the Colquhoun Sculls at Cambridge down to October, 1867. A nephew of mine having then won them (Mr Denman himself won them in 1842, *Ed.*), I got up a dinner for him, and mustered as many old winners as I could gather together. I found that of the 31 winners 6 were dead—one of scarlet fever, one drowned in New Zealand, one murdered by poachers, one fell down the Matterhorn, one died of decline (he was one of a family *all* of whom died in the same way at younger ages than his own), and one of fever caught in the practice of his profession. This left 25, of whom 18 appeared (the rest being otherwise engaged). These 18, including the *first* and the *last*, ate a very hearty dinner, and looked none the worse for their aquatic trials. I asked those of them who had rowed in University Races to hold up their hands, and 12, including myself, responded. On the whole I think it all depends upon the man; but take the average young Englishmen at Public Schools, I believe that far more of them are improved in health than damaged, by taking to the water; and that those who have derived the most benefit from it have been those who have rowed in University Crews."

LONDON, *June*, 1869.

*From the Rev. HENRY WILLIAM HODGSON,
Rector of Ashwell.*

Oxford University Eight, Number 5, 1841.

"I cannot say that my own experience of the training and exertion demanded of men who engage in the University Race has led me to coincide in the opinion that it is of so trying a character as to impair the constitution either temporarily or permanently; on the contrary, I believe that in most cases it is attended with beneficial results. Rowing men 'keep under their bodies and bring them into subjection,' while many others who have no motive for doing so, suffer from excesses from which I think we 'galley-slaves' were saved by the very necessity which the hope of victory laid upon us of temperate habits. Rules for training are rules of health; and though I now enjoy excellent health and strength, yet I should like to feel again that elasticity of body and of spirit which I remember to have experienced when in good condition. Those I fancy who row in Races without training, and who try to combine two things which are incompatible, namely dissipated habits with hard aquatic exercise, are the men who really suffer. I have known many instances of good men, who from over training have become what we used to call *screwed*; men who failed in power, and who shewed by a sort of careworn expression of countenance that they were not the men that they once were. Such men we should reject when choosing a Crew; not that we should consider that their health was permanently injured, but that for the present time the steam had been taken out of them."

ASHWELL, *May*, 1869.

From the Right Rev. F. T. McDOUGALL, late Lord Bishop of Labuan, Fellow of the Royal College of Physicians, Edinburgh.

Oxford University Eight, Number 1, 1842.

"I may add that as a medical man I made it a point to choose men who seemed fitted for the work, and could stand the strain on muscles, heart and lungs, and I believe rowing did us all good; but we did not overtrain, as I fancy is now often done, to the prejudice of the man. I encouraged running and other exercise at the same time. If men have not a sound chest and good digestion they will not stand the work of a rowing Crew, and should not attempt it, but confine themselves to mild four oars and skiffing. Everything of course may be carried to excess, and even sound men injured by rowing in that case; but my experience is that rowing in a racing boat with proper training and fitting men does good physically and morally, and men are likely to live the longer for it. I believe that in my own case it has strengthened me to go through hard and trying work on the equator for twenty years, and to be, as I am, the only survivor of all my contemporaries in it, but none of them were rowing men."

HUNTINGDON, May, 1869.

From the Rev. ARTHUR SHADWELL, M. A., Rector of Langton, Coxswain of the Oxford University Eight, 1842.

"I willingly add my contribution to the work which you have in hand, and am prepared to state the impressions left on my mind by a long and varied experience of University Match-rowing. During seventeen years

I trained Oxford Crews at intervals ; and for many more years, amounting all together to 34, I have been acquainted with the results of men's rowing careers. The conclusion arrived at has never varied with me, and it is this : that University Oarsmen do not suffer from the after effects of their work. Indeed, taking the instances of those men who continued to train and row in public Races long after they had graduated and joined the London University Rooms' Clubs, it is still more apparent that the practice in noways affected their health, except beneficially. Some men rowed continuously from 1836 to 1845 in Match Crews, and are now most eminent in their professions. I remember certain instances in which rowing left its harmful mark, and where early consumption shewed itself, but those were cases where intense love of the craft outbore all prudence and forbad a timely retirement from the overstraining exercise, when delicacy of lungs was easily apparent. One case I remember of a very illustrious Oarsman whose heart became affected after a long University career ; he ceased rowing, and lived till the present year, 28 years after his retirement.

“ It should be remembered that I am purposely going back to the early days of rowing for my instances ; to the times when the boats used in matches were large, solid-sided cutters, immensely heavy by comparison with the outrigger ; when Henley course occupied from one minute to one minute and a half longer than at present ; when the match course from Westminster to Putney usually occupied thirty minutes, never under twenty-eight. With the outrigger came in a very sensible alleviation of dead weight to be pulled along, and at the same time the lengthening of the oar-leverage made an important diminution in the number of strokes

taken per minute. In the last Race rowed by victorious Oxford at Putney in a four-oared gig-craft, 44 to 45 strokes were taken: now, as is well known, they would seldom reach 40. The demand upon the lungs, therefore, as the weight on the arms, is materially lessened. The adversaries of Match-rowing base their objections on the supposed severity of exertion undergone: now in all my experience I never knew trained men distressed at the end of a racing practice; and the more perfect the uniformity of the rowing arrived at, the less proportionably is the fatigue. I made it a standard of a perfect Crew, that they should row their fourth mile better and faster than the first. In a word, there is no distress to a trained man, nothing that sickens or turns him faint in a four-mile course. The boat is so light that it flies away at the first application of the blade at right angles to the water, and the difficulty is not in overcoming the weight to be moved, but in detaining the blade long enough in the water to secure a dwelling stroke. If you watch an University Eight, you will observe how extremely measured and balanced, even one might say prolonged, are the component motions. The men are aware that the Boat will run away at the moment the fresh power of the stroke is felt, and therefore they pull as deliberately as possible. The Crew which is ill-trained, either out of condition, or not perfectly ground together, will undoubtedly suffer, and severely, but deservedly, on the match-day. Such a shipwrecked state is not predicated of our University Crews: indeed, they of all men suffer least from continuous rowing, and are most prepared for the struggle on the day of decision. The American Crew of 1869 were half dead at the winning post; they were unformed when they started; our boys, though rowing a 'stern wager,' were

quite fresh because perfect in uniformity, and never falling to pieces.

"I will only add that training itself is an unmitigated good to most men, for most men need to learn moderation in all their habits, as well as to accustom themselves to regular daily exertion.

"Your true athlete is he who always keeps himself up to the mark of development by wise attention to rules and the sweat of his brow. To such an one the training makes but little difference, and rowing a match is a trifle. I hope your investigations, undertaken with so much zeal for the truth, will triumphantly bear out the trainer's experience, that in the very vast majority of Oarsmen their matches have left no evil consequences behind them."

LANGTON, MALTON, *December, 1872.*

*Letter from Mr EDWARD P. WOLSTENHOLME,
Barrister-at-Law, Lincoln's Inn.*

Cambridge University Eight, Number 7, 1846.

"I am quite satisfied that rowing is a benefit to any young man of 18 years or upwards, who has no fault in his constitution (i. e. if heart, lungs, etc. are sound). If he is merely muscularly weak he will, I am sure, benefit. Rowing is different from other exercises (such as athletics) in this, that it is difficult for a man to over exert himself. When he begins learning he is clumsy, thereupon he *cannot* work hard. As he goes on, he has learnt to put out his strength, his strength has increased accordingly; I assume, of course, that he never rows a Race without being trained. To do as was done by one of the Cambridge Crew in the last University Race,

to supply the place of a man taken ill, and row at three days' notice, never having touched an oar for a year, I consider most dangerous. These are the tricks that have caused rowing to be considered dangerous to health.

"The effect of training I have found to be to reduce the strength for a given effort, and make it last out a longer time, besides, of course, increasing the total power (?) of work. Thus, I think it is admitted that a crew who had not trained (i.e. I mean trained as regards diet and hard work, and other things distinct from the mere *art* of rowing) would for half a mile beat the same Crew trained; but after the half mile the trained Crew would have it all their own way.

"As to statistics of life, I have made out this: during the years 1845-6-7, I was rowing in the head Boat of the Cambridge river with 20 different men, making with myself 21; out of those, 18 are now living and in health; of the three who died, one died about eight years after of an aneurism; one died of consumption, his family being consumptive, and he, not taking care of himself, I have no doubt, met with his death by rowing; of the cause of the death of the third I do not know.

"To answer your questions more specifically, I am decidedly of opinion that when a man is sound in constitution, and rows properly, and with ordinary care and training, he will not injure his constitution, he will improve it; that has happened with myself.

"Except the consumptive case above alluded to I cannot say I have ever known a man constitutionally injured by rowing. If not of good constitution they give it up after a few trials. Of from 27 to 34 men who joined our Club yearly, when first coming to the University, more than half gave it up within six months, and

at the end of three years not more than seven to ten remained at it.

"I ought to add that I don't think *racing* good for boys, say under 18, when the bones cannot have got hardened, but this is only an idea of mine."

LINCOLN'S INN, *June*, 1869.

Letter from the Rev. J. WILLIAM CONANT.

Oxford University Eight, Number 5, 1846.

"In regard to the question which you ask me, I would desire to make some distinction between the old-fashioned style of rowing and that of the modern school.

"Formerly, as boys, we were taught to develope the muscles of our arms and legs, by serving an apprenticeship in heavy boats, and, when in after years, we stepped into our racing outriggers (which would be condemned as too heavy even for 'scratch crews' in the present day), the perfection of rowing consisted in a long steady stroke, rowed out *evenly* and *smoothly* from beginning to end: thus the strain was almost entirely on (what I may call) the non-vital organs of the body, viz. the arms and legs, which had been previously accustomed to hard work. The present system is to build a boat so narrow that it can scarcely ever be rowed *steadily*, and thus an undue and uneven strain is constantly thrown upon *portions* of the body—with outriggers extended so far from the sides of the boat (for the sake of increased 'leverage'), that the labour is taken away from the arms and legs, and is thrown, by a greater *rapidity of stroke*, upon the vital organs of the body.

"'Young England' steps at once into such a boat, unaccustomed to really hard work; and he is called upon to commence each stroke with a slight pause and

a jerk (technically called 'the catch'), and throwing all his energy into this catch, the more vital organs of the body receive a sudden shock some forty times, or more, in every minute, such as I believe no machinery could long sustain without injury.

"I think also that the training (out of the boat) is now carried to an undue extent, not calculated to produce health.

"No doubt some of the champions of the modern school would deride my notions as being altogether obsolete; but I would simply refer them to the published records that the University course between Mortlake and Putney was rowed quite as fast formerly as now, and particularly the Race of 1846, to which you refer, and in which I had the pleasure of rowing, was, I believe, faster than any subsequent Race over the same course¹. I think also that the Henley Race in 1848, when Burton, of Ch. Ch., was stroke of the Oxford Crew, was rowed more quickly than in any subsequent year.

"Thus, in forming an opinion that the Race-rowing of former days was decidedly *not* injurious to the after health of those who engaged in it, and that the modern style is calculated to be so, I am far from saying that I would wish to deter any young man from engaging in it even in the present day.

"I think that a man who is constantly engaged in Races must necessarily abstain from many a vicious and unhealthy habit, in which, as an idle man, he would be tempted to participate; and even admitting that the present school of rowing carries with it some degree of danger, I think it is the smaller evil of the two, and thus preferable."

SURBITON, *April*, 1871.

¹ The Race in 1868 was rowed in 5 seconds less (Ed.).

*Letter from Mr PHILIP HENRY NIND.**Oxford University Eight, Number 3, 1852, Number 6, 1854.*

“The subject you refer to, viz. rowing and training, has always interested me greatly, and I think that as it is much before the English public just now, it should be treated fairly, and from a broad point of view. * * * From the time I was fifteen till I was past three-and-twenty I never ceased rowing and training. At present my health could not be better. * * * The wretched effeminacy of many young Englishmen who come to new countries to seek a livelihood, their want of self-regard, their hanging about towns without strength of mind to tear themselves away from a soft and luxurious life, their continual ruin by strong drink, may, I think, to a great extent be attributed to the false ideas which it is some people’s interest to promulgate, against those sports which are a test of manly vigour. I do not think that training and Match-rowing will hurt a strong thoroughly healthy man, but if there be any weak point in the constitution it may be made worse by hard rowing. Again, I think a man should not be less than 19 who rows in a University Crew. In 1852 I was under this age, and felt the strain, but in 1854 the work seemed light to me.

“I am not aware whether any modification has taken place in the system of training, but in my time I think it was too uniform—too much beef, mutton, bread and gruel, and too little variety of food. It is indispensable that certain broad principles should be adhered to, but within due limits the previous mode of life should be taken into consideration, and tastes and temperaments

be reasonably humoured. No eight men have precisely similar organization, and consequently cannot be brought to individual perfection of health and endurance by an inflexible and Procrustean system of training. At a Race it is very rare to find every man at his best; symptoms of languor and falling off are by no means uncommon, and so the full power of the whole Crew is not exhibited. By a strict attention to each man's peculiarities, I am convinced that this may be in a great measure guarded against and better results obtained.

"Having lived out of England for the last thirteen years I can give you no information respecting contemporary Oarsmen of my own standing."

QUEENSLAND, *June*, 1871.

*Letter from the Rev. JOHN ARKELL, Rector of
Portishead.*

*Oxford University Eight, Number 3, 1857, Number 2,
1858, Stroke 1859.*

"I am very glad of the opportunity you have afforded me of protesting against the prejudice that has been created in many minds against rowing by the unfounded assertions of those who have never had the means of testing the truth of what they affirm. Were there not now too many living contradictions to these words in all parts of the kingdom, I should fear lest a great injury would be done to one of the most manly and healthful recreations. I shall be glad therefore if you are able to carry out your idea, for I feel confident the matter has only to be fairly and truly sifted, and there will scarcely be found to be any truth in the exaggerated, if not wholly unfounded assertions, that

have been raised from time to time of the injurious effects of rowing. * * * Wherever there is a good constitution and a fair amount of bodily strength, I do not believe that rowing ever leaves any injurious effects behind, except such as may be traced to some accidental cause. And training of course, if reasonable, is not only absolutely necessary, but beneficial. It is not the training or the rowing that injure men, but the *going out of training*, as men sometimes do, with a rush into all kinds of excesses. Soon after settling down to my first training, and at a time when racing was accused of all sorts of crimes, for the satisfaction of my friends as well as my own, I called on Dr —— and asked him to examine me thoroughly, to see if he could detect any signs of injury received, and the result was that he pronounced me perfectly sound."

PORTISHEAD, *June*, 1869.

From the Rev. EDMOND WARRE, Assistant Master at Eton.

Oxford University Eight, Number 6, 1857, Number 7, 1858.

"I am afraid that I can only write a few lines off-hand upon the subject of rowing to you, as I am very full of work. As I understand, your work is mainly upon the Hygiène (to use a French term) of rowing. The late Mr Skey, no mean authority, was set against rowing, and I suppose equally against 1st Class Athletics of every kind, by some cases which led him to consider the damage therein evident to be entirely owing to the severe competitive examination of the physical powers which such sports entail upon those who wish to come

to the front. That it is possible, nay probable, that in some cases where there was constitutional weakness, harm may have been done, owing to the imprudence of the subject in doing that for which he was not fit, I suppose no one will deny ; but these cases are not to be taken as *instantiæ prærogativæ* of the whole class, and the main question is whether Mr Skey's induction was based upon sufficient grounds. In my experience I have come across many men and boys who were not fit to row, and have always, where it was in my power, discouraged and even vetoed further attempts on their part. Still a case of the kind does occasionally slip by. Of sound persons, those who have broken down within my knowledge owe their failure to causes under their own control. They have misused their powers and are punished accordingly.

“One other point I should like to notice, and that is the formation of the habit of rowing. A man or boy gets rowing lungs, rowing stomach, rowing muscles by rowing, and the rapid motion forward and back in a fast stroke, which would be impossible for one unpractised to sustain, is sustained, and without injury, by one whose bodily powers, whose vessels have been by long practice habituated to the exertion. Persons who have created this habit of body can go through the necessary exertion of a Race with comparatively little wear and tear. I think much is to be done in the matter of diet, and regulating the amount of exercise in training ; I do not think these points are yet well understood. * * *

As a fact, but few men are injured by rowing and the training it involves, except those who, from weakness of heart or lungs, ought never to have engaged in it, and those who having strong animal propensities, reward their abstinence in training by a course of fast, or, I

might rather say, loose, living afterwards. The former class ought to be stopped from rowing by medical opinion as to their fitness, which is insisted upon, I am happy to say, much more frequently now than it used to be. The second class I fear cannot be dealt with, except incidentally. They are on the same footing as others whose sins find them out.

“I can refer you to a valuable piece of statistics. When Mr Burton and myself presented a memorial from the old Oarsmen of Oxford to the Committee, in 1867, begging them not to change their rule as to the qualification of men to row in the University Match, we presented the names I think of 58 out of all the men who had rowed since 1829. There were in all, I think, 93 or 94, including those men who had rowed twice. The list was only made out to 1864. We could only ascertain the names of 8 men as dead, out of the whole number in the course of 35 years. I believe you will find these statements correct, though I am writing from memory, as the facts struck me very much at the time.”

ETON, 1869 and 1872.

*From Mr R. F. CLARKE, Fellow of St John's
College, Oxford.*

Oxford University Eight, Number 2, 1859.

“My general opinion is this, that rowing is a real benefit to any man whose constitution is sound; but if heart or lungs are at all touched, then it is a great risk.

“But there are some men apparently sound whom experience has taught me ought not to row, viz. men of a rather livid complexion, thin about the cheeks. I

cannot tell the reason, I simply have watched results for many years; of course the great test is muscular activity. If a man has great vigour the exercise of it is natural and beneficial. Men often attribute to rowing,

"1. The indigestion, which so many men bring on by eating too fast and too much. I have seen a man in training take 6 or 7 helpings of beefsteak at breakfast, and that with great rapidity.

