

opening should cause accumulation within, we should have to suppose the fluid produced in the ventricles to pass out in order to be got rid of. But, as far as we understand the functions of these spaces, the ventricles have in themselves a power both of secretion and absorption far exceeding that possessed by the subarachnoid space. Though the aqueduct of Sylvius or the opening in the curtain of pia mater be obstructed, as they may be, by inflammatory products, we cannot trace in that condition alone a cause of ventricular distension. Possibly in such cases as Mr. Hilton has related an inflammatory state of the membranes supplied at once the cause both of the superabundance of fluid and of the occlusion of the passage.

## WHY DO WE DIE PREMATURELY?

By J. HENRY BENNET, M.D.,

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IT is admitted by all statisticians that medical men are a short-lived race—indeed, that the standard of mortality in their case is that of unhealthy trades. Why should it be so? As a rule, medical men are well-fed, well-housed, well-clothed members of the community; and the occasional risk incurred in ministering to contagious diseases scarcely accounts for the shortness of their lives, for their premature age, sickness, and death.

Such thoughts have often crossed my mind of late years. When a man has passed his fiftieth year, his contemporaries and companions begin to drop off around him in great numbers, in every class of life; but in our profession the mortality is evidently greater than in other professions. This mortality is also evidently greatest among its most intelligent and most eminent members—a fact which appears to me to contain within itself the key to the question I have put. May it not be that such men succumb and disappear from our ranks *because* they have been great workers, and consequently successful in their generation?

If it is so, if the most valuable lives in our profession are constantly being brought to a premature close through the overstraining of vital powers which success brings, would it not be well if the positive danger to life of great success were more generally enforced and recognised? Our lectures and class-books teem with warnings respecting the dangers of sloth, of inactivity, of mental stagnation. May not a few words of warning be added on the dangers of work and success? If so, they will not come inappropriately from one who failed physically, years ago, through overstraining of mind and body—from one whose recovery has been principally due to his having seen the error of his ways before it was too late, and to his having accepted and followed the laws of physiology and hygiene, formerly ignored, as they are nearly always ignored by nearly the whole tribe of mind and body workers.

The peculiar feature of the medical profession is, on the one hand, that work increases with age, and, on the other, that the public do not consent to look upon aging medical men as veterans, but exact from them to the end the labour of youth. In all other professions, as age advances, and renown and prosperity increase, assistance, relief, come naturally. The barrister has his junior counsel who prepare his briefs, the solicitor his head clerks, the vicar his curates, the colonel his staff of officers, the merchant or banker his junior partners and clerks; but the successful physician or surgeon must stand alone, whatever his age, and do his work entirely himself as long as he practises. Thus, *after* the age of forty or fifty, the hours of positive work increase rapidly, instead of diminishing. An officer of fifty or sixty, after thirty or forty years' service, is considered to have gained a claim to repose for the rest of his days. Even a missionary, after less than thirty years' labours in the cause of religion, is pensioned off, and thought to be entitled to honourable rest for the remainder of his life. But a medical man of fifty or sixty, after thirty or forty years' labour in the cause of health and life, is still called upon by public opinion to work like a young man. If he does not rush night and day, not only to assuage real disease, but at the voice of vain fears and caprice, if he transfers night-work and gratuitous or ill-paid attendances into the hands of his

juniors, he is considered hard-hearted, mercenary, devoid of Christian and Samaritan feeling; in a word, public opinion makes it difficult for him to withdraw into the "Areopagus" of science, to become a deliberative and not a militant member of the profession. Nor is the public altogether to be blamed, because it is only by raising his fees that the medical practitioner can erect the barrier which is to defend him from the burden of work he is no longer able to bear. Thus, to many of the thoughtless it appears as if he merely wished to get larger remuneration for his services, although his real wish is merely to eliminate, to keep at bay, many of those who would wish to employ him. The only means at his disposal to diminish work brings upon him an odium he too often has not the courage to incur; so he works on, old and feeble, responding to every call, until at last death closes the scene, prematurely.

Between forty and fifty a man of average constitution is quite equal to success and to the hard labour that it entails in any branch of the profession, to work by day and by night, to care and responsibility; although the weak ones succumb, as did Dr. Todd, Dr. Brinton, and many others I could name. But when fifty is reached and passed, the human economy begins to decline. The hair becomes grey, the sight fails, the gums abandon the teeth, adeps is deposited in unwelcome regions, and many other signs of nutritive deterioration show themselves. No doubt nutritive power is diminished in the entire economy, and the tendency to morbid nutritive conditions steadily increases.

