REMARKS

ON

CRIMINAL DEATHS IN THE NAVY AND ARMY.

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THE subjoined table has been carefully compiled from the official Health Reports of the Navy and Army through Thirteen Years, 1860-72 inclusive.

Table displaying the Periodical Differences, Grand Totals in Thirteen Years, and the Yearly Averages, with Ratios of Suicides, Homicides, and Judicial Deaths, together with the Primary and Secondary Mortality from Intemperance, per 1,000 of Mean Strength.

NAVY.	Mean Strength.	Suicides.		Homicides.		Judicial Sent'ces		Mortality from Intemperance.					
								Primary.		Delirium Tremens.		Totals.	
		No.	Ro.	No.	Ro.	No.	Ro.	No.	Ro.	No.	Ro.	No.	Ro.
1860-1864	292,470	51	.174	14	.048	..	..	27	.093	49	.168	76	.260
1865-1867	151,685	19	.125	2	.013	..	..	12	.079	20	.132	32	.211
1868-1872	241,040	22	.091	2	.008	..	..	15	.062	25	.104	40	.166
Totals of 13 yrs	685,172	92	.134	18	.026	..	..	54	.079	94	.137	148	.216
Y'ly averages	52,705	7.07	.134	1.38	.026	..	..	4.15	.079	7.23	.137	11.38	.216
ARMY.													
1860-1864	954,048	245	.256	36	.038	15	.016	117	.123	249	.260	366	.383
1865-1867	508,880	174	.322	13	.026	3	.006	83	.163	127	.249	210	.412
1868-1872	826,526	324	.392	41	.049	5	.006	60	.084	162	.199	231	.280
Totals of 13 yrs	2,289,454	743	.324	90	.039	23	.009	269	.117	538	.235	807	.352
Y'ly averages	176,112	57.2	.324	6.92	.039	1.77	.009	20.69	.119	41.38	.235	62.07	.352

It presents at a glance striking differences in the ratios per 1,000 mean strength in favour of the navy under each of the headings suicides, homicides, judicial deaths, and mortality from intemperance; opening up an interesting inquiry into the probable causes of inequality, which at first sight involves the probability that the mortality from these causes is allied, or that it may be altogether relative to the amount of intemperance that prevails in each of the services; but to solve this interesting question, further investigation is needed.

It is difficult to present strict parallelism, as the returns are based differently, those of the navy including officers with men constituting the crews, while those of the army exclude the commissioned officers, which is disadvantageous to the ratios of the navy, as in it the suicidal deaths, as well as those from intemperance, hold higher proportions among the officers than among the crews; so that, these being deducted, which it would be difficult to effect with certainty, and the naval ratios made parallel with those of the army, they would be still lower than represented in the table.

Owing to the limits of age of seamen and soldiers, from twenty to forty-five, there is no external standard for comparison, as elsewhere all ages from infancy to senility are included in the death-returns. Thus if the returns of the Registrar-General for the metropolis through a similar period of thirteen years—1862 to 1874 inclusive—be examined, it is found that in an average population of 3,030,000, including all ages, there were 3,544 suicides, giving a ratio of .089 per 1,000, against .134 in the navy, and .324 in the army; but with corrections for ages and for sex it cannot be doubted that the ratio for the metropolis would at least equal the ratio in the navy.

The Census of 1871 in the metropolis gives: total population, 3,254,260 persons; of ages between 20 and 45, 1,111,655, of which there were, males, 511,895; females, 598,760. This exceeds a third of the entire population between those ages when suicide is more frequent than at other periods of life; and the male sex, most given to it, bears a remarkably less proportion than the female sex. Thus, probably one-half the suicides are due to the same period of life as in the navy and army, and of this half the male sex will carry a greater proportion than the female; for these reasons it may be assumed that the suicides in the metropolis, among males from 20 to 45, are at least equal to those in the navy, viz., 134 to a million persons.

