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"S; S. Lone Star crew thirty, passengers six, due off the Bar Light ship 2 a. m. "

I thrust the radiogram with a number of others into the pocket of my great coat, and regretfully changed the bright fire of the Port Office for the black discomfort of a wet winter's night. A gusty wind blew curtains of rain across the square. The well washed cobble stones raised here and there amongst the black pools formed stepping stones along which I picked a way. The only note of warmth was the lighted face on the clock tower marking nearly midnight. High water would be in an hour's time and it took fully this to get down to the Bar Light. I must hurry.

A lighted car of returning theatre goers passed on its hilarious way and a lorry splased down to the docks to meet the nightly Irish boat for eggs and vegetables. Only these broke the sleep of the city. Across the rapidly flooding square, I turned down a street of slums. The chimney pots, a family of dwarfs and cripples standing against the dark of the clouds challenged the wind with varying success. The rain, drowning the aged and ineffective guttering, poured from the roof slates down the cracked walls of the houses and within these brick boxes sailors of every nation, white, yellow and black slept the deep sleep of the erstwhile convivial. For only too many simple African minds, jerked from their tribal ethics, these ramshackle, bug infested houses and their slatternly diseased women represent the height reached by the vaunted white man's civilisation. It is all they see and by it they judge.

I hurried towards the docks through a confusion of dark alleys and yards, by way of reassurance, fingering the police whistle supplied by the Port Authority to medical officers on night duty in Dockland.

Turning a corner I came on the dock wall and blackness that was the Mersey. Alongside a tug rolled gently, smoke pouring from her smoke stack and the red glare of her port light falling as a lurid reflection on the wet stones of the dock wall. Aided by this and a grimy, hairy arm thrust out to seize me, I scrambled on to the slippery wet steel of her deck. A sharp call from the bridge and the fradged hawsers fell with a plop into the sea, white water boiled up all round, then fell rapidly astern and we slipped silently away into the darkness.

The blackness of sky and sea was broken only by the masthead

lamp lighting up long needles of rain. The wind shrieking in the funnel stays drove before it sheets of rain and spray, ice cold furies which flew over with a screech and left us soaked and breathless. Wave after wave sprang from the darkness, fell with a roar on the decks and poured in cataracts back into the night. Heeling to her master the wind, the tug nevertheless fought a steady course down channel. Occasionally there was a pause in the madness and the lines of lights ashore became visible, now high in the sky, now drowned in the seas.

Soon these were dimmed, flickered out and we staggered along in the night. Then the Formby light flashed over the boiling cauldron and pointed the way to the first Channel Buoy light. Down the Channel, buoy after buoy with flaring light reeled past in a wild dance with the seas, until out of the darkness loomed the black mass of the Bar Light ship.

We hove to at one o'clock and the weather was moderating. As the wind fell, the fury of the white lashed waters steadied to the rollers of a heavy swell. The rain stopped and stars twinkled through ragged rents in the canvas of the sky. What shapes these clearing storm clouds take; a map of some strange country, mountains, snow fields and the tortured ice fall of ghostly glaciers, tropical forests with palm trees and bush, all moving and constantly merging one into the other with the whimsical vagaries of a dream.

Leaving one unfortunate man on the bridge, the rest of us adjourned to the fo'castle to play poker until the "Lone Star" came up. Here an oil lantern swinging from the ceiling threw a dim light over a ricketty table covered with American cloth, once white with a voluptuous flowery pattern, now stained, torn and dirty. Along the sides four wooden bunks, rather suggestive of coffins, harboured several families of bed bugs, and in each a black pillow and filthy blanket. Three or four unstable chairs and a partly empty case of beer completed the furnishing of the room.

We sat down to play. The captain, whose purple face and enormous expanse of waistcoat filled me with compassion for his heart, pulled a pack of dog-eared cars out of his hip pocket and dealt. The school was completed by the engineer and fireman, both scraggy and tough in blue overalls, the whites of their eyes staring with startling fixity out of the soot and oil that begrimed their faces. Cleaning his hand with a brisk movement on the seat of his trousers, the engineer took up his cards. The fireman and I followed and the game opened.

Stakes were adjusted to suit the pocket of the lowest salaried

individual present, the fireman, and varied from night to night, depending on his domestic and alcoholic commitments of the previous evening. In order to avoid possible discredit in non-repayment of debts of honour, he was required at the commencement of the game, to hand all the money he had to the Captain. When this was expended his game was declared by the other players to be at an end, and he watched the rest of us disconsolately, or disappeared into the clouds of red steam that marked his furnaces.

Tonight all went well for him, until the man from the bridge shouted "She's coming up" and he had to leave success and get up a head of steam.

Blinded by the darkness as I went on deck, I could not at first see the tiny point of light on the horizon that was the "Lone Star".