This is just the time when the labours of the successful practitioner increase to the greatest possible extent; and as the brain is the last to give way in the intellectual man, he works on under mental and nervous pressure. By sixty or thereabouts the climax is often reached. The overstrained organisation ceases to respond to the mental stimulus, and death ensues through some form of nutritive aberration, which has been slowly but surely progressing. Such was the case with our recently mourned brethren, Simpson and Nunneley, the one fifty-eight, the other sixty-one.

Can this sad expenditure of life amongst the worthiest of our profession be arrested, be avoided? I think myself that it might, if we would cease to live as if we were immortal, as if the diseases we saw daily did not pertain to us; if we would listen to the teachings of physiology, and discard the miserable vanity of thinking that we are exceptions to the general rule, and that at fifty or sixty we are as young and strong as at thirty or forty. To accept this lesson, however, we must analyse ourselves, and, if we find ourselves wanting in vital power, thrust aside the scarlet cloak of nerve stimulants—alcohol, coffee, tea, by means of which, I believe, it is that efforts inconsistent with real vital and nutritive power are made by workers in general, and by medical men amongst the number.

A man who meets age, or debility, or want of constitutional power by alcoholic stimulants, even in moderation, by coffee and tea, conceals his real nutritive condition from himself. When both the nervous and muscular systems are exhausted, and want repairing by legitimate nutrition—by beef, mutton, bread, and rest, a man may galvanise his economy by nerve stimulants so as to be equal to nearly anything up to the last. But the process is a destructive one, exhausts vital power, impairs healthy nutrition, and lays the foundation for morbid organic changes.

By alcoholic stimulants, constantly repeated whenever exhaustion supervenes, the power of work may be supported until within a few days or hours of death, as we constantly see in the lower classes of life. Tea and coffee have nearly as great an apparent nerve-stimulating, strength-supporting power. Let anyone who doubts it take a cup of strong tea or coffee when exhausted from want of food and from physical fatigue. The craving for nutritive elements to repair waste, and the sense of fatigue, both disappear in ten minutes, and a couple of hours' more abstinence and work are easily borne. But what have we done? The physical organisation wanted repair, wanted the elements of nutrition, the nervous system rest, and we do worse than give them a stone, for we flog them, we galvanise them, into continued action.

Night work is principally done on such stimulation. The student, the writer, young or old, who retires to his study in the evening to work, does so on tea or coffee. The tired brain wants sleep: it is galvanised into intellectual labour. Is it surprising that morbid organic conditions should occur

in the long run?—for we must recollect that the nervous system rules over all organic and nutritive changes, normal and abnormal.

Every June a *conversazione* takes place at the College of Physicians, which is attended by most of the medical and surgical celebrities of the day. This meeting gives an admirable opportunity, year after year, for watching the ravages of time and work. The young physicians and surgeons, as also those who have acquired reputation but as yet little practice, are more or less pink and rosy; their nutrition is mostly good. But it is far different with the heads of the profession, with the men above fifty, on whose shoulders rests the weight of London consulting practice, and who are making large incomes: they are mostly pale, or sallow, or anæmic. As I walk about, I feel like Cassandra at the siege of Troy, and mentally prophesy evil—fatty hearts, atheromatous deposits in the arteries, degeneration of tissue, as the probable result of lives passed in contempt of the laws of hygiene and physiology.

What, then, is to be done to avoid the evils of overwork in advancing age? Many of our brethren cannot help themselves. They are like soldiers in battle: the *res angusta domi* offer an insuperable impediment. They cannot rest; they must go on. But many, on the other hand, could increase their chances of life, if they would, by despising riches, by throwing their less remunerative practice into the hands of their juniors, by giving up public appointments, by limiting their labours to what their real, undisguised, unassisted mental powers would enable them to do; and, finally, by retiring from the field of action before life has been used up by work to the last dregs. What if they do retire on a pittance compared to previous gains? Does not the colonel, the admiral, retire on half pay, and constantly live to extreme old age as the reward?

What applies to our medical brethren applies to all; and it is our duty to lay, nakedly and sternly, these facts before erring patients. Is it not very evident that we have recently lost our most distinguished literary man, Charles Dickens, at the early age of fifty-eight, from continued overstraining of the nervous system?—in his case altogether without cause or excuse. On his return from America, he wrote that his readings during his tour in the States had much wearied and injured him. The constant travelling, the excitement of the meetings, the dinners, the receptions, had been too much for him. Had he then been made to understand that he was working against age and impaired vital power—risking his life, in a word,—he might have taken rest, and been with us now. But he continued the same labours, the same excitement; and died from brain disease, regretted by a nation, prematurely.

Grosvenor-street, June, 1870.

### CLINICAL ESSAYS.

By T. PRIDGIN TEALE, M.A., F.R.C.S.