Before examining the table, it must be observed that the "average annual strengths" given—52,705 for the navy, and 176,111 for the

army—are obtained by dividing the sum of the annual strengths by the number of years involved, and that the same rule has been applied to the mortality. Again, the ratios of suicidal and homicidal deaths in both services would be augmented, if it were usual to return as such all who are "found drowned", which are excluded likewise from the returns of the Registrar-General, where, unless proof be afforded of murder or suicide, they are classed "accidental", as in the services of the state.

The summary of the statistics embracing their essential data lies in the following ratios per 1,000 annually.

	Suicides.		Homicides.		Judicial.		Intemperance.	
	Nos.	Ratios.	Nos.	Ratios.	Nos.	Ratios.	Nos.	Ratios.
Navy	7.07	.134	1.38	.026	—	—	11.38	.216
Army	57.2	.324	6.92	.039	1.77	.009	62.07	.352

On these data it may be noted:

1. *Suicidal Deaths* are nearly as two in the navy to five in the army. This large disparity may be, in a great degree, dependent on the difference of modes of life in the sister services. The duties on ships are more continuous and more exciting than those of camps and barracks, where the soldiers have more duty of a solitary character, and longer periods of idleness in which they may withdraw from association with their comrades, and then give way to distressing mental causes; while seamen off duty have no other resort than among their messmates, whose society must tend to banish gloomy thoughts and sentiments, thus counteracting tendencies to suicide.

That a high ratio of suicidal deaths is incidental to military life in general may be inferred from the still higher ratios than those of the English army that prevail among other European nations, of which it has been authoritatively asserted that Austria presents .85; Germany, .54; France, .51; and Belgium, .45 per 1,000; against which ratios that of the English Army, .324, as I find it to be, is rather a flattering result. Probably much of this is attributable to the voluntary service of England and the compulsory service of continental nations, rather than to any superiority of class.

Again, amongst our troops, the tendencies to suicide are developed much more strongly on foreign service than at home, and more in India than elsewhere. Thus of the total 743 suicides in thirteen years, 253 occurred at home, and 324 in India, leaving 166 for all other stations of the British army, affording the following ratios:

Period of Thirteen Years, 1860 to 1872.

Stations.	Total Strength.	Suicides.	Ratios per 1,000
At home	1,026,647	253	.246
India	779,680	325	.415
Other Stations	483,127	166	.344

As the forces at home are made up of recruits in a greater proportion than elsewhere, it becomes clear that suicide is not most frequent among the younger soldiers. With respect to ages, the same law holds good everywhere, that the tendency to suicide gradually increases from manhood up to middle age, at which military and naval service ceases. And it may be assumed that the scale of ratios increases with greatest rapidity on those stations where the total ratio ranges highest.

The men of certain arms of the service are more or less prone than others to the commission of suicide; of which it may be asserted generally that the highest ratios are found amongst ordinary cavalry;* probably from increased liability to vexation and punishment, owing to their double responsibility of horse equipments as well as of personal accoutrements. Next comes the artillery, to which in part the same reasons apply, and the dépôt battalions with a greater proportion of recruits, who often find the glitter of military life dulled by its realities of drill and discipline, amidst which they are apt to repine over the causes that have induced them to enlist; next follow the Foot Guards and infantry regiments of trained soldiers; and then come the Engineers, who are skilled workmen, having their time more fully occupied in their various handicrafts, bringing increased pay; and, lastly, the Household Cavalry, whose colonels have unusual facilities in dismissing objectionable characters.

In the navy, suicides are more frequent among the officers than the men, and among the seamen than the marines, who, when embarked, form in some measure an *imperium in imperio*, supervised and in some degree protected by their own officers, which maintains

* Mr. Millar, of the Army Department, has shown that the Hospital Staff presents the highest ratio.

among them an *esprit de corps*, which is everywhere a safeguard from suicide.

The classification of the modes of suicide had recourse to is not without interest in this comparison.