"2. The derangement which results from want of variety in diet. In this respect matters are better than they were, but still, puddings, light wines, fruit, &c., are too often entirely put aside: a man thinks the great object of training is to eat nothing but beef, mutton, bread and beer.

"3. The evil consequences of excess when the training is over. This is, I believe, one of the greatest sources of after ailments; men who have been most careful in their diet for 5 weeks suddenly leave off their exercise, and live a life thoroughly unhealthy. Too often after Putney the champagne lunch and subsequent dinner do great harm.

"I believe the moral value of rowing to be very great, as teaching self-denial and self-sacrifice for the public good, and as promoting energy and earnestness, as well as unity of action amongst the Crew, and submission and obedience to the captains. I have noticed that as a College improves, the interest in boating always increases."

OXFORD, *May*, 1869.

Letter from Mr GEORGE MORRISON.

Oxford University Boat, Number 5, 1859, 1860, and 1861.

"No doubt men do sometimes injure themselves by rowing, but that happens at Regattas, where they are forced to row short courses at a great pace, out of training, and in the hottest season of the year. I have known a man row five Races in a day at Henley when the thermometer was standing at 80° in the shade, and although this was rather an exceptional case, there is rather too much of that sort of thing going on at Regattas. This is owing to a system of pot-hunting, which is not confined to rowing, and is one of the evils of the day which old rowing men would like to see knocked on the head. I believe that this belief in the injury sometimes done by entering for too many Races at one Regatta is common among old Oars, and it is not unlikely that something may be done before long to mitigate the evil by not allowing the same man to enter for more than a certain number of Races at one Regatta."

In a subsequent letter Mr Morrison remarks, "We have had a very influential boating meeting at Putney, at which representatives of the Henley Committee were present, and we unanimously agreed that it would be desirable to limit the number of Races for which a man might enter; so I hope we have cut off one source of evil."

Extract from a letter of Mr WELDON CHAMPNEYS.

Oxford University Eight, Bow 1861.

"I believe it is an indispensable condition of being able to engage in such a Race safely, that (as was the

case with myself) there should be a good constitution to work upon, and then careful and judicious training. It is to the latter of these having been entirely neglected in former times, that I attribute, what doubtless is well-known to you, the sad havoc which heart disease¹ used to make among the crews. The former I think we are in the greatest danger of now, because I know that many men with an intense and unreasoning love of glory, unbalanced by the prudence which increased age gives, recklessly undertake the immense exertion with neither thought nor wish to ascertain whether their constitutions will stand it. * * *

“My own strong impression is, that it is not the University Race that injures men as a rule; nor yet the College Races, though those, short as the course is, are not quite so harmless, because the system of bumping requires such sudden and furious spurts, and because the men are less evenly matched in a boat, one or two good men having to do their own work and that of two or three others, who are mere ‘passengers;’ but it is the Scratch Races, and provincial Regattas, when training is impossible, or, at least, considered as superfluous; and it is against these that I should like to hear a strong voice lifted up. In the case, however, of our University Race there ought to be more care taken than is at present, to ascertain the soundness of those who are likely to be required to row; and this in good time, so as to prevent coaching being wasted on any who are unfit; and such inspection should be compulsory, for the reason I have already named. And besides this, the system of elaborate luncheons and dinners after the Race ought to be given up, the change from one mode of living to

¹ My statistics do not support the view that the earlier Crews suffered to any great extent from heart disease.

another being thus rendered sudden and violent, when it ought to be, as I suppose all will agree, gradual and easy."

LONDON, *May*, 1869.

From Mr G. H. RICHARDS.

Cambridge University Eight, Bow 1861, *Stroke* 1862.

"My experience has invariably been that boating-men are among the strongest men one meets, and I have noticed this in America as well as in England. Of course there are exceptions, but these are as often due to other causes as to rowing. I have no question that it is injurious for a man with any trouble about the heart or lungs to row Races, and have seen cases where it has been so; and I may say the same of rowing Races without proper training. I have thought that it would be a good thing both for the University Crews, and for the men themselves, that there should be a medical examination of the men selected, and that during training a little medical advice might save the frequent over-training, &c., which all rowing men have experienced."

BOSTON, U. S. *May*, 1871.

Extract from a letter of Mr W. B. WOODGATE.

Oxford University Eight, Bow 1862, *Number* 4, 1863.

"I have had to train men who could row a long course well enough for any given day, Race or practice, but they had, so to speak, more muscle than stomach, and took out of themselves in the day more than they could digest back in the night, hence they were prone

to 'go to pieces.' Such men, of course, hamper a Crew, the rest of whom require the long and heavy work for the sake of practice and condition, but if trained for a sculling Race in which they would row singly, they would do well enough on the Race-day over the *long* course, though they had previously been confined to short courses. Such men, if compelled to keep pace with the work of the rest of an Eight, soon become stale and feeble in digestion."

LONDON, *July*, 1871.

Extract from a letter from Mr CHARLES RIDLEY CARR.

Oxford University Eight, Number 7, 1862 and 1863.

"To make a general remark or two, I do believe that there are men of such extraordinary physique that a Putney Race is a mere trifle to them. Again, it is to be remembered that those who row at Putney are probably the men most qualified in the University to stand such killing work, so that even could it be proved that no man had hitherto been permanently injured by rowing there, in no case should a careful selection by the captain, and in most cases a medical examination be dispensed with, in the choosing of the Crew.

"Again, many men are very careless in going out of training. It would be most unfair to blame the Putney Race for consequences incurred by indiscretion in this way.

"This is a question in which I am much interested. The only real way of proving anything has always occurred to me to be to make a list of those who have rowed in any Race since the first one in 1829, and to

find out who are dead, who alive, and if dead what they died of."

MARLBOROUGH, June, 1869.

*Extract from a letter from the Rev. WILLIAM AWDRY,
Second Master of Winchester College.*

*Oxford University Eight, Number 6, 1863, Number 2,
1864.*

"It is worth noting that I have often been far more exhausted even when in 'good condition' in the short Races at Oxford, with a weak Crew behind me, than I have ever been in our University practising or Race. Moreover, rowing is far less strain to a good Oar, who pulls straight and economises power, than to an indifferent Oar, whose every stroke is working a closed chest or bent spine in a manner that is most painful and exhausting. * * *

"*Training* is certainly not understood at Oxford. It *must* be absurd to treat eight men in the same way in order to bring them into the same condition, in the same time, whatever may be their build or temperament, or whatever their habits when in training. You probably know well the weak state which a man generally gets some time between the first and third week of training, and which he hopes to have got over before the Race comes on; and you must know how short a time a man continues in thoroughly good condition. A Crew is fortunate in which none of the men are weak, and 5 or 6 are at their best at the proper time. I could mention men who were at their best after ten days of training, and continued at something below their best without changing from that time. Others I have seen still not fined down after 5 weeks of hard work. I never

was in better condition myself than at my first University Race, when I had had 10 days of training, then 3 weeks of rest, and then 10 days of very hard work and training: any one who would give directions which would make the system of training more rational than it is, would be a great benefactor to rowing men, whose health is at the mercy of the captains."

WINCHESTER, *July*, 1869.

Extract from a letter from Rev. E. V. PIGOTT.

Cambridge University Eight, Number 2, 1864, Number 3, 1865.

"What little experience I have had in my own training for the University, and training others for the College Races, seemed to prove to me chiefly this: That if a man was regular and *moral* in his general mode of life, he generally trained easily and well, and was not in the slightest danger of injury, and that those men who knocked up, and were most likely to suffer afterwards, were those who were most accustomed to indulge themselves in various ways. Smoking we were all accustomed to look upon as our greatest enemy, and in my opinion (though in this, I dare say, I was prejudiced as being a non-smoker myself) the smokers were always the least dependable men in the Crew; and, what I think may prove that I was not alone in this opinion, I have often heard men *boast* that not one man of their Crew was a smoker.

"In a word, if a man breaks down it is to a certain extent his own fault, either he has not trained *honourably*, or at first starting he was absolutely not strong enough in constitution for it, or he has had the roots of some

illness in him beforehand; and I think that every man is bound, as I had myself, to have his heart and lungs tested before he goes in training for the University Race."

MALPAS, *July*, 1869.

From Mr HENRY SCHNEIDER, Queensland.

Oxford University Eight, Number 7, 1865.

"With regard to the training for the University Boat-Race, I can only deal with the system adopted in my time, and as many persons have formed the most curious notions, associating it with violent exercise and raw meat, it will perhaps be as well to state briefly in what it really consisted. Rise early, take a walk for about half an hour, during the course of which spurt once or twice at full speed for a distance of about 200 yards to improve the wind, a cold bath, breakfast consisting of beefsteaks and mutton chops (not necessarily underdone), bread or toast, butter, and tea. The trainer usually asks the men not to eat much butter, and limits them to a reasonable quantity of tea at his discretion. No further exercise is then required till after lunch, unless, whilst at Putney, some of the men are occasionally taken out in the morning for a gentle pull in a pair-oared gig to be 'coached.' Lunch consists of bread, butter, and lettuce or watercress, and half a pint of ale. Then comes the rowing for the day. Dinner at six; a joint of beef or mutton, potatoes, cabbage, bread, lettuce or watercress, and a pint of ale. After dinner a few plain biscuits, and two glasses of port wine each. Sometimes a cup of tea is allowed about eight o'clock; once or twice also during the training

fowls are allowed for dinner, and sometimes eggs for breakfast. Such things are at the discretion of the trainer. Pastry in any shape, and cheese, are never allowed, and the men are on their honour not to smoke. The hour for bed, is (if I recollect right) ten o'clock. On Sundays the crew take a walk of eight or ten miles, instead of the rowing. If the rowing itself be put out of the question, the whole may be summed up in a few words; regular hours, plain diet, and moderate exercise. Such a system, if consistently carried out, can hardly, I think, be objected to on the score of endangering the health.

“There is however one point in a manner connected with the training to which I would desire to draw your special attention, and that is the enormous quantity of animal food daily consumed by a Boat's Crew whilst in training. None but an eye-witness would credit the number of mutton chops and the quantity of steak a single individual will put out of sight in the course of one meal. I cannot but think that herein lies a source of evil not generally taken into account, and I would venture to suggest that (as is, I believe, often the case during a sea-voyage) the appetite may be stimulated to such an extent, that the person is tempted to eat more than he really requires, and consequently to lay an injurious tax on his powers of digestion. To this source I am disposed to attribute affections of the liver which are sometimes said to have been brought on by rowing, and also perhaps in some cases certain minor evils incident during the time of training, such as boils, headache, etc.

“Next, with regard to men who are said to be over-trained, i. e. who get more or less weak and knocked up. In this case, doubtless, their powers have been rather overtaxed for the time being, and here again boils and

other evils above alluded to may shew themselves from an opposite cause. How far this may be the case I must leave you to decide, but I do not think that it at all follows that the constitution should have sustained the slightest injury, and no further result would doubtless follow if they were to attempt to do the work of a quarryman or a navvy for a week.

“I now come to what I believe to be the chief, if not the only real danger attendant upon Boat-Racing, and that is the violent strain upon the action of the heart caused by rowing a rapid stroke, and exerting every energy to maintain the same to the end of the Race.

“This, however, is an objection which may be urged with quite as much justice against foot-races for distances of a mile or more, and no man with either heart or lungs in an unsound state ought to think of attempting either the one or the other. But let the heart and lungs be sound, and the constitution fair, I feel confidence in saying that cases of either permanent or temporary injury to the constitution through rowing in the University Race will be found extremely rare.”

QUEENSLAND, Oct. 1869.

Extract from a Letter from Mr FREDERICK CROWDER.

*Oxford University Eight, Number 2, 1866, Number 6,
1867.*

“As to College Races, I can confidently say that I always felt more exhausted after them than after either of the University Races, although in 1867 (my last year) we only won the Race by half a length. This, as I said before, I ascribed to want of proper training, only three weeks being given for the Fight at Oxford,

which in my opinion is not sufficient to fit a man to row *eight consecutive* nights. I should consider three weeks' training ample for a *single* Race, not exceeding two miles.

"There is one great difficulty with reference to training for rowing, which does not equally apply to training for other sports: it is always a reasonable thing that a Crew in training should have their meals together, for many reasons; perhaps the chief one is to give the captain an opportunity of exercising a surveillance over them, to see that they do not eat anything which is against the traditional rules of training, but this *practically* involves the necessity of dieting every one alike; and this, I think, is a great drawback to training men properly, as in a Crew of eight men the chances are greatly in favour of there being several different constitutions to deal with, and thus it often happens that what is beneficial for training one man, may be quite the reverse for another, and therefore some men may come to the Boat in a condition which disqualifies them for the task they have to perform."

READING, *June*, 1869.

Extract from a Letter from Mr F. WILLAN.

Oxford University Eight, Number 4, 1866, Number 7, 1867, Number 6, 1868, Number 4, 1869.

"My own impression with regard to rowing is, that, provided a man is tolerably sound in body, it will not hurt him, unless carried to a *great* extent, as long as he *trains*, and *prepares himself for Races*; but I have a strong idea that what we call scratch Races will often over-tax a man's power and do him more harm than years of steady rowing with *proper preparation for it*.

"I have often felt very much 'done up' after short scratch Races, and thought afterwards how foolish I was to row. Moreover, you nearly always will see in scratch Races, a lot of men rowing who are weak in body and constitution, and whom you would never think of picking out to put in a regular Crew; and yet those men go and row desperately and entirely out of condition, in a heavier boat than a racing one. I cannot help thinking that the seeds of ill health are often sown in this way; but this is the abuse of rowing, and ought by no means to be held in evidence against it, any more than you would condemn fox-hunting because a man chose to get on a hunter for the first time in his life, and run with the hounds, breaking his neck in the course of the run."

LONDON, *April*, 1871.

Extract from a Letter from Mr F. J. YOUNG.

Cambridge University Eight, Number 4, 1869.

"There is only one objection to the training, and I should not be giving you my whole opinion if I did not state it; it is not exactly physical, but still results from the bodily exercise. It is this—during the time of training, and for some period afterwards, all study is almost impossible. Although the body is in an apparently perfect state of health, and capable of any exertion, the mind is almost utterly incapable of doing anything. I do not know whether this proceeds from exhaustion or excitement, perhaps both."

CHELTENHAM, *August*, 1869.

*From the Rev. HENRY ARTHUR MORGAN, M.A.,
Fellow and Tutor of Jesus College, Cambridge,
Honorary Secretary of the Cam Improvement Com-
mittee.*

“As I have during many years taken very deep interest in Rowing, I am glad to have an opportunity of making a few remarks on the University Boat-Race, the mainstay of rowing at Cambridge.

“In the first place, it is probable that injurious consequences may result from a *sudden cessation* of hard rowing over long courses, and all its attendant training, when these have been continued during a considerable period of time. Those who become members of a University Crew are accustomed to take very severe exercise whilst at College, and this they generally abandon abruptly on settling down, soon afterwards, to the sedentary lives of clergymen or London lawyers. I have occasionally noticed a certain worn-out expression about former University Oarsmen. Without being ill, they appear to be fit for little active exertion. A cloud has passed over the buoyancy and vigour which once stamped their countenances. Possibly these may be cases in which the constitutional was not on a par with the muscular strength which conduced to gain the blue ribbon. Of course University Oarsmen are, as far as possible, chosen from those who combine both, but sometimes it is difficult for persons who have not received a medical education to be certain that the former is present even when the latter is most evident, especially at the time of youth. But, whatever be the cause, I cannot say I have noticed any such appearance in men whose rowing has been confined to races at Cambridge, where the course is much shorter. Perhaps

my opinion on this latter point may be of some little value, for I have myself rowed in over 100 Eight-Oar races on the Cam, and mixed much with rowing men.

“Again, in considering the causes of the debilitated condition I have mentioned, I am inclined to think that something is due to the great length of the course over which the Race is now rowed. At present we see young men between the ages of 19 and 23 labouring their utmost at a stroke of from 37 to 40 per minute, perhaps cruelly quickened during one or more spurts, for a distance of over $4\frac{1}{2}$ miles, or for a period of more than 20 minutes; and this, too, at a time when the intense anxiety of the day, and the excitement of previous weeks, have strung the nerves up to the very highest tension. No doubt many pass through this severe strain, the preparatory period of hard work and training, and the complete reaction which follows, without subsequent injury to themselves; and it would be strange if this were not the case, for University Oarsmen are selected from the most robust. But at the age of 21 manhood has not been fairly reached, the frame has not been perfectly developed, and the substance of the body has not attained its maturer state of firmness and toughness. It is the old story of young horses being injured by running over long courses. I believe there would be much less risk of injury if the present course were considerably shortened, *i.e.* if the start were, say from Hammersmith bridge instead of Putney. Men fully matured, between the ages of 25 and 30, might probably row hard and fast over the present course, and be in no way the worse, but it is difficult to believe that all those who now gallantly strive to uphold the honour of their Universities can escape quite scatheless from the struggle. It will

perhaps be said in reply to this that it is the 'pace that kills,' and that in a shorter course the pace would be more severe. But nothing can be more severe than the pace sometimes is on the Thames; witness the desperate contests of 1867, 1871, and many others. In 1871 the Oxford stroke at one time reached 42 to 43, and in 1872, 43 to 44 per minute, according to the published reports. In the College bumping Races at Cambridge the pace is often very severe, and the spurts frequent, but the exertion there is not at all equal to that undergone in a hard Race from Putney to Mortlake. The 'Eton boys' who are, on the average, at least two or three years younger than the University Crews, row the Henley course of about 9 minutes, and at a very quick stroke.