"She won't be up for another 'arf hour, sir", said the watch so I resumed the game.

After a few more hands I again climbed the oily steel steps to the bridge to see the "Lone Star" coming up fast. White water tumbled from her black bows and rows of lighted ports threw a yellow light on the swirling sea round her. With all her illumination, she seemed a floating palace of luxury, though actually only a very ordinary tramp. We balanced up accounts, the captain went to the bridge, the tug gave a short call on her siren and steamed to meet the oncoming giant.

We came up close alongside her and megaphoned,

"Port medical officer's tug".

Then followed a series of nautical and unintelligible yelps between the two bridges. The altercation could only last a minute, as the tug was quickly driven off by the rush of water from the big ship's sides and we were left tossing in her wake. Swinging round in a circle the tug went in pursuit of the "Lone Star".

A living thing, she thrust aside the white waters at her bows, steam escaped in white clouds from the ill fitting joints of her pipes, from her funnel belched sparks and smoke, and she quivered from end to end in the effort of the chase. Slowly we overhauled the big ship, now our bow and her stern were abreast, now her aft well deck, now her bridge as the two ships drew closer and closer.

Looking up I could see a lamp hanging high up on the rail, whilst dark figures unrolled a rope ladder and dropped it over the side. Faster and faster raced the water between the two ships, sometimes a few yards separating the, then a few feet and for a second they touched, both travelling at full speed. In that second the rope

ladder was caught, pulled on board and I seized hold of it, jumping to avoid the wave that was forced up as the ships' sides touched. Away sheared the tug, leaving me hanging on the ladder end above the rushing seas.

Scrambling up the flight to the deck, the first step in my work was to gratefully accept from the Captain his offer of "whatever you fancy". He fancied the same and the ice was quickly broken. After a general exchange of conversation we passed to business.

"What ports of call", "Where was water taken on board", "Any deaths or cases of illness","Any dead rats been found".

Then I went through the log in detail and examined a case the Captain described as "something wrong with 'is waterworks", and confirmed the diagnosis in more technical language.

"Tell the mate to muster the passengers and all hands on deck for the doctor" he called to his steward, as we passed back to his quarters to discuss strange cases he had seen and treated all over the Seven Seas. Amongst otherclinical notes I learnt that when he was on the run from Bombay to Basra in the Persian Gulf, the legend spread through the teeming thousands of Bombay that it was very lucky for a baby to be born on his particular ship, the "Morning Star". She rapidly became a floating maternity home and each voyage of three or four weeks he would be called several times to the steerage passengers in the capacity of a gynaecological consultant. He told me the practice unexpectedly acquired formed an excellent basis for medical knowledge, though he realised it was not of much use to him as captain of a tramp steamer.

A clattering of boots on the iron deck and muttered oaths in many different languages mingling with the querulous voices of the lady passengers, conveyed to us that the mate was carrying out his instructions, and within a few minutes his bulky form obstructed the door to announce that all were mustered except one "elderly female party who refuses to see anyone and 'as stayed below".

The captain tossed off his drink, picked up his cap and we stepped out into the glare of a cargo hatch lamp that had been rigged up as a spotlight over a dishevelled gathering. The mate had paraded his charges in four irregular lines, seamen, firemen, stewards and passengers. The seamen, looking more like a row of hospital out-patients than sailors, respected no average but were all either tall, pale and very thin, or short, purply red, and exceedingly fat. A line of scarecrows, from which filthy black cotton rags hung, answered to the names of firemen. Recruited from the slums of Liverpool, the corrugated iron shacks of the oil ports of Mexico, the dives of a

dozen South American cities or the steamy forests of West Africa, black, white and blended, the glare of the light on their grimy faces and the blackness of the sky and sea beyond lent them the appearance of beings from another world.

An occasional dry cough told of the the disease which decimates them. Working like demons before the fires of Hell and pouring with sweat in the stokehole, immediately their watch is kept they scramble up the long iron ladders to the deck and lie in the cool breeze of the ship. Cold follows cold, the strenuous work adds its contribution and the man gets what he believes to be bronchitis. When one day he coughs up the telltale blood, he is put ashore at the first port and another taken from the dregs of humanity that haunt the docks all the world over.

In contrast to the workers were the passengers, consisting of a furious colonel of standard type and chassis, two girls wrapped in flowered peignoirs, annoyed, but nevertheless doing a few facial with running repairs with powder and lipstick, and two commercial gentlemen to whom everything was beautiful thanks to a long night vigil in the company of a bottle of whiskey. Finally there was the "elderly party" below.