	By Gunshot.	By Cut-throat.	By Drowning.	By Hanging.	By Poisoning.	From Heights.	On Railroads.	Multiple.	Brain-Injury.	Hari-kari.	Unstated.	Total Suicides.
Army ..	395	128	64	61	45	11	10	7	7	0	15	743
Navy ..	10	17	38	14	6	0	0	1	0	1	6	92

Of the first four modes in this category of criminal deaths, it may be credited that they agree in presenting fewer of the characteristics of premeditation, and more of those of hasty resolve; the victims availing themselves of means at hand to perpetrate the act of self-destruction; the soldier availing himself of his rifle or razor, or of his personal habiliments—his braces or leather straps, or of the tank in, or the stream that flows hard by, his camp: the sailor, of the deep water that floats his home, of his razor, of the rope always at hand, and least frequently of his weapons.* The other modes, which signify a determined premeditation, bear, in both services, but a small proportion to those of hasty resolve. For certainty of action is the one thing sought by those who procure poisons, or walk to precipices, or wait for the advancing train, or inflict upon themselves multiple deadly injuries, which, as shown in this table, are rarely availed of by the seaman in comparison with the soldier. In the naval column, the death by hari-kari was that of a Japanese officer while receiving instruction, who destroyed himself premeditatedly in the mode held in honour by his nation. This is not counted among those of our own crews.

Statistics demonstrate clearly that, whilst suicide is decreasing in the navy, it is increasing in the army. The comparison of the first and last quinquennial periods of the whole term affords these results:

	1860-64 inclusive.			1868-1872 inclusive.		
	Strength.	D.D.	Ratios.	Strength.	D.D.	Ratios.
Navy	292,470	51	.174	241,040	22	.091
Army	954,048	245	.256	826,526	324	.392

Or, while it has fallen from .174 to .091 per 1,000 in the navy, it has risen from .256 to .392 per 1,000 in the sister service. The primary indication of this more satisfactory condition of the navy, is probably an improving *morale* of the crews, influenced by a milder discipline, regulated more closely by fixed regulations that call into action the reasoning powers of men who know their responsibilities, and the exact sum of their liabilities to punishment, than that obsolete discipline that left them much more subjected to the somewhat arbitrary wills of their officers. The inference may be drawn also that, occurring as it does collaterally with the vast change in the type of our ships in the substitution of more capacious iron ships for those of timber, our seamen find more that is conducive to their physical wellbeing, as shown in the improved health of the service consequent on that change, a sounder state of mind being a natural result of improving bodily health in the mass of men, as it is well known to be by each of us individually. The difference under this head existing in the army may be tabulated thus:

Terms of Service.	At Home.			In India.			Other Stations.		
	Strength.	D.D.	Ratios.	Strength.	D.D.	Ro	Strength.	D.D.	Ro.
1st 5 years.	397,711	97	.244	317,817	88	.277	238,520	60	.251
2nd ditto ..	412,225	100	.242	253,477	157	.554	130,824	67	.512

This proves that, while the suicidal ratios have undergone no marked change on home service, they have risen from .277 to .553 per 1,000 in India, and from .251 to .512 per 1,000 in other military possessions. Such facts are pregnant with interest to all vital statisticians, but, as they appertain to another service than that to which I belong, I shall not presume to offer any views as to the probable causes, leaving these to be dealt with by more competent heads, who may be in a position to trace out whether the increase is attributable to differences in the stamp and character of the men themselves, or to alterations in the conditions

* Since 1869, soldiers have not been permitted to retain ammunition in their pouches.

under which they serve. It appears, however, on the very face of the above table, that suicidal deaths are not increasing in ratio among the home force which consolidates the recruits and younger soldiers while undergoing their hard initiative drills, but among those who, having completed that period, are serving as trained soldiers abroad; and there is strong reason to believe that the ratios show everywhere an increase proportionate to length of service bringing them nearer to the period of discharge.