"There is another point which may also be mentioned. The daily and weekly bulletins of the newspapers on the performances of the Crews, not unfrequently written by persons utterly ignorant of the beautiful and intricate art they profess to criticise, cannot be too severely deprecated. They lead to a perpetual excitement which is in every way bad for the men. Sometimes they are totally unjust and unduly severe, and then have a very depressing effect on the victims, who, we may be certain, are doing their utmost to arrive at perfection. And here let me add, the mischief done by the Press culminates, shortly before the Race, when we see our noble Crews dragged into the gambling columns.

"Though many 'abolitions' may be in store for Cambridge, nothing could be more deplorable than anything which tended to the abolition of Rowing. On the contrary, I wish to see it encouraged, for I know its value morally, as well as physically. In the relaxing climate

of Cambridge it is especially desirable that he who leads the life of a student should take plenty of bodily exercise. If this be neglected his position in the Tripos will be gained at the expense of a blanched cheek and impaired brain. The rowing men in the University comprise many of our most steady and industrious students. Vicious habits and vigorous exercise rarely go hand in hand. The former may flourish in the billiard-room or near the dovetrap, but their haunts are not by the river. Active youths at the age of 20 must have an exercise in which skill is required and emulation may be found. Their wants will hardly be supplied by taking 'constitutionals' along straight roads bounded by turnip-fields, in a country so flat that a tall man has an extensive view. But in Boating they find exactly what they want. It is not expensive; it may be practised all through the year, and a Boat-Race does not, like a Cricket-Match, take a whole day. Moreover, the goal to which the boating man presses forward is not the mustard-pot in the silversmith's window, which, now, alas! must be visible before an athlete will jump over a footstool or run round a grassplot. But Boating would not continue to attract the numbers it does, if the College Races were to languish, which they certainly would do were it not for the stimulus of the University Race. A blue blade is the highest ambition of all rowing men. It is the fellowship of the Cam, and the main incentive to row. My earnest desire therefore is to see a place in the University Boat made as free as possible from danger to the health.

CAMBRIDGE, *February*, 1873.

The following spirited Boating Songs were written by two old University Oars, the late lamented Mr George E. Hughes¹, who pulled No. 7 in the Oxford University Boat of 1842, and who was also stroke of the famous Seven-oar Henley Crew, and Mr Duncan Darroch, who rowed No. 4 in the Cambridge University Boats of 1858 and 1859.

ON THE UNIVERSITY BOAT-RACE.

The wood sways and rocks in the fierce Equinox,
The old heathen war-god bears rule in the sky,
Aslant down the street drives the pitiless sleet,
At the height of the housetops the cloud-rack spins by.

Old Boreas may bluster, but gaily we'll muster,
And crowd every nook on bridge, steamboat, and shore,
With cheering to greet Cam, and Isis, who meet
For the Derby of boating, our fête of the oar.

"Off jackets!"—each oarsman springs light to his seat,
And we veterans, while ever more fierce beats the rain,
Scan well the light form of each hardy athlete,
And live the bright days of our youth once again.

A fig for the weather! they're off! swing together!
Tho' lumpy the water and furious the wind,
Against a "dead noser" our champions can row, Sir,
And leave the poor "Citizens" panting behind.

"Swing together!" The Crab-tree, Barnes, Chiswick are past;
Now Mortlake—and hark to the signalling gun!
While the victors, hard all, long and strong to the last,
Rush past Barker's rails, and our Derby is won.

¹ Mr Hughes's song is inserted by the kind permission of Mr Thomas Hughes, M.P.

Our Derby, unsullied by fraud and chicane,
By thieves-Latin jargon, and leg's howling din—
Our Derby, where "nobbling" and "roping" are vain,
Where all run their best, and the best men must win.

No dodges we own but strength, courage, and science ;
 Gold rules not the fate of our Isthmian games ;
 In brutes—tho' the noblest—we place no reliance ;
 Our racers are men, and our turf is the Thames.

The sons of St Denis in praise of their tennis,
Of chases and volleys, may brag to their fill ;
To the northward of Stirling, of golf, and of curling,
Let the chiefs wi' no trousers crack on as they will.

Cricket, football, and rackets—but hold, I'll not preach,
Every man to his fancy—I'm too old to mend—
So give *me* a good stretch down the Abingdon reach,
Six miles every inch, and "hard all" to the end.

Then row, dear Etonians and Westminster, row,
Row, hardfisted craftsmen on Thames and on Tyne,
Labuan, New Zealand, your chasubles peel, and
In one spurt of hard work, and hard rowing, combine.

Our maundering critics may prate as they please
Of glory departed and influence flown—
Row and work, boys of England, on rivers and seas,
And the old land shall hold, firm as ever, her own.

GEORGE E. HUGHES, 1868.

AIR.—“Viva la Trinité.”

Oh gentles I pray you, come list to my song,
“Viva la Trinité!”
Of the Trinity hearts so united and strong;
“Viva la Trinité!”
For Henley’s proud records full plainly can shew,
That wherever the struggle, whatever the foe,
The shout for the Victor still louder shall grow
Of “Viva la Trinité!”

The Londoners thought themselves safe of the "Fours!"

"Viva la Trinité!"

Soon, conquered, they drooped on their impotent oars;

"Viva la Trinité!"

For swift was the flashing of Holland's fierce stroke;
And so stanch were his men, with their true hearts of oak,
That the slumbering echoes of Henley awoke

With "Viva la Trinité!"

Then Balliol came up with a confident air;

"Viva la Trinité!"

But Oxford soon found out that Cambridge was there!

"Viva la Trinité!"

For Royds spurted on like a second Jack Hall,
While Balliol behind them did sluggishly crawl;
And the shout which arose from the bosoms of all

Was "Viva la Trinité!"

Why mention the "Wyfold," or "Visitor's" Race,

"Viva la Trinité!"

While their trophies our table triumphantly grace?

"Viva la Trinité!"

In Race, and in Battle, let this be our word,
We'll stand fast together, First, Second, and Third,
And tremble all foes when the "Slogan" is heard

Of "Viva la Trinité!"

If France's proud eagles should flap to our shore;

"Viva la Trinité!"

Where would then be the sons of the labouring oar?

"Viva la Trinité!"

Oh! either our best and our bravest would die,
In the front of the Battle, while scorning to fly!
Or, in Victory's van, should be heard the proud cry

Of "Viva la Trinité!"

DUNCAN DARROCH, 1859.

UNIVERSITY BOAT-RACES FROM 1829 TO 1869.

Year.	Date.	Winner.	Course.	Time.	Won by
1829	June 10	Oxford	Henley	14 m. 30 s.	easily.
1836	June 17	Cambridge	W. to P.	36 m. 0 s.	1 min.
1839	April 3	Cambridge	W. to P.	31 m. 0 s.	1 min. 45 sec.
1840	April 15	Cambridge	W. to P.	29 m. 30 s.	$\frac{2}{3}$ length.
1841	April 14	Cambridge	W. to P.	32 m. 30 s.	1 min. 4 sec.
1842	June 11	Oxford	W. to P.	30 m. 45 s.	13 seconds.
1845	Mar. 15	Cambridge	P. to M.	23 m. 30 s.	30 seconds.
1846	April 3	Cambridge	M. to P.	21 m. 5 s.	2 lengths.
1849	Mar. 29	Cambridge	P. to M.	22 m. 0 s.	easily.
1849	Dec. 15	Oxford	P. to M.	— —	foul.
1852	April 3	Oxford	P. to M.	21 m. 36 s.	27 seconds.
1854	April 8	Oxford	P. to M.	25 m. 29 s.	11 strokes.
1856	Mar. 15	Cambridge	M. to P.	25 m. 50 s.	$\frac{1}{2}$ length.
1857	April 4	Oxford	P. to M.	22 m. 35 s.	35 seconds.
1858	Mar. 27	Cambridge	P. to M.	21 m. 23 s.	22 seconds.
1859	April 15	Oxford	P. to M.	24 m. 40 s.	Camb. sank.
1860	Mar. 31	Cambridge	P. to M.	26 m. 5 s.	1 length.
1861	Mar. 23	Oxford	P. to M.	23 m. 30 s.	48 seconds.
1862	April 12	Oxford	P. to M.	24 m. 41 s.	30 seconds.
1863	Mar. 28	Oxford	M. to P.	23 m. 6 s.	43 seconds.
1864	Mar. 19	Oxford	P. to M.	21 m. 40 s.	26 seconds.
1865	April 8	Oxford	P. to M.	21 m. 24 s.	4 lengths.
1866	Mar. 24	Oxford	P. to M.	25 m. 35 s.	15 seconds.
1867	April 13	Oxford	P. to M.	22 m. 40 s.	$\frac{1}{3}$ a length.
1868	April 4	Oxford	P. to M.	20 m. 56 s.	6 lengths.
1869	Mar. 17	Oxford	P. to M.	20 m. 5 s.	3 lengths.

UNIVERSITY CREWS FROM 1829 TO 1869¹.

OXFORD WINNERS, 1829.

John Carter, St John's.
J. E. Arbuthnot, Balliol.
J. E. Bates, Christ Church.
C. Wordsworth, Christ Church.
J. J. Toogood, Balliol.
Thomas Garnier, Worcester.
George B. Moore, Christ Church.
Thomas Staniforth, Christ Church.
Coxswain, W. R. Fremantle, Christ Church.

CAMBRIDGE.

A. B. E. Holdsworth, Trinity.
A. F. Bayford, Trinity Hall.
Ch. Warren, Trinity.
C. Merivale, St John's.
Thomas Entwisle, Trinity.
W. T. Thompson, Jesus.
G. A. Selwyn, St John's.
W. Snow (now Strahan), St John's.
Coxswain, B. R. Heath, Trinity.

¹ The names of the Oarsmen being in most cases taken from their own signatures, I believe this list will be found correct.

CAMBRIDGE WINNERS, 1836.

W. Hammond Solly, 1st Trinity.
 F. S. Green, Caius.
 E. S. Stanley, Jesus.
 Perceval Hartley, Trinity Hall.
Warren M. Jones, Caius.
 John H. Keane, 1st Trinity.
 Arthur W. Upcher, 2nd Trinity.
 Augustus K. B. Granville, Corpus.
 Coxswain, Thos. Selby Egan, Caius.

OXFORD.

George Carter, St John's.
 Edward Stephens, Exeter.
 William Baillie, Christ Church.
 T. Harris, Magdalene.
Justinian Vere Isham, Christ Church.
John Pennefather, Balliol.
William S. Thomson, Jesus.
 Fred. Luttrell Moysey, Christ Church.
 Coxswain, E. W. L. Davies, Jesus.

CAMBRIDGE WINNERS, 1839.

Alfred H. Shadwell, St John's.
 Warrington W. Smyth, 1st Trinity.
 John Abercrombie, Caius.
A. Paris, Corpus.
C. T. Penrose, Trinity.
 William Hamilton Yatman, Caius,
 W. Balliol Brett, Caius.
 E. S. Stanley, Jesus.
 Coxswain, Thos. Selby Egan, Caius.

OXFORD.

Stanlake Lee, Queen's.
 John Compton, Merton.
S. E. Maberly, Christ Church.
 W. J. Garnett, Christ Church.
 R. G. Walls, Brasenose.
 R. Hobhouse, Balliol.
 Philip Lybbe Powys (now Lybbe), Balliol.
Calverley Bewicke, University.
 Coxswain, W. Ffooks, Exeter.

CAMBRIDGE WINNERS, 1840.

Alfred H. Shadwell, St John's.
 W. Massey, 1st Trinity.
 S. B. Taylor, 1st Trinity.
 John M. Ridley, Jesus.
 G. C. Uppleby, Magdalene.
 F. C. Penrose, Magdalene.
 Heighway Jones, Magdalene.
 Charles M. Vialls, 3rd Trinity.
 Coxswain, Thos. Selby Egan, Caius.

OXFORD.

J. G. Mountain, Merton.
 I. J. J. Pocock, Merton.
S. E. Maberly, Christ Church.
 William Rogers, Balliol.
 R. G. Walls, Brasenose.
 E. Royds, Brasenose.
Godfrey Meynell, Brasenose.
 John Somers Cocks, Brasenose.
 Coxswain, W. B. Garnett, Brasenose.

CAMBRIDGE WINNERS, 1841.

William Croker, Caius.
 Hon. L. W. Denman, Magdalene.
 A. M. Ritchie, 1st Trinity.
 John M. Ridley, Jesus.
 R. H. Cobbold, St Peter's.
 F. C. Penrose, Magdalene.
 Hon. G. Denman, 1st Trinity.
 Charles M. Vialls, 3rd Trinity.
 Coxswain, J. M. Croker, Caius.

OXFORD.

Richard Bethell, Exeter.
 E. Vaughan Richards, Christ Church.
J. G. Mountain, Merton.
 E. Royds, Brasenose.
 H. W. Hodgson, Balliol.
 William Lea, Brasenose.
Godfrey Meynell, Brasenose.
 John Somers Cocks, Brasenose.
 Coxswain, C. B. Woolaston, Exeter.

OXFORD WINNERS, 1842.

F. T. MacDougall, Magdalene Hall.
 Robert Menzies, University.
 Edw. A. Breedon, Trinity.
W. B. Brewster, St John's.
 G. D. Bourne, Oriel.
 J. C. Cox, Trinity.
 George E. Hughes, Oriel.
 F. N. Menzies, University.
 Coxswain, Arthur Shadwell, Balliol.

CAMBRIDGE.

Ernest Tower, St John's.
 Hon. L. W. Denman, Magdalene.
W. Watson, Jesus.
 F. C. Penrose, Magdalene.
 R. H. Cobbold, St Peter's.
J. Royds, Christ's.
 Hon. G. Denman, 1st Trinity.
 John M. Ridley, Jesus.
 Coxswain, A. B. Pollock, Trinity.

CAMBRIDGE WINNERS, 1845.

Gerard Mann, Caius.
W. Harkness, St John's.
W. S. Lockhart, Christ's.
W. P. Cloves, 1st Trinity.
 F. M. Arnold, Caius.
 Robert Harkness, St John's.
 J. Richardson, 1st Trinity.
 C. G. Hill, 2nd Trinity.
 Coxswain, H. Munster, 1st Trinity.

OXFORD.

Mark Haggard, Christ Church.
 W. Chetwynd Stapylton, Merton.
 William H. Milman, Christ Church.
 Henry Lewis, Pembroke.
 W. Buckle, Oriel.
 F. C. Royds, Brasenose.
 F. Maitland Wilson, Christ Church.
 F. E. Tuke, Brasenose.
 Coxswain, F. J. Richards, Exeter.

CAMBRIDGE WINNERS, 1846.

George Francis Murdoch, St John's.
 G. F. Holroyd, 1st Trinity.
 Stephen T. Clissold, 3rd Trinity.
W. P. Cloves, 1st Trinity.
 Edmund Wilder, Magdalene.
 Robert Harkness, St John's.
 Edwd. P. Wolstenholme, 1st Trinity.
 C. G. Hill, 2nd Trinity.
 Coxswain, T. B. Lloyd, Lady Margaret.

OXFORD.

H. S. Polehampton, Pembroke.
 E. C. Burton, Christ Church.
 W. U. Heygate, Merton.
 E. H. Penfold, St John's.
 J. William Conant, St John's.
 F. C. Royds, Brasenose.
 W. Chetwynd Stapylton, Merton.
 W. H. Milman, Christ Church.
 Coxswain, C. J. Soanes, St John's.

CAMBRIDGE WINNERS, March 29, 1849.

H. Proby, 2nd Trinity.
W. J. H. Jones, 2nd Trinity.
 A. de Rutzen, 3rd Trinity.
Charles James Holden, 3rd Trinity.
W. L. G. Bagshawe, 3rd Trinity.
 W. H. Waddington, 2nd Trinity.
 W. C. Hodgson, 1st Trinity.
 J. Copley Wray, 2nd Trinity.
 Coxswain, George Booth, 1st Trinity.

OXFORD.

David Wauchope, Wadham.
 J. W. Chitty, Balliol.
 Henry H. Tremayne, Christ Church.
 E. C. Burton, Christ Church.
 Charles H. Steward, Oriel.
 Arthur Mansfield, Christ Church.
 Edward Sykes, Worcester.
 W. Gordon Rich, Christ Church.
 Coxswain, C. J. Soanes, St John's.

OXFORD WINNERS, Dec. 15, 1849.

J. J. Hornby, Brasenose.
W. Houghton, Brasenose.
James Wodehouse, Exeter.
J. W. Chitty, Balliol.
James Aitken, Exeter.
Charles H. Steward, Oriel.
Edward Sykes, Worcester.
W. Gordon Rich, Christ Church.
Coxswain, R. W. Cotton, Christ Church.

CAMBRIDGE.

A. Baldry, 1st Trinity.
Henry E. Pellew, 3rd Trinity.
A. de Rutzen, 3rd Trinity.
Charles James Holden, 3rd Trinity.
W. L. G. Bagshawe, 3rd Trinity.
Henry John Miller, 3rd Trinity.
W. C. Hodgson, 1st Trinity.
J. Copley Wray, 2nd Trinity.
Coxswain, George Booth, 1st Trinity.

OXFORD WINNERS, 1852.

K. Prescott, Brasenose.
Richard Greenall, Brasenose.
Philip Henry Nind, Christ Church.
Reginald J. Buller, Balliol.
Henry Denne, University.
W. Houghton, Brasenose.
W. O. Meade King, Pembroke.
J. W. Chitty, Balliol.
Coxswain, R. W. Cotton, Christ Church.

CAMBRIDGE.

E. Macnaghten, 1st Trinity.
Henry Brandt, 2nd Trinity.
H. E. Tuckey, St John's.
H. B. Foord, 1st Trinity.
E. Hawley, Sidney.
W. S. Longmore, Sidney.
W. Norris, 3rd Trinity.
Fred. Wm. Johnson, 3rd Trinity.
Coxswain, C. H. Crosse, Caius.