#### No. I.

#### THE RELATIVE MORTALITY OF RECTANGULAR AND NON-RECTANGULAR AMPUTATIONS AT THE LEEDS INFIRMARY.

WHEN, in the year 1858, my father published his work on "Amputation by a Long and Short Rectangular Flap," he aimed at two main objects in proposing to supersede the older circular and transfixion-flap methods—viz., *improvement of stump*, and *diminution of mortality*.

In support of the first point I produced abundant evidence at the late meeting of the British Medical Association in Leeds, by the exhibition of twenty-four excellent stumps of arm, forearm, thigh, and leg made by eight or nine different surgeons in this neighbourhood, and selected almost at random from those whose addresses we could trace. I trust, therefore, it may be taken for granted that the question of the superiority of the rectangular over all other forms of stump, except those of Carden, Syme, and Pirogoff, is proved to the satisfaction of those who have had the opportunity of examining rectangular stumps *correctly made*, whether of recent date or of some years' standing.

It is the object of the present paper to inquire how far

my father's views on the second point—of "diminished mortality"—are borne out by further experience. This I propose to do by comparing the mortality of rectangular amputation and of amputations by other methods at the Leeds Infirmary during the period of eleven years which has elapsed since the publication of my father's work. Such a comparison possesses several advantages.

1. The number of amputations is sufficiently large to give a fairly accurate result.

2. The operations are performed under the same conditions, in the same hospital, by the same surgeons; and are spread over a continuous series of years.

3. The operations are the work of six surgeons: five adopting the rectangular or non-rectangular as they judged best in each individual case; the sixth adopting the non-rectangular in all cases.\*

4. The Leeds Infirmary may be presumed to be the headquarters of this method, and to carry it out with all the strictness of rule and completeness of detail which its author could have wished.

For the purpose of this comparison I have taken from the book of operations kept by the successive house-surgeons to our hospital all amputations of arm, forearm, leg, and thigh, that have occurred from Oct. 5th, 1858, to Jan. 1st, 1870.

The total number of amputations is 400; 26 of which, being imperfectly recorded, must be set aside. Of the remaining 374, it is right to exclude 12 of the shoulder-joint and 2 of the hip-joint, as, being of a high rate of mortality, and not admitting of the rectangular method, they cannot fairly be included in such a comparison.† It is probable that a few cases have escaped registration.

There remain, therefore, 360 completely recorded amputations of arm, forearm, thigh, and leg, including Syme's at the ankle-joint, which admit of being compared both in gross and in detail. Of this number, 183 were by the rectangular, with 34 deaths, and 177 by the non-rectangular, with 58 deaths. This result appears to be eminently in favour of the rectangular; but, without qualification, is unfair towards the non-rectangular—for this reason, that the rectangular amputations cannot be adopted in many of the more severe and fatal cases resulting from accident; and thus the non-rectangular is loaded with bad cases. To make the comparison a fair one, the two must be compared in detail—thigh with thigh, accident with accident, disease with disease. Thus sifted, the results are as follows:—

Total amputations of all kinds: 360, with 92 deaths; or 1 death in rather less than 4 cases, or 25·5 per cent.

Total rectangular: 183, with 34 deaths; or 1 death in 5½ cases, or 18·5 per cent.

Total non-rectangular: 177, with 58 deaths; or 1 death in 3 cases, or 32·7 per cent.

#### Individual Amputations compared.

	Total.	Deaths.	Per Cent.
Thigh.—Accident; rectangular	10	7	70
" non-rectangular	16	11	68·7
Disease; rectangular	57	11	19·2
" non-rectangular	16	5	31·2
Leg.—Accident; rectangular	14	4	28·5
" non-rectangular	35	19	54·5
Disease; rectangular	60	8	13·3
" non-rectangular	19	3	15·7
Arm.—Accident; rectangular	10	3	30·0
" non-rectangular	33	12	36·3
Disease; rectangular	5	0	0·0
" non-rectangular	8	1	12·5
Forearm.—Accident; rectangular	18	1	5·5
" non-rectang.	45	4	8·8
Disease; rectangular	9	0	0·0
" non-rectang.	5	3	60·0

Remarks.—The foregoing statistics show several points of interest:—

1st. The rectangular operation has not been pushed in-

\* The amputations are distributed as follows:—

	Rectangular.	Non-rectangular.	Total.
Late S. Smith	31	19	50
Late T. P. Teale	44	9	53
S. Hey	42	47	89
Late T. Nunneley	0	63	63
C. G. Wheelhouse	32	21	53
Pridgin Teale	34	18	52

† Out of the 12 shoulder-joint cases (all for accident), 7 recovered; and out of the 2 hip-joint cases (both for malignant disease), 1 recovered.