Murder and Manslaughter.—Under this definition, the Registrar-General's returns for the metropolis in thirteen years give 1,622 deaths, or an annual mean of 125, which gives a ratio of .041 per 1,000 of all ages; and it is found that the returns of the navy and army both present a lower ratio than this—of .026 in the former, and .039 in the latter service, proving that the men are not unduly guilty of this crime, nor exposed to violence from the various peoples amongst whom the service distributes them.

Homicides are more frequent in the army than in the navy by 50 per cent., and in the latter service their occurrence has been reduced to a minimum, while, in the former, they have undergone no decrease, standing in that respect analogous to the ratio of suicides. The navy returns afford some clue to the circumstances, by recording the hands by which murder has been inflicted; thus we learn that, out of eighteen murders, only two were due to shipmates; eleven were perpetrated on the shores of the Pacific Ocean, five by Japanese, four on Vancouver's Island, and two in Central America; two in India, one on the Coast of Africa by a Portuguese soldier, one by a Maltese, and one in England. Loss of life by malice or in quarrels is now happily rare in the navy so long as the men are on board; but it occurs among seamen when on leave ashore, assignable, in all probability, to quarrels in drinking-shops and brothels with men of the place; those, however, in Japan, would appear to have been assassinations during periods of unfriendly national relations, and might be, with strict justice, classed as death by violence on duty, thus diminishing the ratios of homicides in the navy. Doubtless, some of those in the army returns were committed by strangers, but no guide to this is to be found, only the modes of perpetration being shown; but the preponderance of gun-shot would lead to a contrary inference. The modes are thus specified: By gunshot, 39; incisions, 25; fractures, 10; injured brain, 7; injured viscera, 2; hanging 2; suffocation, 2; unspecified, 3; presenting an assortment resembling in the main the features of the suicidal list; to which another similarity presents itself in the increase from 36 in the first quinquennium to 41 in the last; which, as in the suicides, contrasts with the navy returns, that show in the last nine years only four murders (assassinations unconnected with the service) against 14 in the first four years of the period.

	Total.		1860-64.		1865-67.		1868-72.	
	No.	Ratio.	No.	Ratio.	No.	Ratio.	No.	Ratio.
Navy	18	.026	14	.020	2	..	2	..
Army	90	.039	36	.037	13	.025	41	.049

Deaths by Judicial Sentence.—Of these, the navy had no example in thirteen years. To account for this, when two murders by shipmates are detailed, it must be supposed that these occurred where the offenders could be handed over to the civil authorities. The general fact of *no record* indicates sufficiently that the naval service is tolerably free from the crimes which are punishable by death under Admiralty Articles of War and the Mutiny Act.

In the army statistics for the same period, not fewer than twenty-three suffered death for crimes unspecified; and of these fifteen fell in the first, and only five in the last five years of the period, showing that, while the ratios of suicide increased, that of death for crimes sank still more remarkably.

The following deductions are evidenced.

1. In the period 1860 to 1872, criminal deaths, in the forms of suicide, homicide, and judicial deaths, have borne much higher ratios in the army than in the navy.

2. These, excepting by judicial sentence, have increased in ratio very substantially in the former service, while in the latter they have undergone an equally well marked decline.

Since these results are opposed, the causes cannot be uniform; they may be assumed to be multiple. To approach these with due caution, the first step will be to ascertain the ratios of death from intoxication, which experience teaches to be a general cause of criminal deaths in every form.

The Results of Intemperance are more definitely shown in the public

services than they can ever be in private life, so far as relates to death caused by immediate debauch, or consequent—*i. e.*, the form of delirium tremens—on prolonged indulgence. But, beyond these self-evident effects, there are no data to indicate the evil consequences of the immoderate use or abuse of alcoholic stimulants, as the remote but efficient causes of cirrhosis and amyloid diseases of the liver, as well as of acute inflammation of it ending in abscess, of Bright's disease of the kidney, or of degeneration in the coats of the larger arteries, which, although they are indefinite consequences, may be far more widely spread and more largely destructive of life than those results which are self-evident and unmistakable. These I would classify as the primary, the secondary, and the tertiary results of alcoholism, and shall deal with the first two only.