OXFORD WINNERS, 1854.

W. F. Short, New College.
Ad. Hooke, Worcester.
W. Pinckney, Exeter.
T. Blundell, Christ Church.
T. A. Hooper, Pembroke.
P. H. Nind, Christ Church.
Geo. L. Mellish, Pembroke.
W. O. Meade King, Pembroke.
Coxswain, T. H. Marshall, Exeter.

CAMBRIDGE.

R. C. Galton, 1st Trinity,
Spencer Nairne, Emmanuel.
John C. Davis, 3rd Trinity.
Stair Agnew, 1st Trinity.
Edwd. Courage, 1st Trinity.
Fred. Wm. Johnson, 3rd Trinity.
Henry Blake, Corpus.
John Wright, St John's.
Coxswain, C. T. Smith, Caius.

CAMBRIDGE WINNERS, 1856.

Peter King Salter, Trinity Hall.
F. C. Alderson, 1st Trinity.
R. Lewis Lloyd, 3rd Trinity.
Edward H. Fairrie, Trinity Hall.
H. Williams, St John's.
Joseph McCormick, St John's.
H. Snow, St John's.
H. R. Mansel Jones, 3rd Trinity.
Coxswain, W. Wingfield, 1st Trinity.

OXFORD.

Philip Gurdon, University.
W. F. Stocken, Exeter.
R. I. Salmon, Exeter.
Alfred B. Rocke, Christ Church.
Richard Newman Townsend, Pembroke.
A. P. Lonsdale, Balliol.
George Bennett, New College.
J. T. Thorley, Wadham.
Coxswain, F. W. Elers, Trinity.

OXFORD WINNERS, 1857.

Robert W. Risley, Exeter.
 Philip Gurdon, University.
 John Arkell, Pembroke.
 Richard Martin, Corpus.
 W. Hardy Wood, University.
 Edmond Warre, Balliol.
 A. P. Lonsdale, Balliol.
 J. T. Thorley, Wadham.
 Coxswain, F. W. Elers, Trinity.

CAMBRIDGE.

Arthur P. Holme, 2nd Trinity.
 Anthony Benn, Emmanuel.
 W. H. Holley, Trinity Hall.
 A. L. Smith, 1st Trinity.
 J. J. Serjeantson, 1st Trinity.
 R. Lewis Lloyd, Magdalene.
 P. Pearson (now Pennant), St John's.
 H. Snow, St John's
 Coxswain, R. Wharton, Magdalene.

CAMBRIDGE WINNERS, 1858.

H. H. Lubbock, Caius.
 A. L. Smith, 1st Trinity.
W. J. Havart, St John's.
 Duncan Darroch, 1st Trinity.
 Hugh Williams, St John's.
 R. Lewis Lloyd, Magdalene.
 A. H. Fairbairn, 2nd Trinity.
J. Hall, Magdalene.
 Coxswain, R. Wharton, Magdalene.

OXFORD.

Robert W. Risley, Exeter.
 John Arkell, Pembroke.
 Charlton G. Lane, Christ Church.
 W. G. G. Austin, Magdalene.
 Ernard Lane, Balliol.
 W. Hardy Wood, University.
 Edmond Warre, Balliol.
 J. T. Thorley, Wadham.
 Coxswain, H. Walpole, Balliol.

OXFORD WINNERS, 1859

H. Fleming Baxter, Brasenose.
 R. F. Clarke, St John's.
 Charlton G. Lane, Christ Church.
 Hon. V. Lawless (now Lord Cloncurry), Balliol.
 G. Morrison, Balliol.
 R. W. Risley, Exeter.
 Geo. G. T. Thomas (now Treherne), Balliol.
 John Arkell, Pembroke.
 Coxswain, A. J. Robarts, Christ Church.

CAMBRIDGE.

Nat. Royds, 1st Trinity.
 H. J. Chaytor, Jesus.
 A. L. Smith, 1st Trinity.
 Duncan Darroch, 1st Trinity.
 Hugh Williams, St John's.
 R. Lewis Lloyd, Magdalene.
George Paley, St John's.
J. Hall, Magdalene.
 Coxswain, J. T. Morland, 1st Trinity.

CAMBRIDGE WINNERS, 1860.

S. Heathcote, 1st Trinity.
 H. J. Chaytor, Jesus.
 D. Ingles, 1st Trinity.
 Joseph S. Blake, Corpus.
 M. Coventry, Trinity Hall.
 Benjn. N. Cherry, Clare Hall.
 A. H. Fairbairn, 2nd Trin.
J. Hall, Magdalene.
 Coxswain, J. T. Morland, Trinity.

OXFORD.

J. N. McQueen, University.
 G. Norsworthy, Magdalene.
 T. F. Halsey, Christ Church.
J. Young, Corpus.
 G. Morrison, Balliol.
 H. Fleming Baxter, Brasenose.
 C. J. Strong, University.
 R. W. Risley, Exeter.
 Coxswain, A. J. Robarts, Christ Church.

OXFORD WINNERS, 1861.

Weldon Champneys, Brasenose.
Ed. B. Merriman, Exeter.
Henry E. Medlicott, Wadham.
Wm. Robertson, Wadham.
G. Morrison Balliol.
A. R. Poole, Trinity.
H. G. Hopkins, Corpus.
W. M. Hoare, Exeter.
Coxswain, S. O. B. Ridsdale, Wadham.

CAMBRIDGE.

G. H. Richards, 1st Trinity.
H. J. Chaytor, Jesus.
W. H. Tarleton, St John's.
Joseph S. Blake, Corpus.
M. Coventry, Trinity Hall.
Henry H. Collings, 3rd Trinity.
R. U. Penrose Fitzgerald, Trinity Hall.
J. Hall, Magdalene.
Coxswain, T. K. Gaskell, 3rd Trinity.

OXFORD WINNERS, 1862.

W. B. Woodgate, Brasenose.
O. S. Wynne, Christ Church.
William B. R. Jacobson, Christ Church.
R. Edward L. Burton, Christ Church.
Allan Morrison, Balliol.
A. R. Poole, Trinity.
Charles Ridley Carr, Wadham.
W. M. Hoare, Exeter.
Coxswain, F. E. Hopwood, Christ Church.

CAMBRIDGE.

P. Freeland Gorst, St John's.
J. G. Chambers, 3rd Trinity.
Edward Sanderson, Corpus.
Wm. Cecil Smyly, 1st Trinity.
R. U. Penrose Fitzgerald, Trinity Hall.
Henry H. Collings, 3rd Trinity.
J. G. Buchanan, 1st Trinity.
G. H. Richards, 1st Trinity.
Coxswain, F. H. Archer, Corpus.

OXFORD WINNERS, 1863.

Robert Shepherd, Brasenose.
F. Hume Kelly, University.
William B. R. Jacobson, Christ Church.
W. B. Woodgate, Brasenose.
Allan Morrison, Balliol.
William Awdry, Balliol.
Charles Ridley Carr, Wadham.
W. M. Hoare, Exeter.
Coxswain, F. E. Hopwood, Christ Church.

CAMBRIDGE.

J. Clarke Hawkshaw, 3rd Trinity.
Wm. Cecil Smyly, 1st Trinity.
R. H. Morgan, Emmanuel.
J. Bowstead Wilson, Pembroke.
Claude H. La Mothe, St John's.
Robert A. Kinglake, 3rd Trinity.
J. G. Chambers, 3rd Trinity.
John Stanning, 1st Trinity.
Coxswain, F. H. Archer, Corpus.

OXFORD WINNERS, 1864.

C. P. Roberts, Trinity.
William Awdry, Balliol.
F. Hume Kelly, University.
J. C. Parson, Trinity.
William B. R. Jacobson, Christ Church.
A. E. Seymour, University.
M. Meredith Brown, Trinity.
D. Pocklington, Brasenose.
C. R. W. Tottenham, Christ Church.

CAMBRIDGE.

J. Clarke Hawkshaw, 3rd Trinity.
E. V. Pigott, Corpus.
H. S. Watson, Pembroke.
W. W. Hawkins, St John's.
Robert A. Kinglake, 3rd Trinity.
Geo. Borthwick, 1st Trinity.
D. Fenwick Steavenson, Trinity Hall.
J. R. Selwyn, 3rd Trinity.
Coxswain, F. H. Archer, Corpus.

OXFORD WINNERS, 1865.

R. Taunton Raikes, Merton.
H. P. Senhouse, Christ Church.
Edward F. Henley, Oriel.
Gilbert Coventry, Pembroke.
Allan Morrison, Balliol.
Thomas Wood, Pembroke.
Henry Schneider, Trinity.
M. Meredith Brown, Trinity.
Coxswain, C. R. W. Tottenham, Christ Church.

CAMBRIDGE.

Herbert Watney, St John's.
Meyrick H. L. Beebee, St John's.
E. V. Pigott, Corpus.
Robert A. Kinglake, 3rd Trinity.
D. Fenwick Steavenson, Trinity Hall.
Geo. Borthwick, 1st Trinity.
W. Russell Griffiths, 3rd Trinity.
C. B. Lawes, 3rd Trinity.
Coxswain, F. H. Archer, Corpus.

OXFORD WINNERS, 1866.

R. Taunton Raikes, Merton.
Fred. Crowder, Brasenose.
W. L. Freeman, Merton.
F. Willan, Exeter.
Edward F. Henley, Oriel.
W. W. Wood, University.
H. P. Senhouse, Christ Church.
M. Meredith Brown, Trinity.
Coxswain, C. R. W. Tottenham, Christ Church.

CAMBRIDGE.

John Still, Caius.
J. R. Selwyn, 3rd Trinity.
J. Ulick Bourke, 1st Trinity.
Hugh J. Fortescue, Magdalene.
D. Fenwick Steavenson, Trinity Hall.
Robert A. Kinglake, 3rd Trinity.
Herbert Watney, St John's.
W. Russell Griffiths, 3rd Trinity.
Coxswain, A. Forbes, St John's.

OXFORD WINNERS, 1867.

W. Paget Bowman, University.
J. H. Fish, Worcester.
E. S. Carter, Worcester.
W. W. Wood, University.
James C. Tinné, University.
Fred. Crowder, Brasenose.
F. Willan, Exeter.
R. G. Marsden, Merton.
Coxswain, C. R. W. Tottenham, Christ Church.

CAMBRIDGE.

W. Herbert Anderson, 1st Trinity.
John M. Collard, St John's.
J. Ulick Bourke, 1st Trinity
Hon. J. H. Gordon, 1st Trinity.
F. E. Cunningham, King's.
John Still, Caius.
Herbert Watney, St John's.
W. Russell Griffiths, 3rd Trinity.
Coxswain, A. Forbes, St John's.

OXFORD WINNERS, 1868.

W. D. Benson, Balliol.
Alf. C. Yarborough, Lincoln.
Robert S. Ross of Bladensburg, Exeter.
R. G. Marsden, Merton.
James C. Tinné, University.
F. Willan, Exeter.
E. S. Carter, Worcester.
S. D. Darbishire, Balliol.
Coxswain, C. R. W. Tottenham, Christ Church.

CAMBRIDGE.

W. H. Anderson, 1st Trinity.
J. P. Nichols, 3rd Trinity.
James G. Wood, Emmanuel.
W. H. Lowe, Christ's.
H. Trafford Nadin, Pembroke.
W. F. MacMichael, Downing.
John Still, Caius.
W. J. Pinckney, 1st Trinity.
Coxswain, T. D. Warner, Trinity Hall.

OXFORD WINNERS, 1869.

S. H. Woodhouse, University.
R. Tahourdin, St John's.
Thomas Southey Baker, Queen's.
F. Willan, Exeter.
James C. Tinné, University.
Alf. C. Yarborough, Lincoln.
W. D. Benson, Balliol.
S. D. Darbishire, Balliol.
Coxswain, D. A. Neilson, St John's.

CAMBRIDGE.

J. Arthur Rushton, Emmanuel.
J. H. Ridley, Jesus.
J. W. Dale, St John's.
F. J. Young, Christ's.
W. F. MacMichael, Downing.
W. H. Anderson, 1st Trinity.
John Still, Caius.
John H. D. Goldie, St John's.
Coxswain, H. E. Gordon, 1st Trinity.

OBITUARY.

UNIVERSITY OARS WHO DIED BETWEEN 1829 AND 1869.

James Edward Arbuthnot, died in the Mauritius, Sept. 29, 1868, aged 59.

W. L. G. Bagshawe was killed by poachers in the river Wye, in Derbyshire, July 24, 1854.

The Rev. John Ellison Bates died at Dover, in February, 1856, aged 46.

Calverley Bewicke died in 1866.

W. B. Brewster, Captain and Adjutant of the Rifle Brigade Colonel of the Inns of Court Volunteers, died in London, July 7, 1864.

W. P. Cloves died Sept. 25, 1849.

William Croker died at Cambridge in 1841.

H. B. Foord died in London in 1863.

R. C. Galton, M.D., died in Worcestershire on the 22nd March, 1866.

The Very Rev. Thomas Garnier, D.D., Dean of Lincoln, died at the Deanery, Lincoln, December 7, 1863, aged 54.

The Hon. J. H. Gordon died at Cambridge, February 14, 1868.

The Rev. Mark Haggard died on his way from Madeira in 1854.

J. Hall died in 1868, aged 33.

The Rev. W. Harkness died in 1863.

The Rev. W. J. Havart, Rector of Milton-Bryant, died in 1866.

C. J. Holden died on the 26th of May, 1862.

Sir Justinian Vere Isham, Bart. died in 1846, aged 30.

The Rev. Fred. William Johnson died in December, 1859.

Warren Jones died at Lower Charlton in 1843.

The Rev. W. J. H. Jones died in the Barbadoes in 1857.

Walter Scott Lockhart (Scott) died in 1851, aged 26.

The Rev. W. S. Longmore died in 1855.

The Rev. Gerard Mann died in October, 1855, aged 33.

The Rev. S. E. Maberly died in 1848.

Godfrey Meynell died July 3, 1858.

The Rev. J. G. Mountain died in Newfoundland in 1856.

G. F. Murdoch died in 1849.

George Paley died at Leeds in 1866.

The Rev. A. Paris died October 24, 1861.

John Pennefather died in 1857.

The Rev. C. T. Penrose died in 1867.

The Rev. H. S. Polehampton, late Fellow of Pembroke College, Oxford, died at Lucknow, July 20, 1857.

H. Proby was drowned in Australia in 1852.

The Rev. John Royds died in June, 1865, aged 46.

The Rev. William Thomas Thompson died November 10, 1840, aged 39.

The Rev. W. S. Thomson died in 1867.

W. Watson died in 1847.

The Rev. James Wodehouse was lost in the "London," which foundered at sea on the 10th of January, 1866.

J. Young died November 26, 1865.

** * * The causes of death, though discussed in a previous portion of this work, are here omitted, as in several instances the information supplied to me has been of a confidential character.*



INDEX I.

OXFORD UNIVERSITY CREWS.

A.

Aitken, Rev. James, No. 5, Dec., 1849 . . .	200, 203
<i>Arbuthnot, J. E.</i> , No. 2, 1829 . . .	127, 132
Arkell, Rev. J., No. 3, 1857; No. 2, 1858; Stroke, 1859 . . .	226, 228, 233, 237, 322
Austin, Rev. W. G. G., No. 4, 1858 . . .	233, 236
Awdry, Rev. W., No. 6, 1863; No. 2, 1864 . .	260, 262, 265, 331

B.

Baillie, Sir William, Bart., No. 3, 1836 . . .	138, 145
Baker, Thomas Southey, No. 3, 1869 . . .	294, 296
<i>Bates, Rev. J. E.</i> , No. 3, 1829 . . .	127, 133
Baxter, Rev. H. Fleming, Bow, 1859; No. 6, 1860 . . .	237, 239, 243
Bennett, George, No. 7, 1856 . . .	219, 226
Benson, W. D., Bow, 1868; No. 7, 1869 . .	288, 289, 295
Bethell, Richard, Bow, 1841 . . .	168, 171
<i>Bewicke, Calverley</i> , Stroke, 1839 . . .	149, 158
Blundell, Rev. T., No. 4, 1854 . . .	212, 215
Bourne, Rev. G. D., No. 5, 1842 . . .	173, 176
Bowman, W. P. (Barrister-at-Law), Bow, 1867 .	282, 284
Breedon, Edwd. A., No. 3, 1842 . . .	173, 176
<i>Brewster, Colonel W. B.</i> , No. 4, 1842 . . .	173, 178
Brown, M. Meredith, No. 7, 1864; Stroke, 1865; 1866 . . .	265, 268, 271, 277
Buckle, Rev. W., No. 5, 1845 . . .	180, 184
Buller, R. J., No. 4, 1852 . . .	205, 208
Burton, E. C., No. 2, 1846; No. 4, March, 1849.	187, 189, 192
Burton, R. E. L., No. 4, 1862 . . .	254, 256

C.

Carr, C. R., No. 7, 1862 and 1863 . . .	254, 257, 260
Carter, Rev. John, Bow, 1829 . . .	127, 130
Carter, Rev. George, Bow, 1836 . . .	138, 144
Carter, Rev. E. S., No. 3, 1867; No. 7, 1868 .	282, 285, 288
Champneys, Rev. Weldon, Bow, 1861 . . .	248, 249, 327
Chitty, J. W., No. 2, March, 1849; No. 4, Dec., 1849; Stroke, 1852 . . .	192, 197, 200, 205

Clarke, R. F., No. 2, 1859	237, 204
Cocks, J. Somers, Stroke, 1840 and 1841	159, 166, 168
Compton, Rev. John, No. 2, 1839	148, 154
Conant, Rev. J. W., No. 5, 1846	187, 190
Cotton, R. W., Coxswain, Dec. 1849 and 1852	193, 205
Coventry, Rev. Gilbert, No. 4, 1865	271, 274
Cox, Rev. J. C., No. 6, 1842	173, 177
Crowder, Fred., No. 2, 1866; No. 6, 1867	277, 279, 282, 335

D.