	Total Deaths.		Primary.		Secondary.	
	No.	Ratio.	No.	Ratio.	No.	Ratio.
Navy	148	.20	54	.078	94	.13
Army	807	.35	269	.113	538	.235

All these ratios are favourable to the opinion of a greater degree of sobriety existing in the navy than in the army, which would be more strongly apparent were it easy to eliminate from the navy returns the sickness and mortality among officers, which are not admitted into army medical statistics; for the navy returns include 32 deaths of officers, holding a relatively greater ratio to their strength than the remaining 116 deaths to the mean strength of the crews. Concerning this point, it is worthy of note, that the large number of deaths of officers is, with exception of two only, by the secondary consequences—delirium tremens; while that of the crews stands in proportion of 5 by alcoholism (or primary) to 6 by delirium tremens, etc., secondary results of intoxication, of which the former may arise from casual but excessive, while the latter arises from habitual, indulgence or abuse.

The mortality resulting from the primary conditions of alcoholism has a difference of classification in the two services. In the navy returns, they are separated into alcoholic poisoning, 15, drink-apoplexy, 28, and asphyxia, from solid food finding its way into the larynx during vomiting while intoxicated, 11; making a total of 54. In the army, all cases admitted suffering from the effects of alcoholism not amounting to delirium tremens were classified as "Ebrietas" prior to the introduction of the new nosology in 1868, since which the classification has been similar to that used throughout in the navy in all cases that have perished immediately from drunkenness, while others are returned as dyspepsia, febricula, etc., which are rarely fatal forms of disease; and it is gratifying to notice that there is a rapidly declining ratio of this kind of brutal excess in both services. Comparison of the quinquennial periods shows in the navy a decline from 27 to 15 deaths, and in the army from 117 to 69, the lowest numbers presenting in the last three years of the whole period of thirteen years.

Analogous results are found relating to delirium tremens ending fatally, of which there were in the navy 49 instances in the first quinquennium, against 25 in the last; and in the army there were, similarly, 117 against 69. Thus, judging by these results, the inference follows, that indulgence in alcoholic or intoxicating drinks to an extent causative of disease and death is happily a decreasing vice in both services. But, in estimating these results of intoxication, I would go beyond the official returns in alluding to a wide margin of uncertainty across which the veil of charity is drawn; for it is impossible to deny that many of the casualties in the services are attributable to the wavering nerve-power, conjoined with undue daring, that alcohol engenders amongst men whose very calling renders them familiar with dangers from which untrained men would instinctively shrink. Also, in the numerous instances of "found drowned, without any assignable cause", it needs no argument to convince that some may have been suicidal, and still more of them the consequences of drink. Nor can I in any other way account for the excessive mortality by drowning shown in the army returns, where, through this period, the "drowned" constitute nearly one-half the deaths by violence or negligence in a service free from special dangers by water. Again, from the list of diseases, it may be shown that in deaths by "apoplexy" there is a decrease almost commensurate with that of mortality from primary alcoholism; and that this is more strongly exemplified with reference to "epilepsy", which, as a pathological condition *per se*, is rarely mortal; whereas in the navy returns it is assigned as the cause of 26 deaths in thirteen years, while, as the cause of loss of service by invaliding, it offers the large number of 1,086 disabled men. A striking relationship to the mortality directly assignable to alcoholism is de-

ducible from the parallelism between them, showing from epilepsy 523 invalidings and 15 deaths in the first, reduced to 246 invalidings and 6 deaths in the last quinquennial period: a noteworthy improvement in health-statistics, quite as important and instructive as the simultaneous decline in the mortality from intemperance.

The all important questions now present themselves as to the relations, if any, that exist between this proved decline in habits of intoxication and criminal deaths by suicide and by judicial sentence.

With regard to the first of these, there is found to be in the navy a parallelism that points to a probable relationship; for, side by side with a decline in the stated quinquennial periods, from 76 to 40 deaths by alcoholism and delirium tremens, there is found to be a decline from 51 to 22 suicides, which parallelism does not obtain in the army; where, side by side with a decline of the fatal results from intemperance, from 366 to 231 in the five-yearly periods, there is a positive increase from 245 to 324 in suicides—proving, beyond a doubt, that this deplorable augmentation can have no relationship to habits of indulgence in intoxicating liquors which coexist in a decreasing ratio. This fact alone demands the deepest consideration of military authorities, especially, as in those flagrant crimes towards others which induce death by "judicial sentence", there has been a decline from 15 to 5 in the stated quinquennial periods, proving, that in this important element, there has been an advancing "morale" in the army. Where, then, it may be asked, is search to be made for the great increase of suicide? Does it lie in the nature of the service, or in the characters of the victims?

It having thus been determined by comparison of the medical statistics of the great fighting services of the State, that, coincident with a decline in these services of the fatal results of intoxication, there is a decrease of suicide and of homicide in the navy which is not counterpoised in the army returns, where, indeed, the opposite conditions exist in spite of fresh precautions, it follows that, to explain so marked a contrast, other reasons—adjuvant in the one case, and counteracting in the other—must be sought for; for, if the inference be correct, that the prevention of crime has been chiefly dependent on, and not merely coincident with, a decrease in habits of intemperance, then, to account for the great contrast between the statistics of the sister services, it may be assumed that other causes have co-operated to raise the moral standard of the seamen of the navy; while, as regards the life of the soldier, there are agencies at work that have more than counterbalanced the benefit of comparative sobriety in deterring from criminal acts.

I should fail if I attempted to show further than I have already done, that the difference in the ratios of criminal deaths bears no direct relation to those by intemperance, unless it be that, in the navy, there is a co-operation of other ameliorating causes, whilst in the army the decline of intemperate habits is more than counterbalanced by recently developed productive causes of suicide which lie beyond my power of investigation. With regard to the service to which I belong, I will now proceed to point out what appear to me to be the changes in the position of the seamen of the navy on which their improved morale is based.

During the latter half of the present generation, the entire system of educating and training the seamen of our navy has undergone a deep searching revolution, the mainspring of which has been the foreseen difficulty of manning the fleet in war time by means of impressment.

Formerly, even the cream of our man-of-war's men were held to the service by the loosest of ties, and served alternately in the navy and in the merchant service, turning away from the former when wearied by its inseparable restraints, or after undergoing punishment for impropriety of conduct; often, too, when paid off from ships, their money being spent, they were compelled to join merchant ships, there being no men-of-war fitting out, in order to avoid destitution. In this respect, the new system of continuous service has benefited the seaman incalculably in his social condition, as, when paid off, he is no longer cast ashore, but is borne on the books of a guard-ship until drafted into a seagoing ship, and is allowed a reasonable period of leave to visit his friends, wherever they may be, instead of wasting his hard-earned wages in the purlieus of seaports; and he is thus taught to be a self-respecting member of society.

Those who recollect the condition of our naval towns in days gone by, when the paying off of a ship of the line caused the streets to be crowded with drunken sailors and their abandoned associates, are now struck with the wonderful contrast in them. Where a reeling sailor, full of practical jokes, was met at every turn—every allowance being made for the freaks of "Jack ashore", now, on the paying off from a ship, those of the crew who belong to other ports are transferred at once by steamers to their homes, and borne on the guard-ship's books. During their leave, they have civilising places of resort, as well by night as by day, in sailors' homes and institutes, where reading-