Darbishire, S. D., Stroke, 1868 and 1869	288, 290, 295
Davies, E. W. L., Coxswain, 1836	138
Denne, Henry, No. 5, 1852	205, 208

E.

Elers, F. W., Coxswain, 1856 and 1857	219, 227
---	----------

F.

Ffooks, W., Coxswain, 1839	149
Fish, Rev. J. H., No. 2, 1867	282, 284
Freeman, W. L., No. 3, 1866	277, 279
Fremantle, Rev. W. R., Coxswain, 1829	127

G.

Garnett, Rev. W. B., Coxswain, 1840	159
Garnett, W. J., No. 4, 1839	148, 155
Garnier, Rev. Thomas, No. 6, 1829	127, 133
Greenall, Rev. R., No. 2, 1852	205, 207
Gurdon, Philip, Bow, 1856; No. 2, 1857	219, 223, 226

H.

Haggard, Rev. M., Bow, 1845	180, 186
Halsey, T. F., No. 3, 1860	243, 247
Harris, Rev. T., No. 4, 1836	138, 146
Henley, E. F., No. 3, 1865; No. 5, 1866	271, 274, 277
Heygate, W. U., (Barrister-at-Law), No. 3, 1846	187, 190
Hoare, Rev. W. M., Stroke, 1861, 1862, and 1863	248, 251, 254, 260
Hobhouse, Rev. R., No. 6, 1839	149, 157
Hodgson, Rev. H. W., No. 5, 1841	168, 172, 313
Hooke, Rev. A., No. 2, 1854	212, 214
Hooper, Rev. T. A., No. 5, 1854	212
Hopkins, Rev. H. G., No. 7, 1861	248, 251
Hopwood, Rev. F. E., Coxswain, 1862 and 1863	254, 260
Hornby, Rev. J. J. (D.D.), Bow, Dec. 1849	200, 202
Houghton, Rev. W., No. 2, Dec. 1849; No. 6, 1852	200, 202, 205
Hughes, George E., No. 7, 1842	173, 177

I.

Isham, Sir J. V. (Bart.), No. 5, 1836	138, 147
---	----------

J.

Jacobson, Rev. W. B. R., No. 3, 1862 and 1863; No. 5, 1864	254, 256, 260, 265
---	--------------------

K.

Kelly, F. H., No. 2, 1863; No. 3, 1864 . . .	260, 261, 265
--	---------------

L.

Lane, Rev. Charlton, No. 3, 1858 and 1859 . . .	233, 236
Lane, Rev. Ernald, No. 5, 1858	233, 236
Lawless, Hon. V. (Baron Cloncurry), No. 4, 1859	237, 240
Lea, Rev. William, No. 6, 1841	168, 173
Lee, Rev. Stanlake, Bow, 1839	148, 154
Lewis, Rev. Henry, No. 4, 1845	180, 184
Lonsdale, A. P. (Barrister-at-Law), No. 6, 1856; No. 7, 1857	219, 225, 227
Lybbe, P. L. Powys, No. 7, 1839	149, 158

M.

<i>Maberly</i> , Rev. S. E., No. 3, 1839 and 1840 . . .	148, 158, 159
MacDougall, Right Rev. F. T. (D.D.), Bow, 1842	173, 175, 314
McQueen, J. N., Bow, 1860	243, 246
Mansfield, Rev. Arthur, No. 6, March, 1849 . . .	193, 199
Marsden, R. G., (Barrister-at-Law) Stroke, 1867; No. 4, 1868	282, 286, 288
Marshall, T. H., Coxswain, 1854	212
Martin, Rev. R., No. 4, 1857	226, 229
Meade King, W. O., No. 7, 1852; Stroke, 1854 . . .	205, 208, 212
Medlicott, H. E. (Barrister-at-Law), No. 3, 1861 . . .	248, 250
Mellish, G. L., No. 7, 1854	212, 216
Menzies, F. N., Stroke, 1842	173, 178
Menzies, Sir Robert (Bart.), No. 2, 1842	173, 175
Merriman, Ed. B., No. 2, 1861	248, 250
<i>Meynell</i> , G., No. 7, 1840, 1841	159, 167, 168
Milman, Rev. W. H. (Canon), No. 3, 1845; Stroke, 1846	180, 184, 187
Moore, Rev. G. B., No. 7, 1829	127, 131
Morrison, Allan, No. 5, 1862, 1863 and 1865 . . .	254, 256, 260, 271
Morrison, George, No. 5, 1859, 1860 and 1861 . . .	237, 241, 243, 248, 327
<i>Mountain</i> , Rev. J. G., Bow, 1840; No. 3, 1841 . . .	159, 167, 168
Moysey, Rev. F. Luttrell, Stroke, 1836	138, 146

N.

Neilson, D. A., Coxswain, 1869	295
Nind, Philip Henry, No. 3, 1852; No. 6, 1854 . . .	205, 207, 212, 321
Norsworthy, G. (Barrister-at-Law), No. 2, 1860 . . .	243, 246

P.

Parson, Rev. J. C., No. 4, 1864	265, 267
Penfold, E. H., No. 4, 1846	187
<i>Pennefather, John</i> , No. 6, 1836	138, 147
Pinckney, W., No. 3, 1854	212, 215
Pocklington, Rev. D., Stroke, 1864	265
Pocock, I. J. J. (Barrister-at-Law), No. 2, 1840	159, 164
<i>Polehampton, Rev. H. S.</i> , Bow, 1846	187, 190
Poole, A. R. (Barrister-at-Law), No. 6, 1861 and 1862	248, 254
Prescot, Rev. K., Bow, 1852	205, 206

R.

Raikes, R. Taunton (Barrister-at-Law), Bow, 1865, 1866	271, 273, 277
Richards, E. Vaughan (Barrister-at-Law), No. 2, 1841	168, 172
Richards, F. J., Coxswain, 1845	180
Rich, W. Gordon, Stroke, March and Dec. 1849	193, 199, 200
Ridsdale, S. O. B., Coxswain, 1861	248
Risley, Rev. R. W., Bow, 1857 and 1858; No. 6, 1859; Stroke, 1860	226, 228, 233, 237, 243
Robarts, A. J., Coxswain, 1859, 1860	237, 243
Roberts, Rev. C. P., Bow, 1864	265, 267
Robertson, W., No. 4, 1861	248, 251
Ross of Bladensburg, Robert, S., No. 3, 1868	288
Rocke, Alfred, B., No. 4, 1856	219, 224
Rogers, Rev. W., No. 4, 1840	159, 165
Royds, Rev. E., No. 6, 1840; No. 4, 1841	159, 166, 168
Royds, Rev. F. C., No. 6, 1845 and 1846	180, 185, 187

S.

Salmon, Rev. R. I., No. 3, 1856	219, 224
Schneider, H., No. 7, 1865	271, 275, 333
Senhouse, H. P., No. 2, 1865; No. 7, 1866	271, 273, 277
Seymour, Rev. A. E., No. 6, 1864	265, 267
Shadwell, Rev. Arthur, Coxswain, 1842	173, 314
Shepherd, Rev. R., Bow, 1863	260, 261
Short, Rev. W. F., Bow, 1854	212, 214
Soanes, C. J., Coxswain, 1846, and March, 1849	187, 193
Staniforth, Rev. Thomas, Stroke, 1829	127, 132
Stapylton, Rev. W. Chetwynd, No. 2, 1845; No. 7, 1846	180, 183, 187
Stephens, Ed., No. 2, 1836	138
Steward, Rev. C. H., No. 5, March, 1849; No. 6, Dec. 1849	193, 198, 200
Stocken, Rev. W. F., No. 2, 1856	219, 223
Strong, C. I., No. 7, 1860	243, 247
Sykes, Rev. Ed., No. 7, March and Dec. 1849	193, 199, 200

T.

Tahourdin, Rev. R., No. 2, 1869	294, 296
Thomas, Geo. G. T. (now Treherne), No. 7, 1859	237, 241
Thomson, Rev. W. S., No. 7, 1836	138, 147
Thorley, J. T., Stroke, 1856, 1857, 1858	229, 227, 233
Tinné, J. C., No. 5, 1867, 1868, 1869	282, 285, 288, 295
Toogood, Rev. J. J., No. 5, 1829	127, 131
Tottenham, C. R. W., Coxswain, 1864, 1865, 1866, 1867, 1868	265, 271, 277, 282, 288
Townsend, R. N., No. 5, 1856	219, 225
Tremayne, Henry H., No. 3, 1849	192, 198
Tuke, F. E., Stroke, 1845	180, 185

W.

Walls, Rev. R. G., No. 5, 1839 and 1840	149, 156
Walpole, H., Coxswain, 1858	233
Warre, Rev. E., No. 6, 1857; No. 7, 1858	227, 229, 323
Wauchope, Rev. D., Bow, March 1849	192, 197
Willan, F. No. 4, 1866; No. 7, 1867; No. 6, 1868; No. 4, 1869	277, 280, 282, 288, 294, 336
Wilson, F. M., No. 7, 1845	180, 185
Wodehouse, Rev. James, No. 3, Dec. 1849	200, 203
Wood, Rev. T., No. 6, 1865	271, 274
Wood, Rev. W. Hardy, No. 5, 1857; No. 6, 1858	227, 229
Wood, W. W. (Barrister-at-Law), No. 6, 1866; No. 4, 1867	277, 282
Woodgate, W. B. (Barrister-at-Law), Bow, 1862; No. 4, 1863	254, 255, 260, 329
Woodhouse, S. H., Bow, 1869	294, 296
Woolaston, Rev. C. B., Coxswain, 1841	168
Wordsworth, Right Rev. C. (D.C.L.), No. 4, . 1829	128, 130, 299
Wynne, Owen S., No. 2, 1862	254, 255

Y.

Yarborough, Alf. C., No. 2, 1868; No. 6, 1869	288, 289, 294
Young, John, No. 4, 1860	243, 247

INDEX II.

CAMBRIDGE UNIVERSITY CREWS.

Abercrombie, J., M.D., No. 3, 1839	148, 151
Agnew, S., No. 4, 1854	212, 217
Alderson, Rev. F. C., No. 2, 1856	218, 221
Anderson, W. H., No. 1, 1867, 1868; No. 6, 1869	283, 286, 288, 295
Archer, Rev. F. H., Coxswain, 1862, 1863, 1864, 1865	255, 260, 266, 272
Arnold, Rev. F. M., No. 5, 1845	180, 181

B.

<i>Bagshawe, W. L. G.</i> , No. 5, March, and Dec. 1849	192, 196, 201
Baldry, A., Bow, Dec. 1849	200, 203
Bayford, A. F. (LL.D.), No. 2, 1829	128, 134, 303
Beebee, M. H. L., No. 2, 1865	272, 275
Benn, Rev. Anthony, No. 2, 1857	227, 230
Blake, Henry, No. 7, 1854	212, 217
Blake, Rev. J. S., No. 4, 1860, 1861	243, 245, 249
Booth, G., Coxswain, March and Dec., 1849 .	192, 201
Borthwick, G. (Barrister-at-Law), No. 6, 1864 and 1865	266, 269, 272
Bourke, J. Ulick, No. 3, 1866, and 1867 . .	278, 281, 283
Brandt, Rev. Henry, No. 2, 1852	205, 209
Brett, Sir W. Baliol (Knt.), No. 7, 1839 . .	148, 152
Buchanan, J. G., No. 7, 1862	255

C.

Chambers, J. G., No. 2, 1862; No. 7, 1863 . .	254, 258, 260
Chaytor, H. J., No. 2, 1859, 1860 and 1861 .	238, 242, 243
Cherry, Rev. B. N., No. 6, 1860	243, 245
Clissold, S. T. (Barrister-at-Law), No. 3, 1846 .	186, 188
<i>Cloves, W. P.</i> , No. 4, 1845 and 1846	180, 183, 186
Cobbold, Rev. R. H., No. 5, 1841; No. 6, 1842 .	168, 170, 174
Collard, Rev. J. M., No. 2, 1867	283, 287
Collings, H. H., No. 6, 1861 and 1862 . . .	249, 253, 255
Courage, Edwd., No. 5, 1854	212, 217

Coventry, Millis, (Barrister-at-Law), No. 5, 1860	
1861	243, 245, 249
<i>Croker, William</i> , Bow, 1841	168, 170
Croker, Rev. J. M., Coxswain, 1841	168
Crosse, Rev. C. H., Coxswain, 1852	205
Cuningham, F. E., (Barrister-at-Law), No. 5, 1867.	283, 287

D.

Dale, J. W., No. 3, 1869	295, 298
Darroch, Duncan, (Barrister-at-Law), No. 4, 1858	
and 1859	232, 234, 238
Davis, J. C., No. 3, 1854	212, 216
Denman, Hon. G., No. 7, 1841 and 1842	168, 170, 174, 310
Denman, Hon. L. W., No. 2, 1841 and 1842	168, 169, 174
De Rutzen, A. No. 3, March and Dec., 1849	192, 193

E.

Egan, Thos. Selby, Coxswain, 1836, 1839 and	
1840	138, 148, 150, 309
Entwisle, Thomas, No. 5, 1829	128, 135

F.

Fairbairn, Rev. A. H., No. 7, 1858 and 1860	232, 235, 243
Fairrie, Edward H., No. 4, 1856	218, 221
Fitzgerald, R. U. P., No. 7, 1861; No. 5, 1862	249, 253, 255
<i>Foord, H. B.</i> , No. 4, 1852	205, 211
Forbes, A., Coxswain, 1866 and 1867	278, 383
Fortescue, Rev. H. J., No. 4, 1866	278, 282

G.

<i>Galton, R. C. (M.D.)</i> , Bow, 1854	212, 217
Gaskell, Rev. T. K., Coxswain, 1861	249
Goldie, J. H. D., Stroke, 1869	295, 298
Gordon, H. E., Coxswain, 1869	295
<i>Gordon, Hon. J. H.</i> , No. 4, 1867	283, 287
Gorst, Rev. P. Freeland, Bow, 1862	254, 258
Granville, Rev. A. K. B., Stroke, 1836	138, 143, 307
Green, Rev. F. S. No. 2, 1836	138, 140
Griffiths, W. R., (Barrister-at-Law), No. 7, 1865;	
Stroke, 1866 and 1867	272, 276, 278, 283

H.

<i>Hall, J.</i> , Stroke, 1858, 1859, 1860, 1861	232, 235, 238, 243, 249
Harkness, Rev. R., No. 6, 1845 and 1846	180, 181, 186
<i>Harkness, Rev. W.</i> , No. 2, 1845	180, 182
Hartley, Perceval, No. 4, 1836	138, 141
<i>Havart, Rev. W. J.</i> , No. 3, 1858	232, 235
Hawkins, W. W., No. 4, 1864	266, 269
Hawkshaw, J. C., Bow, 1863 and 1864	260, 262, 266
Hawley, Rev. E., No. 5, 1852	205, 210

Heath, B. R., Coxswain, 1829	128
Heathcote, S., Bow, 1860	243, 244
Hill, Rev. C. G., Stroke, 1845 and 1846	180, 182, 186
Hodgson, Rev. W. C., No. 7, March and Dec. 1849	192, 195, 201
Holden, C. J., No. 4, March and Dec. 1849	192, 196, 201
Holdsworth, A. B. E., Bow, 1829	128, 134
Holley, W. H., No. 3, 1857	227, 230
Holme, Rev. A. P., Bow, 1857	227, 230
Holroyd, G. F., No. 2, 1846	186, 188

I.

Ingles, Rev. David, No. 3, 1860	243, 244
---	----------

J.

Johnson, Rev. F. W., Stroke, 1852; No. 6, 1854	205, 211, 212
Jones, Highway, No. 7, 1840	159, 163
Jones, H. R. Mansel, Stroke, 1856	219, 223
Jones, Rev. W. J. H., No. 2, March, 1849	192, 196
Jones, Warren M., No. 5, 1836	138, 143

K.

Keane, Sir John H. (Bart.), No. 6, 1836	138, 141
Kinglake, Robert A., No. 6, 1863; No. 5, 1864; No. 4, 1865; No. 6, 1866	260, 264, 266, 272, 278

L.

La Mothe, Rev. Claude H., No. 5, 1863	261, 263
Lawes, C. B., Stroke, 1865	272, 276
Lloyd, R. Lewis (Barrister-at-Law), No. 3, 1856; No. 6, 1857, 1858 and 1859	218, 221, 227, 232, 238
Lloyd, Rev. T. B., Coxswain, 1846	186
Lockhart, W. S., No. 3, 1845	180, 183
Longmore, Rev. W. S., No. 6, 1852	205, 211
Lowe, W. H., No. 4, 1868	288, 291
Lubbock, Rev. H. H., Bow, 1858	232, 234

M.

McCormick, Rev. J., No. 6, 1856	219, 222
MacMichael, Rev. W. F., No. 6, 1868; No. 4, 1869	288, 292, 295
Macnaghten, E. (Barrister-at-Law), Bow, 1852	205, 209
Mann, Rev. Gerard, Bow, 1845	180, 182
Massey, W., No. 2, 1840	159, 160
Merivale, Very Rev. C. (D.D.), No. 4, 1829	128, 135
Miller, H. J., No. 6, Dec. 1849	201, 204
Morgan, Rev. R. H., No. 3, 1863	260, 263
Morland, J. T., Coxswain, 1859, 1860	238, 243
Munster, H. (Barrister-at-Law), Coxswain, 1845	180
Murdoch, G. F., Bow, 1846	186, 189

N.

Nadin, H. Trafford, No. 5, 1868	288, 292
Nairne, Rev. Spencer, No. 2, 1854	212, 216
Nichols, J. P., No. 2, 1868	288, 290
Norris, Rev. W. A., No. 7, 1852	205, 210

P.

<i>Paley, George</i> (Barrister-at-Law), No. 7, 1859 . .	238, 242
<i>Paris, Rev. A.</i> , No. 4, 1839	148, 152
Pearson, P. P., No. 7, 1857	227, 232
Pellew, H. E., No. 2, Dec. 1849	200, 204
<i>Penrose, Rev. C. T.</i> , No. 5, 1839	148, 152
Penrose, F. C., No. 6, 1840 and 1841; No. 4, 1842 .	159, 162, 168, 174
Pigott, Rev. E. V., No. 2, 1864; No. 3, 1865 . .	266, 268, 272, 332
Pinckney, Rev. W. J., Stroke, 1868	288, 294
<i>Proby, H.</i> , Bow, March 1849	192, 195

R.

Richards, G. H., Bow, 1861; Stroke, 1862 . .	249, 252, 255, 329
Richardson, Rev. J., No. 7, 1845	180, 182
Ridley, J. H., No. 2, 1869	295, 297
Ridley, J. M., No. 4, 1840 and 1841; Stroke, 1842 .	159, 161, 168, 174, 310
Ritchie, A. M. (Barrister-at-Law), No. 3, 1841 . .	168
<i>Royds, Rev. J.</i> , No. 6, 1842	174, 179
Royds, Rev. N., Bow, 1859	238, 242
Rushton, Rev. J. A., Bow, 1869	295, 297

S.

Salter, Peter King, Bow, 1856	218, 220
Sanderson, Rev. Ed., No. 3, 1862	254, 258
Selwyn, Right Rev. G. (D.D.), No. 7, 1829 . .	128, 136, 302
Selwyn, Rev. J. R., Stroke 1864; No. 2, 1866 . .	266, 270, 278
Sergeantson, Rev. J. J., No. 5, 1857	227, 231
Shadwell, Alfred, H., Bow, 1839 and 1840 . .	148, 150, 159
Smith, A. L. (Barrister-at-law), No. 4, 1857; No. 2, 1858; No. 3, 1859	227, 231, 232, 238
Smith, C. T. (Barrister-at-law), Coxswain, 1854 .	212
Smyly, W. Cecil (Barrister-at-law), No. 4, 1862; No. 2, 1863	254, 259, 260
Smyth, W. Warrington, No. 2, 1839	148, 150
Snow, Rev. H., No. 7, 1856, Stroke, 1857 . .	219, 222, 227
Snow, W. (now Strahan), Stroke, 1829	128, 137
Solly, W. Hammond, Bow, 1836	138, 140
Stanley, E. S., No. 3, 1836; Stroke, 1839 . .	138, 141, 148, 306
Stanning, J., Stroke, 1863	260, 264
Steavenson, D. F. (Barrister-at-Law), No. 7, 1864; No. 5, 1865 and 1866	266, 270, 272, 278
Still, Rev. John, Bow, 1866; No. 7, 1867; 1868 and 1869	278, 281, 283, 288, 295

T.

Tarleton, Rev. W. H., No. 3, 1861	249, 252
Taylor, Rev. S. B., No. 3, 1840	159, 161
<i>Thompson, Rev. W. T.</i> , No. 7, 1829	128, 137
Tower, Rev. Ernest, Bow, 1842	174, 179
Tuckey, H. E., No. 3, 1852	205, 210

U.

Upcher, Rev. A. W., No. 7, 1836	138, 143
Uppleby, G. C., No. 5, 1840	159, 162

V.

Vialls, C. M., Stroke, 1840 and 1841	159, 163
--	----------

W.

Waddington, W. H., No. 6, March 1849	192, 194
Warner, T. D., Coxswain, 1868	288
Warren, Rev. Charles, No. 3, 1829	128, 134, 305
Watney, Herbert, Bow, 1865 ; No. 7, 1866, 1867	272, 274, 278, 283
Watson, Rev. H. S., No. 3, 1864	266, 269
<i>Watson, W.</i> , No. 3, 1842	174, 179
Wharton, Rev. R., Coxswain, 1857, 1858	227, 232
Wilder, Edmond, No. 5, 1846	186, 188
Williams, Rev. H., No. 5, 1856, 1858, 1859	219, 222, 232, 238
Wilson, J. B., No. 4, 1863	260, 263
Wingfield, Rev. W., Coxswain, 1856	219
Wolstenholme, E. P. (Barrister-at-Law), No. 7, 1846	186, 189, 317
Wood, J. G. (Barrister-at-Law), No. 3, 1868	288, 291
Wray, J. C. (Barrister-at-Law), Stroke, March and Dec. 1849	192, 195, 201
Wright, Rev. John, Stroke, 1854	212

Y.

Yatman, W. H. (Barrister-at-Law), No. 6, 1839	148, 151
Young, F. J., No. 4, 1869	295, 298, 337

LIST OF TABLES.

TABLE		PAGE
I.	Life-Table of Oxford University Crews from 1829 to 1859.	375
II.	Life-Table of Cambridge University Crews from 1829 to 1859	376
III.	Life-Table of United University Crews from 1829 to 1859.	377
IV.	Effects of Training and Boat-Racing on the health of the Crews	378
V.	Honours gained by Members of the Oxford Eights . . .	379
VI.	Honours gained by Members of the Cambridge Eights . .	380
VII.	Table shewing the number of men supplied to the Uni- versity Eight by the different Colleges, from 1829 to 1869.	382
VIII.	Weight in health in proportion to height	383
IX.	Variation in the weight of Oxford University Oars who rowed twice	384
X.	Variation in the weight of Cambridge University Oars who rowed twice	385
XI.	Variation in the weight of Oxford University Oars who rowed three times	386
XII.	Variation in the weight of Cambridge University Oars who rowed three times	386
XIII.	Variation in the weight of Oxford University Oars who rowed four times	387
XIV.	Variation in the weight of Cambridge University Oars who rowed four times	387
XV.	Shewing the Expectation of Life in Males from 20 to 65 years of age	388

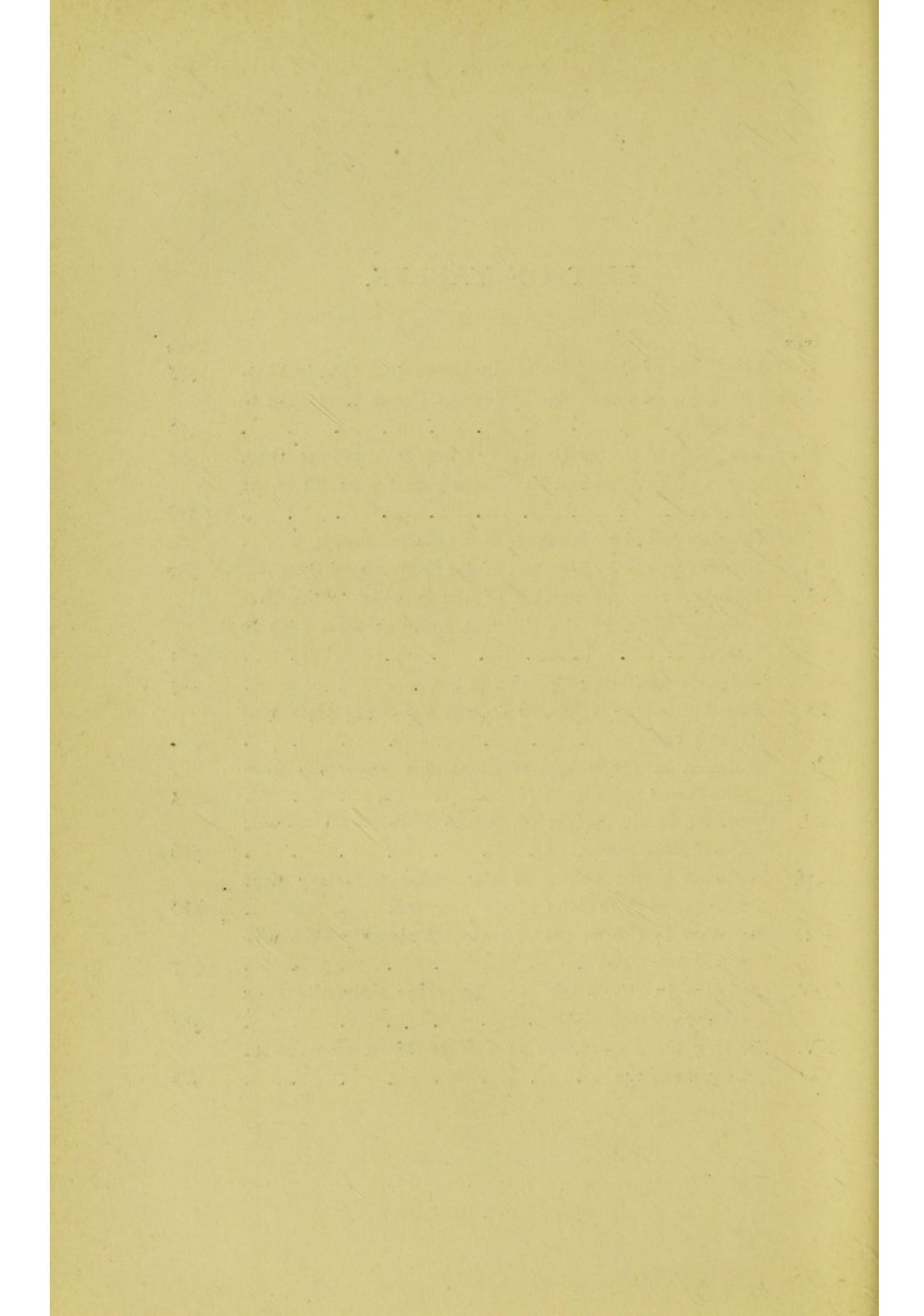


TABLE I.
LIFE-TABLE OF OXFORD UNIVERSITY CREWS FROM 1829 TO 1859.

Year of Race.	Years of life enjoyed collectively by each Crew from the Race to 1869.	Survivors' expectation of life in 1869.	Years deducted for unsound lives.	Probable length of each Crew's life after the Race.	Average length of life of each Oarsman after the Race.	Extent to which life exceeded or fell short of expectation.	Expectation of life (according to Dr Farr)	Of eight healthy men at 20.
1829	300	70	...	370	46.5	+6.7	40	320
1836	227	90	...	317	39.6	- .4	40	320
1839	216	120	...	336	42	+2	40	520
1840	208	126	...	334	41.7	+1.7	40	320
1841	224	168	...	392	49	+9	40	320
1842	211	154	...	365	45.6	+5.6	40	320
1845	177	168	7	338	42.2	+2.2	40	320
1846	172	168	15	325	40.6	+ .6	40	320
1849—1	160	208	...	368	46	+6	40	320
1849—2	157	182	...	339	42.3	+2.3	40	320
1852	136	224	...	360	45	+5	40	320
1854	120	240	...	360	45	+5	40	320
1856	104	248	...	352	44	+4	40	320
1857	96	256	...	352	44	+4	40	320
1858	88	264	...	352	44	+4	40	320
1859	80	272	...	352	44	+4	40	320
	2670	2958	22	5612	43.7	+3.7	40	5120

N.B. This table refers only to the Oarsmen, the Coxswains not being included.

TABLE II.
LIFE-TABLE OF CAMBRIDGE UNIVERSITY CREWS FROM 1829 TO 1859.

Year of Race.	Years of life enjoyed collectively by each Crew from the Race to 1869.	Survivors' expectation of life in 1869.	Years deducted for unsound lives.	Probable length of each Crew's life after the Race.	Average length of life of each Oarsman after the Race.	Extent to which life exceeded or fell short of expectation.	Expectation of life (according to Dr Farr)	
							Of a healthy man at 20.	Of eight healthy men at 20.
1829	291	98	...	389	48.6	+ 8.6	40	320
1836	238	126	...	364	45.5	+ 5.5	40	320
1839	230	120	...	350	43.7	+ 3.7	40	320
1840	232	168	...	400	50	+ 10	40	320
1841	197	147	...	344	43	+ 3	40	320
1842	190	132	...	322	40.2	+ 2	40	320
1845	134	96	7	223	27.8	- 12.2	40	320
1846	164	168	...	332	41.5	+ 1.5	40	320
1849—1	108	108	...	216	27	- 13	40	320
1849—2	160	216	10	376	47	+ 7	40	320
1852	108	140	...	248	31	- 9	40	320
1854	117	210	...	327	40.8	+ .8	40	320
1856	104	248	10	342	42.7	+ 2.7	40	320
1857	96	256	...	352	44	+ 4	40	320
1858	86	198	...	284	35.5	- 4.5	40	320
1859	79	238	...	317	39.6	- .4	40	320
	2524	2659	27	5166	40.7	+ .7	40	5120

N.B. This table refers only to the Oarsmen, the Coxswains not being included.

TABLE III.
LIFE-TABLE OF UNITED UNIVERSITY CREWS FROM 1829 TO 1859.

Year of Race.	Years of life enjoyed collectively by the Crews from the Race to 1869.	Survivors' expectation of life in 1869.	Years deducted for unsound lives.	Probable length of life of the Crews after the Race.	Average length of life of each Oarsman after the Race.	Extent to which life exceeded or fell short of expectation.	Expectation of life (according to Dr Farr) Of a healthy man at 20.	Of sixteen healthy men at 20.
1829	591	168	...	759	47.5	+7.5	40	640
1836	465	216	...	681	42.5	+2.5	40	640
1839	446	240	...	686	42.8	+2.8	40	640
1840	440	294	...	734	45.8	+5.8	40	640
1841	421	315	...	736	46	+6	40	640
1842	401	286	...	687	42.9	+2.9	40	640
1845	311	264	14	561	35	-5	40	640
1846	336	336	15	657	41	+1	40	640
1849—1	268	315	...	584	36.5	-3.5	40	640
1849—2	317	398	10	715	44.6	+4.6	40	640
1852	244	364	...	608	38	-2	40	640
1854	237	450	...	687	42.9	+2.9	40	640
1856	208	496	10	694	43.3	+3.3	40	640
1857	192	512	...	704	44	+4	40	640
1858	174	462	...	636	39.7	-.3	40	640
1859	159	510	...	669	41.8	+1.8	40	640
	5194	5611	49	10,778	42.2	+2.2	40	10,240

N.B. This table refers only to the Oarsmen, the Coxswains are not included.

TABLE IV.

EFFECTS OF TRAINING AND BOAT-RACING ON THE
HEALTH OF THE CREWS.

Year of Race.	Benefited.	Uninjured.	Injured.
1829	8	7	1
1836	4	12	...
1839	6	7	2
1840	3	10	...
1841	3	6	...
1842	8	3	...
1845	2	9	5
1846	1	7	2
1849-1	5	9	1
1849-2	4	2	1
1852	3	10	...
1854	4	9	...
1856	2	13	1
1857	5	6	...
1858	5	4	...
1859	6	2	...
1860	4	6	...
1861	4	6	1
1862	4	7	...
1863	...	8	1
1864	6	3	2
1865	5	5	...
1866	4	3	...
1867	6	3	...
1868	7	3	...
1869	6	2	...
	115	162	17

N.B. This table refers solely to the Oarsmen, the Coxswains not being included.

TABLE V.
HONOURS GAINED BY MEMBERS OF THE OXFORD EIGHTS.

Year of Race.	CLASSICS.		MATHEMATICS.	
	1st Class.	2nd Class.	1st Class.	2nd Class.
1829	C. Wordsworth.	...	...	...
1829	...	J. E. Bates.	...	...
1836	...	Ed. Stephens.	...	...
1836	...	Thomas Harris.	...	...
1839	...	...	J. Compton.	...
1839	...	...	...	R. Hobhouse.
1840	...	J. G. Mountain.	...	...
1840	...	I. J. J. Pocock.	...	...
1841	...	W. Lea.	...	...
1841	...	...	...	E. V. Richards.
1849	J. W. Chitty.	...	...	...
1849	J. J. Hornby.	...	...	...
1852	K. Prescott.	...	...	...
1854	...	W. F. Short.	...	...
1856	...	A. B. Locke.	...	...
1857	E. Warre.	...	...	...
1859	...	G. Morrison.	...	...
1859	...	R. F. Clarke.	...	...
1862	...	C. R. Carr.	...	...
1863	W. Awdry.	...	...	...
Total	6.	11.	1.	2.

N.B. This table refers only to the Oarsmen, the Coxswains not being included.

TABLE VI.

HONOURS GAINED BY MEMBERS OF THE CAMBRIDGE EIGHTS.

Year of Race.	MATHEMATICS.		CLASSICS.	
	<i>Wranglers.</i>	<i>Senior Opt.</i>	<i>1st Class.</i>	<i>2nd Class.</i>
1829	...	...	G. Selwyn, 2nd.	...
1829	...	C. Merivale, 29th.	C. Merivale, 4th.	...
1836	F. S. Green, 4th.	...	...	...
1836	...	A. W. Upcher, 11th.	...	...
1839	...	...	...	...
1839	W. W. Smyth, 7th.	...	...	A. H. Shadwell, 8th.
1839	...	J. Abercrombie, 16th.	...	...
1839	...	...	C. T. Penrose, 2nd.	...
1839	...	W. B. Brett, 28th.	...	...
1840	...	J. M. Ridley, 16th.	...	...
1840	...	F. C. Penrose, 10th.	...	...
1841	...	R. H. Cobbold, 46th.	...	R. H. Cobbold, 6th.
1841	...	...	Hon. G. Denman, 1st.	...
1841	W. Croker, 9th.	...	...	...
1841	F. M. Arnold, 35th.	...	...	...
1845	...	J. Richardson, 27th.	...	...
1845	...	...	...	...
1846	G. F. Holroyd, 33rd.	...	...	G. F. Holroyd, 7th.
1846	E. Wolstenholme, 30th.	...	...	...
1849	...	W. H. Waddington, 3rd.	W. H. Waddington, 2nd.	...
1849	J. C. Wray, 10th.	...	E. Macnaghten, 1st.	...
1852	...	E. Macnaghten, 34th.	...	...
1854	...	S. Nairne, 15th.	...	...
1854	...	F. W. Johnson, 33rd.	...	...