rooms and amusements, with means of moderate indulgence without intemperance, are provided to suit their wants; and thus the streets are rendered free from disorderly scenes, and in them a drunken sailor has become as much a *rara avis* as a sea-gull would be in an inland town. Formerly, "to hand and reef the sails, to shift the spars, to heave the lead, and to steer the ship and work the guns", were the simple requirements of an able seaman, and the boys for the first time entered were just so many as were wanted to fill the places of officers' servants; now, every seaman must be in every sense a skilled artisan in seamanship and in gunnery, and his improving or deteriorating qualities in each of these, as well as in conduct, are noted every year on his parchment certificate, which forms the criterion for his promotion, as well as the guide to his claims for badges and rewards and for pension on discharge. Encouragement is afforded him by a savings' bank to be prudent in money matters, and, by an easy mode of remittance, to be thoughtful and considerate towards his relatives; thus cultivating good social principles, while, in instruction by a seamen's schoolmaster and the use of a good ship's library, he has the means of improving his mind.

The watchful pains of their superiors in these matters have done much towards changing the characters of our seamen, as is strongly marked in the large proportion of married men having respectable wives, in the voluntary classes they form for religious instruction, also in the benefit societies they maintain in most large ships for the aid of those who are disabled by the accidents incidental to their calling, and in the liberal donations they make to charitable institutions on shore for the benefit of the orphans of their class.

On board his ship, the sailor is surrounded with conditions that enforce regularity of life, and, beyond these, the total abstinence movement is making a most satisfactory progress in the navy, mainly promoted by the philanthropic efforts of a few benevolent ladies, who devote themselves to its diffusion at the seaports. These men are allowed the value of their ration of spirits, while others receive theirs under restrictions that render it difficult to exceed their ration. Twice daily, the whole crew are paraded for inspection, and, during their watches on deck, they are so frequently brought under the notice of their officers, that any approach to intoxication is almost sure of detection during the active exertions they are then frequently called on to make; and, in the routine of ships, the whole crew are often employed in general drills or in exercise aloft; and thus, when at sea, discipline and routine duties combine to render drunkenness an exceptional fault. When in harbour, the discipline is unrelaxed, and, during the daytime, the whole crew are employed on duty while the ship is refitting; in English harbours or in those of friendly nations, leave on shore, by day or by night, according to the degree of safety, is granted; while, in most ships, in order to moderate the desire for the shore, a greater scope of evening amusements on board is permitted; and I have known, in some ships, considerate officers to allow what is termed "the ship's company's cask of beer" to be introduced and dealt out in safe quantities, with much benefit to the health and morality of the ship, because "Jack", enjoying his pint of beer and pipe, with songs and the dance, is a contented man; and in some ships the canteen system is adopted. Under such kindly treatment, drunkenness is rare, and those terrible evils of direct excess, as poisoning by alcohol, alcoholic apoplexy, and suffocation by food in the act of vomiting, which occur among those who indulge to excess in the inferior kinds of spirits which are freely supplied in seamen's haunts ashore, are avoided, and the evil—delirium tremens—to which they are exposed by the sudden withdrawal of stimulants after debauch, is prevented.

Under the obsolete system of entering boys from the shore to each ship, when put in commission, they were exposed to the prolific dangers of example from the worst men of their messes, of which they were the more susceptible from want of primary training; but this is now, in a measure, obviated by the excellent system of educating a superior class of boys for the navy in the schools of Greenwich Hospital, and in the preliminary training so well provided for in our training ships for all boys before drafting them into seagoing ships. In this manner, five thousand boys are brought up for the navy annually, with the good results not only of adapting them to the service, but of eliminating at an early age such as, from defects of constitution, are or will soon be unfitted for the arduous duties of the seaman's calling; thus securing a healthier and more vigorous class of men at the threshold of the service. The age for entry is between 15 and 16½ years, and, after a year's training to qualify for first class, they are drafted into seagoing ships. Each boy, when drafted from a training-ship, takes with him a certificate of his efficiency in the details of "gunnery instruction, seamanship, and school education", in each of which details his proficiency is marked "fair, good, or very good". Boys who pass through the training ships are engaged to complete ten