1856	...	...	...	H. Snow, 1st.	...	...
1857	...	...	...	...	...	...
1857	...	...	...	...	...	...
1858	...	...	...	...	...	...
1859	...	...	...	...	...	...
1859	...	...	...	...	...	...
1860	...	...	...	...	...	...
1862	...	...	...	...	...	...
1863	...	...	...	...	...	...
1865	...	...	...	...	...	...
1866	...	...	...	...	...	...
1867	...	...	...	...	...	...
1867	...	...	...	...	...	...
1868	...	...	...	...	...	...
1869	...	...	...	...	...	...
1869	...	...	...	...	...	...
	W. F. MacMichael, 37th.					
	Total	8.	21.	10.	5.	

N.B. This table refers only to the Oarsmen, the Coxswains not being included.

TABLE VII.

TABLE SHEWING THE NUMBER OF MEN SUPPLIED TO
THE UNIVERSITY EIGHT BY THE DIFFERENT COL-
LEGES FROM 1829 TO 1869.

<i>Oxford.</i>		<i>Cambridge.</i>	
Christ Church	26	Trinity	66
Balliol	19	St John's	25
Brasenose	17	Caius	10
University	14	Magdalene	8
Exeter	12	Trinity Hall	8
Pembroke	9	Corpus	6
Merton	8	Jesus	6
St John's	7	Emmanuel	5
Trinity	7	Christ's	4
Oriel	5	Pembroke	3
Wadham	5	Sidney	2
Worcester	5	Clare	1
Corpus	3	Downing	1
Magdalene	3	King's	1
New College	2	St Peter's	1
Queen's	2		
Jesus	1		
Lincoln	1		
Magdalene Hall	1		
	147		147

N.B. This table refers only to the Oarsmen, the Coxswains not being included.

TABLE VIII.

WEIGHT IN HEALTH IN PROPORTION TO HEIGHT

(FROM DR CHAMBERS' GULSTONIAN LECTURES).

Height.		Mean weight of 2650 healthy men.		Dying Gladiator.		Theseus, British Museum.		Bronze Hercules, British Museum.	
ft.	in.	st.	lbs.	st.	lbs.	st.	lbs.	st.	lbs.
5	1	8	8	8	7	9	2	9	7
5	2	9	0	8	12	9	8	10	10
5	3	9	7	9	4	10	0	11	4
5	4	9	13	9	11	10	7	11	10
5	5	10	2	10	2	11	1	12	4
5	6	10	5	10	9	11	8	12	12
5	7	10	8	11	3	12	1	13	7
5	8	11	1	11	10	12	10	14	1
5	9	11	8	12	2	13	2	14	11
5	10	12	1	12	11	13	11	15	5
5	11	12	6	13	4	14	6	15	13
6	0	12	10	14	0	15	0	16	10

TABLE IX.

VARIATION IN THE WEIGHT OF OXFORD UNIVERSITY
OARS WHO ROWED TWICE.

WEIGHT AT TIME OF RACE				
First Race.		Second Race.		Plus or Minus.
st.	lbs.	st.	lbs.	lbs.
11	4	12	0	+ 10
12	3	13	2	+ 13
12	13	12	8	- 5
11	4	11	4½	+ ½
10	13	11	7	+ 8
11	3	11	8½	+ 5½
11	5	11	9	+ 4
11	2	11	8	+ 6
10	12	11	7	+ 9
11	6	11	11	+ 5
11	0	10	10	- 4
11	0	11	0	.....
10	0	10	2	+ 2
10	11	10	12	+ 1
11	10	11	9	- 1
11	1	11	3	+ 2
11	8	11	11	+ 3
10	8	10	12	+ 4
11	0	11	0	.....
11	11	11	13	+ 2
12	0	12	2	+ 2
12	13	13	0	+ 1
11	7	11	8	+ 1
12	3	12	5	+ 2
10	8	11	0	+ 6
11	13	12	0	+ 1
11	5½	11	9	+ 3½
12	4	12	6	+ 2
11	2½	11	3½	+ 1
11	12	11	8	- 4
Average gain in weight				+ 2·8

TABLE X.

VARIATION IN THE WEIGHT OF CAMBRIDGE UNIVERSITY
OARS WHO ROWED TWICE.

WEIGHT AT TIME OF				Plus or Minus.
First Race.		Second Race.		
st.	lbs.	st.	lbs.	lbs.
12	9	12	10	+1
11	9	11	12	+3
11	1 $\frac{1}{2}$	11	4	+2 $\frac{1}{2}$
12	7	12	0	-7
10	12	10	11	-1
11	0	11	6	+6
11	8	11	8	...
12	4	12	6	+2
12	4	12	6	+2
10	7	10	9	+2
12	8	12	12	+2
12	8	12	12	+4
11	8	11	8	...
11	8	11	11	+3
11	10	12	0	+4
10	12	11	0	+2
11	2	11	3	+1
11	8	10	13	-9
12	1	12	4	+3
11	12	11	10	-2
10	11	11	2	+5
10	4	10	5	+1
11	8	11	6	-2
11	5	11	4	-1
11	0	11	3	+3
11	0	11	3	+3
11	0	11	6	+6
12	3	12	9	+6
12	8	13	3	+9
11	2	11	3	+1
Average gain in weight				+1'7

TABLE XI.

VARIATION IN THE WEIGHT OF OXFORD UNIVERSITY
OARS WHO ROWED THREE TIMES.

First Race.		Second Race.		Third Race.		Plus or Minus.
st.	lbs.	st.	lbs.	st.	lbs.	lbs.
11	2	11	9	11	7	+ 5½
12	8½	12	4	12	6	- 2½
12	4	12	4	12	3½	- ½
10	10	11	2	11	7½	+ 11
10	11	11	3	10	12	+ 1
11	3	11	4	11	5	+ 2
13	4	13	7	13	10½	+ 6½
9	12	10	1	10	3	+ 5
Average gain in weight						+ 3·5

TABLE XII.

VARIATION IN THE WEIGHT OF CAMBRIDGE UNIVERSITY
OARS WHO ROWED THREE TIMES.

First Race.		Second Race.		Third Race.		Plus or Minus.
st.	lbs.	st.	lbs.	st.	lbs.	lbs.
10	13	11	4	11	3	+ 4
11	1	10	12	11	0	- 1
11	2	11	4	11	11	+ 9
10	8½	11	9	12	0	+ 5½
11	0	11	2	11	4	+ 4
12	1	12	4	12	5	+ 4
Average gain in weight						+ 4·1

TABLE XIII.

VARIATION IN THE WEIGHT OF OXFORD UNIVERSITY
OARS WHO ROWED FOUR TIMES.

First Race.		Second Race.		Third Race.		Fourth Race.		Plus or Minus.
st.	lbs.	st.	lbs.	st.	lbs.	st.	lbs.	lbs.
11	3	11	8	11	2	11	8	+ 5
12	2	12	3	12	5	12	2½	+ ½
Average gain in weight								+ 2·7

TABLE XIV.

VARIATION IN THE WEIGHT OF CAMBRIDGE UNIVERSITY
OARS WHO ROWED FOUR TIMES.

First Race.		Second Race.		Third Race.		Fourth Race.		Plus or Minus.
st.	lbs.	st.	lbs.	st.	lbs.	st.	lbs.	lbs.
11	6	11	12	12	1	12	1	+ 9
11	12	11	12	11	13	11	9	- 3
10	7	10	2	10	4	10	6	- 1
12	0	12	4	12	8	12	9	+ 9
Average gain in weight								+ 3·5

TABLE XV.

SHEWING THE EXPECTATION OF LIFE IN MALES
FROM 20 TO 65 YEARS OF AGE.

(According to Dr Farr.)				(According to Mr Finlaison.)			
Age.	Expectation of Life.	Age.	Expectation of Life.	Age.	Expectation of Life.	Age.	Expectation of Life.
20	40	43	24	20	38.39	43	25.08
21	39	44	24	21	37.83	44	24.42
22	39	45	23	22	37.34	45	23.75
23	38	46	22	23	36.87	46	23.07
24	37	47	22	24	36.39	47	22.38
25	37	48	21	25	35.90	48	21.68
26	36	49	21	26	35.41	49	20.98
27	35	50	20	27	34.86	50	20.30
28	35	51	19	28	34.31	51	19.62
29	34	52	19	29	33.75	52	18.97
30	33	53	18	30	33.17	53	18.34
31	33	54	17	31	32.59	54	17.73
32	32	55	17	32	32.00	55	17.15
33	31	56	16	33	31.40	56	16.57
34	31	57	15	34	30.79	57	16.02
35	30	58	15	35	30.17	58	15.47
36	29	59	14	36	29.54	59	14.43
37	28	60	14	37	28.91	60	14.39
38	28	61	13	38	28.28	61	13.84
39	27	62	12	39	27.65	62	13.28
40	26	63	12	40	27.02	63	12.72
41	26	64	11	41	26.39	64	12.17
42	25	65	11	42	25.74	65	11.63

GENERAL INDEX.

A.

Academy at Athens, 80
 Academical pursuits, will training interfere with? 64
 Acrobats, 70
 Active lives led by old crews, 61
 Acute inflammation, 101
 — intellect, 50
 — rheumatism, 110
 Adipose tissue, 88, 113
 Advantages of an island, 121
 Æschylus, 70
 Age, omission of, 112
 Air-cells, additional, 48
 Air, pestilential, 122
 Alarming accident, 34
 Albumen, increase of, 104
 Allurements of academic life, 73
 — of large towns, 82
 Alma Mater, 71, 121
 America, 43
 Analysis, result of, 8
 Anamometer, 114
 Ancient mariners, 22
 Aneurism, 109
 — case of, 39
 Anglo-Saxon Race, 126
 Antagonistic muscles, increase of, 46
 Antithesis between mind and matter, 48
 Appointments gained by cramming, 90
 Aptitude, natural, disregarded, 118
 Aristotle, 75
 Army, health of, 28
 Asthenic form of disease, 101
 Asthma and hay-fever cured by rowing, 44
 Athletes, various orders of, 4
 Athletic contests, influence of on health, 2
 Athleticism too enthralling, 69
 Atlantic crossed by hardy youths, 119

Augmented constitutional vigour, 49
 Australia, 27, 43
 Auxiliary boats recommended, 76
 Average size of the flower of our youth, 116
 Axillary region, 117

B.

Balance of circulation restored, 53
 Baneful effects of rowing, 63
 — inheritance, 123
 "Barbarized athletes," 66
 "Barbarous hardness," 94
 Barker, late Dr, 120
 Barracks in hilly districts, 122
 Beddoe, Dr, on bulk, 79, 83
 Benefited, 41
 Benefits of war, 125
 Best-lived crew, 23
 Biceps, 117
 — expansion of, 45
 Blacksmiths, 118
 Bleeding at the nose, 102
 Blindness of relatives, 32
 Blood, alteration in relative proportions of, 104
 — a source of irritation, 105
 — disordered, 104
 — quality of, 101
 — loss of (*O*), 17
 — loss of (*P*), 17
 — nourishing mind and muscle, 65
 Blood-vessel, breaking of, 11
 — rupture of (*D*), 34
 — rupture of, 107
 — increase in size and number, 47, 48
 Blue ribbon of river, 65
 Boat racing, 5
 — baneful effects of, 96
 Bodily frame, how influenced by hard muscular exertion, 44
 Bones still malleable, 79
 Brain better able to work, 49

Brain-work exacting, 50
 Breezy influx of healthy aerial tide, 83
 Brent, Mr, 112
 Brewing Bavarian beer, 125
 British maidens, 119
 — pluck, 2
 — soldiers, three regiments of, 84
 Bronchial hæmorrhage, 102
 Bulwarks of the state, 126
 Burning of midnight oil, 82

C.

Cam, river, 46
 — improvement of the, 120
 Cambridge crews' disadvantages, 121
 — to London, 56
 "Camford," 93
 Canada, 43
 "Canker at the core," 62
 Capillaries newly formed, 48
 Cardiac dilatation, 109
 — disease, 38
 Carbonic acid given off, 120
 Casino repulsive to healthy mind, 81
 Casualties ascribed to Boat-racing, 98
 Causes of death, 26
 Centrifugal expansion, 49
 Cessation of exercise, 115
 Chalky or cheesy mass, 100
 Chambers, Dr, 111
 Champions of the prize-ring, 3
 Change recruiting to the lungs, 108
 Characteristics of health, 116
 Cheese-like appearance, 103
 Chest, circumference of, 49
 — cramped movements of, 87
 — capacious, 117
 — conformation of, 114
 — may still be enlarged, 79
 — how affected by rowing, 46—51
 — cold on, 106
 — development of, 47
 — effects of hard exercise on, 48
 — good, prized, 49
 Choice of apt successors, 76
 Chronic catarrhal pneumonia (description of), 100
 Civic gown, 85
 Clergymen, select lives, 25
 Close confinement, 18
 Coal-whippers, 37
 Cold neglected (*F*), 13

College Eights, 6
 Colquhoun sculls, 65
 "Coming collapse," 55
 Comforting assurance of man of science, 62
 Compiling of lexicons, 125
 Competitive examinations, 90
 — contests, who are to avoid, 107
 Conflicting evidence, 35
 Consequences of compulsory schooling, 121
 — of early inactivity, 89
 Constitutional vigour, how to acquire, 49
 "Constitutional," reading man's, 50
 Consumption, said to be fatal to Oarsmen, 98
 — tubercular, description of, 98
 — a term too widely applied, 98
 — inherited, 99
 — distinct forms assumed by, 100
 — "pulmonary," 101—105
 — other forms of, 102
 — description of constitutional, 103
 — "systemic," 105—107
 — percentage of deaths from, 27
 — hereditary (*G*), 13
 — forms of, 50
 — remedy for, 81
 Consumptive (*H*), 13
 Cornelia, 63
 Cornwall men, 79
 Covered buildings, exercise in, un- exhilarating, 119
 Cowley marsh, 67
 Crimean war, 28
 Critical nature of attack, 101
 Criticism of evidence, 29
 Cruelty to animals, 3, 119
 Cruel neglect of muscular education, 88
 Cubic inches of air, 50
 Cumberland men, 79
 Cunningly collated facts and figures, 90

D.

Danger liable to be incurred, 109
 — understood, 78
 Decarbonizing the blood, 50
 Degenerative changes, 60, 83
 Delicate fibre, 31, 61, 106.
 — mothers, 124
 — subject, 30

Delicate inquiry, 35
 Deterioration of race, 83, 122
 Development, unusually energetic,
 79
 Diathesis, hæmorrhagic, 107
 Dietetic excesses, 94
 Difference between *A* and *B*, 91
 Digestion, secretion and nutrition, 68
 Discipline, moral, 72
 Disastrous voyage, 3
 Discrepancy in evidence, 34
 Dispelling the blues, 97
 Distribution, even, of nerve force, 69
 Diverting of drains, 121
 Dogs exposed to bad air, 120
 Dorsal regions, 117
 Doubtful testimony, 3.
 Duke of Wellington, 90
 "Dundrearies" of the Universities,
 68
 Duration of life among University
 Oars, 19
 "Dying Gladiator," 111
 Dyspnœa, 51
 Dyspepsia, 19
 Dyspeptic irritability of mind, 51

E.

Education most required, the, 121
 Educational value of our old Uni-
 versities, 80
 Eccentric formulas of swearing, 93
 Effeminate days, 55
 Eighteen-twenty-nine crews, 20, 21,
 22, 42, 43
 Elasticity of tissue, 59
 Elbow-joint excised (*C*), 10
 Elite of University, 67
 Elixir of life, 86
 Emperor's German Guardsmen, 81
 Empire, duration of, 83
 Enervating conditions, 122
 England, future mothers of, 118
 — north of, 123
 English strength, decay of, 84
 Engorgement of lungs, 53
 Equator, trying work on the, 43
 Evidence of relatives, 36
 — of advancing years, 59
 — important mass of, 40
 Exceptional case (*B*), 10
 Exercise, beneficial, 108
 — injurious, 105
 Exhaustion, exaggerated, 56

Exhaustion, undue, 31
 Exhausted condition of University
 Oars, 54
 Exotics, highly forced, 90
 Expansion of lungs, 118
 Expectation of life at twenty, 20
 "External life," organs of, 61
 Extraordinary pluck, 32

F.

Failing of national coffers, 126
 Fainting, case of (*N*), 16, 35
 Farr's, Dr, English life-tables, 20
 Fashionable boarding school, 119
 "Fatal indulgence," 107
 Feats in walking and running, 56
 — of athletes chronicled, 1
 Feeble sickly race, 83
 Fevers fatal to robust frames, 26
 Fibres, new formation of, 47
 "Finishing," 119
 First class, 64
 First term, importance of, 73
 Flagging energies of the frame, 87
 Food, expensive, 122
 Foreign body, presence of injurious,
 100
 Fortuitous aggregation of 300 men,
 66
 Fortunate son of business father, 89
 Foundation of statements, 4
 Four Oarsmen who have not an-
 swered, 41
 Fragrant Havannah laid aside, 72
 Frail thread of life, 32
 French striplings, 124
 Full deep chest, 57

G.

Gas and smoke, 122
 Gastrocnemius developed, 48
 Gauging constitutional vigour, 61
 German troops, stamina of, 124
 — industry, fruits of, 102
 Gradual preparation recommended,
 73
 "Graduates, sweet girl," 70
 Graves, late Dr, 26
 Great Britain, 126
 Greece, athletes of ancient, 3, 4
 Grenadiers of Frederick William
 the First, 81
 Groundless forebodings, 89
 Growth in abeyance, 79

Guardians of public order, 84
 Guards, 28, 34
 Gulstonian lectures, 111
 Gutter urchins, 121
 Gymnasia, our military, 78
 — ancient, 80
 Gymnasiarchs, importance of, 80
 Gymnastics for recruits, 48

H.

Hæmoptysis, 102
 Hard rowing career, effect of, 39
 Harmless recreations saddled with odium, 63
 "Harry Gow," 118
 Haughton, Rev. Professor, 53
 Health, necessity of, 83
 Healthy channel for nervous energy, 97
 — man, description of, 116
 — parents, 123
 — blood required, 48
 — man's exercise, 86
 Heart disease, case of, 58
 — rapidly fatal forms of, 37
 Heart, a muscle, 61
 — healthy, 39
 — hypertrophied (*B.*), 10
 — pain in apex of, (*K.*), 15
 — valve of, torn, 38
 — afflicted undergraduates, 97
 — refractory, not soothed by pipe or novel, 97
 — affections, 28
 — danger from the, 109
 — rending labour, 41
 — a small muscle, 53
 — of old man, work done by, 54
 — mentioned, 32, 33
 — knocking at ribs, 95
 Heaviest old oar, 116
 Hecatombs of young Englishmen, 29
 Height, 33
 — to be deprecated, 110
 Herald of impending decay, 102
 Hercules in build, 61
 "— Bronze," 112
 Hereditary consumption, 32
 — heart-disease, 109
 — diseases, how to diminish, 81
 Heterogeneous company, 77
 "High," to do the, 73
 High tension, state of, 75
 Highland moor, 113

Honours gained by university Oars, 64
 Hints for Captains of Eights, 113
 Hope of the house, 70
 Hours for intellectual culture, 68
 Hybrid monstrosity, 93
 Hypochondriac, method of quieting the, 97

I.

Idle and dissolute, the, 72
 Idyllic life encroached on, 85
 Ill-starred mortals, 99
 Importance of available lung tissue, 50
 — of early literary application, 71
 Impossibility of tracing every College Oar, 6
 Improvident marriages, 122
 Impure air, interferes with training, 120
 Increase of temperature, 115
 Indications of failing power, 82
 Indigestion, 105
 Indiscriminate warning, 2
 Inflammatory infiltration, 100
 Inflammation of lungs, 50
 Injured, 41
 Injury to Oarsmen, reasons of, 8
 — 17 cases of, 7—18
 Insanity, how to prevent, 81
 Insidious influences, 84
 Insinuations against Oarsmen, 93
 Instances of injury in a hospital patient, 38
 — of benefit, 43, 44
 Insurance offices, for select lives, 23, 25, 80, 88
 Intellectual influence of athleticism (Mr R. F. Clarke on), 66
 Intemperance injurious, 39
 "Internal life," organs of, 61
 Invalids, 123
 Invaluable boon, 86
 "Inverse development," very rare, 62
 Iphigenias, modern, 118
 Isis, rowing on the, 46, 120
 Isolated cases of imprudence, 36

J.

Jackson a prize champion, 112
 Jaded girls, 119
 Judicious course of training, 97

Judicious exercise, 60
— training, 108
Jumble, heterogeneous, 118

K.

"King's Parade," to saunter in, 73

L.

Lacedæmonians, 121
Lady Rowers, 119
Laennec, theory of, 98
Latitudinarian proclivities, 40
Legalized pillage, 125
Lent Term, 76
Liberty of the subject, 122
Life tables, 19, 20, also in Appendix
Liquid flesh, 104
"Limb-work," 46
London-bred boy, 43
— adapted for "sacking," 126
— "the" old Oar who foundered in, 27
Loose-fibred men, 113
Loss of Germans, inappreciable, 124
Louis, theory of, 98
Loyal devotion evoked by sympathy, 92
Lucknow, old Oar shot in, 27
Lumbar bones, 117
Lungs, pabulum of, 123
— disease of, 27, 28, 33
— increase of, 48, 50
— functional activity of, exalted, 50
— affected (*A*), 9
— affected (*O*), 17
— shrunk and atrophied, 82
Lycaëum at Athens, 80

M.

"Man with the heart," 96
Manchester Infirmary, 83
Manly vigorous mind, 51
Manufacturing districts, people of, 83
"Marks," deceptive criteria, 92
Martyr to dyspeptic disturbances, 88
Marvellous gain to national health, 81
Maximum amount of endurance, 110
"Memoria technica," 90

Men of muscle, 3
"Mens sana in corpore sano," 51
Mental and social culture, 67
Method of prosecuting inquiry, 29
Michaelmas Term, 76
Military service, enforced, 121
Milo, future, 72
Mischief at the old spot, 100
Miserable offspring, 122
Moderate exercise beneficial, 107
"Moderations" omitted, 65
Modern research, light thrown by, 104
— warfare, difference in, 125
Moloch, 63
Moltke, 124
"Moral debasement" of No. 8, 93
— and physical vigour combined, 79
— effect of training, 43
Morality, standard of, 63
Mortality among Oarsmen, 25
Mournful heritage, a, 82
Muscle constantly working, 55
Muscles used in rowing, 45
— and mind yokefellows, 65
— men of, 3
— slightly alluded to, 49
— antagonizing, 46
Muscular excess merely entails personal harm, 81
Muses, attractive society of, 67
Music-hall, not so tempting to well regulated minds, 81
Mysteries of trade, 85

N.

Nape of neck, 117
National physique benefited, 122, 124
— decadence of the Greeks, 80
— pluck, 125
— health, 126
— life-blood, 123
Navy, health of, 28
Neighbours' cupidity, 126
Nerve force, 68
Nervous energy, well-spring of, 69
— man, the, 94, 95
New tissues built up, 90
— Zealand, 43
Newspaper controversy, 51
Niemeyer, Professor, 39, 99
Nineteenth century, humane sentiments of, 123

Noblest intellectual faculties, 50
 Northumberland men, 79
 Number of old Oars, 8

O.

Oar, championship of the, 119
 Oarsmen, comparative physique of rival, 116
 — self-taught, 117
 Obliquity of judgment, 51
 Objection to athletics, 63
 Occasional day's rest, 76
 Occasions on which exertion is harmful, 98
 Ocean bulwarks, 121
 "Odd event," 70
 "Old Oars," social position of, 5
 — number of, 5
 — number of different races rowed in by, 15, 16
 — academical distinctions gained by, 65, 66
 Omission of minor ailments, 19
 Open air beneficial, 119
 Opinions of College friends, 30
 "Optimes," 65
 Ordinary English ratepayer, 85
 Organ, irritable and over-excited, 96
 Organs "internal and external" intimately interwoven, 62
 — great internal, 106
 Original of portraits, 94
 — research, by Dr Beddoe, 79
 Orthodox methods of spending the day, 86
 — doctrine regarding consumption, 99
 Osseous system mapped out, 79
 Outward form transmitted, 80
 Overtaxing of strength (*H*), 13
 Over-exertion (*M*), 16
 "Oxbridge," 93

P.

Pain in the angle of the chest (*A*), 9
 — in the side (*O*), 16
 Painful spectacle, 54
 Palpitation of the heart, 42
 "Paralyzing exhaustion," 57
 Paris, siege of, 125
 Parkins, the Cornish wrestler, 112
 Parkes, Professor, 85

Pastry-cook avoided, 72
 Paterfamilias, 58, 70, 87
 Pectoral muscles, 47
 Pent-up muscular energy, 119
 Percentage of death among old Oars, 25, 26, 27
 Perfection of height, 111
 Perilous health, 75
 Periodical repose enjoyed by limbs and muscles, 62
 Perpetual training undesirable, 69
 Personal experience of old Oars, 40
 Persons deficient in physical vigour, 102
 Pet hobby of leading men, 90
 Phantom crustaceans, 77
 Phase, inner, of college life, 31
 Phenomena, morbid, 104
 Phyllis, 63
 Physical activity, simple forms of, 86
 — capacity for work, 50
 — capital, 60
 — disqualifications for rowing, 98
 — education, importance of, 121
 — toil, diverted, 85
 — value of gymnastic instruction, 47
 — vigour wanting in, 11, 83
 Physiological law, 122
 — reasons, 73
 Physiology, teachings of, 52
 Physique requisite for rowing, 117
 Picture of rude health, 87
 Pictures, statues, and works of art, 89
 Piping seasons, 126
 Pleasurable recreation, 78
 Pleurisy, 50
 Polite education, 64
 Pot-hunters of the river, 77
 Portions of old Oars' letters published, 40
 Precious heir-loom, the most, 81
 Precocious development, 32
 Preference given to stamina, 76
 Premature decay, 122
 — old age, 88
 Prey to epidemics, 83
 Primeval votaries of the oar, 42
 "Professional crammer," 91
 Proportion of cases ascribed to consumption, 99
 Psychical qualities transmitted, 125
 Pugilistic encounter, 94

Pulmonary vessels, inherent delicacy of, 102
 Puny frames, 50

Q.

Query addressed to old Oars, 5
 Question regarding time spent in training, 69
 — regarding cultivation of muscle, 70
 Quill-wielding gladiators, 73

R.

Railway refreshment room, 117
 Rate of mortality among Oarsmen, 33
 Re-absorption of intruding mass, 101
 Recruits, gymnastics for, 47
 Red corpuscles, 105
 Refusal of narrow chests, 80
 Registrar-General's Report, 27
 Relation between officers and men, 92
 Renewal of animal tissue, 60
 Renovation of animal tissue, 61
 Revelry and buffoonery, 73
 Rheumatic fever, 110
 — pains, 19
 Ribs rigidly stiff, 83
 Risk of re-action, 75
 Ritualistic excesses, 70
 Rival candidates *A* and *B*, 91
 Rivers polluted, 120
 Rowing, a scape-goat, 63
 — beneficial, 42, 108
 — advantageous, 118
 — on the sea, 117
 Rowdy reprobates of fiction, 94
 Royal Institution, 53

S.

"Sad fate of old University Oars," 5
 "Safety valve" for youthful vigour, 72
 Sailor ascending rigging, 45
 Sailors, 118
 Salford Hospital, 83
 Scepticism of old Oars, 37
 Scholastic damsels, 119
 School "paragon," 91
 Scotch, mental and physical vigour of, 79
 Scotch moors, 90

Scotchmen, 123
 "Scratch Fours," harmful, 77
 Scrofula, means of averting, 81
 Seamstress, arms of, 45
 Second wind, 51
 Secret of trainer's success, 75
 Sedentary pursuits, evils of, 82
 — life, evils of a (*P*, *Q*, and *R*), 17, 18, 19
 Seeds of disease (*E*), 12
 Serious exhaustion (*Y*), 14
 Severe simplicity of Spartan attire, 84
 — course of training, 107
 Signal for the start, awaited, 52
 Signals of distress, 59
 "Silver thread of sea," 121
 "Simian descent," 70
 Simple diet, 123
 Sixteen University matches, 20
 Skilful adviser puzzled, 96
 "Slaking the thirst of early ambition," 66
 Sleepless vigils of heart and lungs, 62
 "Slums" of our great cities, 121
 Smith wielding hammer, 45
 Smouldering embers of intelligence aroused, 94
 Socialistic crotchets, 70
 Social position, 71
 Soldiers, average height of strong, 110
 Solution difficult, 40
 Sophronistæ, 80
 Span-short, of years, 24
 Sparta, 121
 Spirometer, 114
 Spitalfield weavers, 84
 Sport of the seasons, 83
 Spring, a prize champion, 112
 Spurious aquatic renown, 77
 "Stale" men, 74, 106
 — at time of race (*C*), 8, 10
 Statistics, apparent discrepancy in, 24
 — and facts required, 4
 Steam-engine, the whirl of the, 82, 85
 Straight back, 117
 Striped muscular fibre, strength of, 55
 "Stroke Oars" culprits, 93
 Strong and vigorous manhood, 89

Stunted receptacle of lungs, 83
 Suggestions regarding the men to
 be trained, 94
 Sweat of the brow, 85
 Swiss mountains, 90
 Symmetry given by rowing, 118
 Synonymous, consumption and tu-
 bercle considered, 99

T.

Tables, explanation of, 20
 — favourable result of, 23
 — stern, of statistical investigation,
 29
 Tactics, difference in, 57
 Tailor's skill, 84
 "Taking of cold shower baths," 93
 Talavera, battle of, 84
 Tankard moderately indulged in, 72
 Tapering fingers, 31
 Teeth, good, a sign of health, 117
 Telling statements, 42
 Tenacity of heart undermined, 39
 Tennyson, quotation from, 45
 Thermometer, 115
 "Theseus," 111
 Thorax, 47
 Thoracic defects corrected by gym-
 nastics, 80
 — power, test of, 114
 Thoroughbreds of human race, 32
 Thoughtless exuberance, 94
 Three R's, 121
 Thucydides, 70
 Timid brain of alarmist, 29
 Tissues not completely set, 110
 Tobacco injurious, 19
 "Torpid races," injurious, 78
 Toys, German, carving of, 125
 Transparent skin, 31
 Tranquillizing sensation, 51
 "Trial Eights," practice of depre-
 cated, 73, 74
 Trivial ailments may become grave,
 105
 Tubercles, 98
 — death, without presence of, 101
 Tubercular theory untenable, 101
 Twenty-five, a perfect age, 112
 Two years' seasoning in the ranks,
 121
 Types of pulmonary disease, 104

U.

Unbiased opinion impossible, 30

Undue distress, silence of old Oars
 about, 56
 — dilatation of heart, 113
 Unfit, men constitutionally, to en-
 gage in Boat-Racing, 98
 Unforeseen misadventure, 76
 Union of mind and muscle, 78
 Uninjured, 41
 University Oars, longevity of, 19—25
 — men, average height of, 111
 — Boat-Race annual institution, 93
 Unsound lives, 24
 Unswerving confidence, 93
 Unwholesome pursuits, consequences
 of, 82
 Upas tree, 37
 Upper arm, 117
 Upward growth checked, 111
 Urban immigration, 122
 — population, 84
 Use, the, not the abuse of rowing
 defended, 7

V.

Vague, apparently, data about da-
 maged Oars, 35
 Value of hard exercise, 49
 Varicose veins, 109
 "Varsity Oar," father of, 71
 Varying origin of consumption, 99
 Vascular system, 48, 61, 75, 109
 Victorious invader, 126
 Virchow, Professor, 99
 Violent labour increases play of
 lungs, 106
 Vital energy used, 59
 Voluntary muscles, contractions of,
 51
 — construction of, 55
 Vulgar recreations, 119
 — mode of progression, 85

W.

Want of exercise injurious (*P*), 17
 — (*Q*), 18
 Waste of vital energy, 59
 Wasting of tissue, 103
 Water, good, 122
 Wealth a sorry possession, 83
 Weeds made robust, 79
 Week's rest, benefit of, 106
 Weight in proportion to height, 111
 — increase of, 112
 Well-primed invalid, 96

Well-arranged machine, 57
Well-trained men, rarely exhausted,
57
Welsh hills, 90
Windpipe, 52
Wives of surpassing stature, 81
Work done by University Oars, 54
"— all in him," 92
Worst-lived crew, 23
Worship of muscle, 1
Wranglers, 65

Y.
Y^e manners, and y^e customs of y^e
family man, 87
Yearning of muscle, 118
Years at University, importance of,
79
Yorkshire men, 79
Young ladies' seminary, 118
Youth an advantage, 58
— a disadvantage, 15, 115





A GUIDE TO THE CRICKET GROUND.

BY

G. H. SELKIRK.

Extra fcap. 8vo, with Illustrations, price 3s. 6d.

"We can heartily recommend to all cricketers, old and young, this excellent guide." *Sporting Life*.

"In every way good and complete, whether as elucidating the rules of cricket, interpreting its terms, or teaching its method." *Spectator*.

"Very complete, and deserves to be recognised as the standard authority on the subject." *Guardian*.

In extra fcap. 8vo., with Illustrations, price 6s.

A SYSTEM OF FIGURE SKATING:

BEING THE THEORY AND PRACTICE OF THE ART
AS DEVELOPED IN ENGLAND, WITH A GLANCE
AT ITS ORIGIN AND HISTORY.

BY

H. E. VANDERVELL AND T. M. WITHAM,

MEMBERS OF THE LONDON SKATING CLUB.

"The volume may be accepted as a manual for the use of all skaters." *Bell's Life*.

"A complete and well-executed treatise, bids fair to become a standard book on the subject." *Daily Telegraph*.

MACMILLAN AND CO., LONDON.

In 8vo., price 7s. 6d.

TRAINING, IN THEORY AND PRACTICE.

BY

ARCHIBALD MACLAREN,
THE GYMNASIUM, OXFORD.

With Diagrams and Tables.

"All rowing men, and in fact all men who contemplate training for any object whatever, should read this book." *Land and Water.*

"A great deal of sound sense may be culled from its pages, especially of a semi-medical nature." *Field.*

"After all the nonsense that has been written about training, it is a comfort to get hold of a thoroughly sensible book at last." *John Bull.*

MACMILLAN AND CO., LONDON.

In extra fcap. 8vo., price 7s. 6d.

A SYSTEM OF PHYSICAL EDUCATION: THEORETICAL AND PRACTICAL.

BY

ARCHIBALD MACLAREN.

With numerous Illustrations drawn by A. Macdonald.

"The work should be in the hands of every schoolmaster and schoolmistress. It is marked in every line by good sense, and is so clearly written that no one can mistake its rules." *Lancet.*

OXFORD: PRINTED AT THE CLARENDON PRESS, AND
PUBLISHED BY MACMILLAN AND CO., LONDON, PUB-
LISHERS TO THE UNIVERSITY.