years in the fleet after their arrival at 18 years of age, with this subsidiary advantage to the mercantile community at large, that, if, after that length of service, they elect to leave the navy, they pour into the merchant navy a large community of well trained seamen, who, for the most part attaching themselves to the Naval Reserve, form a considerable depôt for the navy in the event of war, to which their primary apprenticeship will be the link of safety. During the period of tutelage in training ships, they are taught, if previously uneducated, to read, write, and cypher, and are trained in habits of sobriety, cleanliness, and obedience to command, and those personal adjuncts of making their own clothes, taking care of their "kits", and otherwise providing for their own wants, in which they prove themselves to excel, whenever the calls of the service detach them from their ships on boat service or in naval brigades, of which there are many praiseworthy examples. Fortunately for the country, this admirable system will admit of indefinite extension proportionate to its wants, and thus the service, training its boys at home in boat service, in duties aloft, in sword exercise and gun drill, before they are sent to sea in ships of war, secures all the preliminary rudiments of the "skilled artisan", which every able seaman must be now, when the means of combat have undergone so vast an extension in the altered class of ships, provided with scientific artillery of refined construction.

The training of boys to the specialties of the navy, and the improved treatment of seamen under the modern system of continuous service, are, I believe, the fundamental causes of that remarkable improvement in the *morale* of the seamen of the Royal Navy, which is irrefutably proved to exist in the medical statistics of decreasing intemperance, as well as of criminal deaths by suicide and homicide, which may reasonably be imputed to that enervating and destructive vice.

In offering these facts as a further exemplification of the pervading force of the maxim, "*Obsta principiis*", so far as the State service with which I am familiar is concerned, I would here terminate my inquiry into causes, as I feel my own inability to indicate those which lead to contrary results in the sister service, beyond ascertaining that these results of increasing criminal deaths by suicide and homicide coexist in the army on foreign stations with a decreasing ratio of deaths by intemperance, which is an important leading point in arriving at just conclusions as to the truly efficient causes.

ON "MALTA FEVER": WITH A SUGGESTION.

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IN the course of the invaliding season at Netley now drawing to a close, my colleague Surgeon-Major Webb remarked to me "that many of the invalids from Malta arrive in a more shattered condition than those from India". The remark was just, and suggestive of serious reflection as to the sanitary condition of that important military post.

To what is this "shattered" condition due? The answer must be, "Malta fever". What is this fever? Is it malarial, enteric, or relapsing? or is it a hybrid, *i.e.*, typhoid fever complicated by a thread of malaria—a typho-malarial fever, to use a term now creeping into our nomenclature? It is very desirable that a satisfactory answer should be given to this question; and this answer, it is plain, must come from those who have the opportunity of studying the disease where it arises, with the additional advantage derived from careful observation of the sanitary surroundings of the population, civil and military. This much is certain: it is one of the most distressing forms of fever, both in its primary manifestations and in its sequels, which the British soldier has to face, and the medical officer to treat, in their respective careers; and the latter is often called on not only to treat it, but to suffer from it in his own person.

The most notable part of the disease is its extraordinary duration, extending not unfrequently over seventy days before anything approaching to convalescence is established. We have at this time a young medical officer under observation here, who landed from Malta on June 22nd. At that date, he had been on the sick-report with "Malta fever" for sixty days. His temperature on arrival at Netley was 104 deg. Fahr.; and even now, under the most favourable hygienic conditions, careful diet, and good nursing, this young officer has little more than entered on the distressing stage of neuralgic and rheumatic pain through which the majority of those affected have to pass before convalescence. It will be seen from this that the term "long fever", by which the disease is known among soldiers, is appropriate.

I do not pretend to be able to give a good clinical description of this fever; for, although familiar with its sequels, I have never had an opportunity of studying it in its "home". As in most fevers, there is a stage of *malaise* of some days' duration, followed by a sharp rigor,