We were all collected here at 2 a.m. on a cold winter's night, rolling off the Bar Light in deference to the International Sanitary Convention - but time was too short to explain all this to the Colonel. My job with the motley crowd collected from disease infested ports and countries was to prevent their bringing Plague, Small pox or Typhus fever into England.

The examination had to be rapid so as not to delay the ship, as docking is only possible an hour before or two hours after high tide. Pressure in armpits and groins, a hand on the forehead, a glance at the wrists and forehead, and feeling the pulse at the wrist is all that time allows. Yet this cursory examination is generally sufficient to exclude Plague, Small pox and Typhus Fever in cases where the individual is not obviously ill. Bubonic plague shows itself by acutely painful swelling of the glands in the armpits or groins and this is excluded by the first step in the examination. Smallpox appears as a rash especially on the wrists and forehead, so is excluded in the second step. The general appearance combined with the feel of the skin and the rate of the pulse serves to exclude temperature, and so Typhus Fever.

When there are several hundred in the passengers and crew, even this short examination takes considerable time , and though superficial, incombination with a visit to the ship's hospital, it proves in practice effective in preventing cases of serious

infectious diseases entering the country. But delay to a ship means interference with trade and so lack of work. In the long run this is worse for the community that the odd case of small-pox which may be landed once every four or five years and which is immediately ringed round by the efficient Public Health Service ashore. Far fewer die from a case of plague landed than do if the tuberculosis death rate rises consequent upon undernourishment when trade is bad and unemployment results.

After I had examined all on deck, I had to see ~~all~~ the stragglers - the watch on the bridge and in the engine room and any sick in the hospital and their cabins. Then in the pleasant atmosphere of the Captain's cabin I gave him a certificate of Health and asked him to signal for my tug.

A sharp blast on the siren brought an answering shriek from the darkness and clambering on to the ship's rail, I began the descent of the rope ladder towards the boilding white seas far below. It is a thrill ng experience to hand like an ape midway between the warm comforts of the ship and the waste of waters beneath. There is every kind of motion. The ship rolling and pitching, the ladder swinging and the water like a mill race a few feet below. The vicious little red eye of my tug reassured me as she pursued the "Lone Star , gradually overtaking her until the begrimed hairy arms again seized the ladder, pulled it on board and I slipped down on the deck. Another wail from the syren as we drew away from the side of the big ship, a deep hoot from her syren and we re-opened our poker school until the next ship came.

Little business had been done before we were again called away by the tattered figure ~~from~~ the bridge. Finishing a hand, I went on deck in time the see the fast travelling black walls of the next ship slip past us, whilst out of the yellow splashes of ports peered laughing Mongol faces. She was a Japanese steamer and as such, one of the cleanest and smartest ships arriving in Liverpool. Compared with the one I had just cleared, all on board was run in naval style. One stroke on a gong and the seamen paraded, ~~tow~~ and the firemen were in place whilst three brought the stewards. Two facts always struck me about these Japanese ships: the firemen were clean in body and dress and laughter was incessant. They laughed when I came on board, laughed when they were examined and laughed if I spoke to them, without any comprehension of what was being said.

After the inspection was complete, the Captain, who spoke English, brought up a fireman with the request that I should take out an aching molar. The victim smilingly pointed to a large tooth and I

gathered that he was one of the Captain's unsuccessful cases as ~~Five~~ efforts to get it out had failed. The man sat down on an inverted bucket and the crew gathered round, shrieking with laughter in which the victim joined them. There was a smile onthe patientis face when I began the opeation and though I watched closely it never faded furing the whole proceeding. When after some difficulty the tooth was out, it was greeted with clapping by onlookers and more laughter by the late owner.

Do the Mongol race not feel pain or interpret sensation as vividly as we do, or have they developed an absolute control over their physical feelings. A white man never laughs when undergoing an extraction, but for both Japanese and Chinese my experience in dozens of cases has been that it is regarded in the light of a humorous proceeding.

An excellent cup of coffee, more laughter at anything or nothing, and the ship slipped away into the darkness up channel to Liverpool.

Following close behind her came a strange craft, a skeleton of angular pipes and trellissed iron work, outlined against the black clouds of the stormy sky. In complete darkness, save for her red and green navigation lights, she moved through the seas like a deserted steel works gone to sea. She was one of the oil tankers from Tampico in the Gulf of Mexico.

Year in, year out these ships travel three weeks across the Atlantic and three weeks back without seeing land and with only two days stop between each trip. At Tampico the oil pipe is brought out to sea on pontoons, and except for the captain, no one goes ashore. At Liverpool two days only are required to empty the tanks and take on provisions and then six weeks of open sea again. No wonder that the captains will only take as steersmen individuals of sub-normal intellect, as no man with any imagination can stand the life - week after week and month after month, keeping a needle on a fixed point of the compass card, and nothing else to do. The officers, condemned to this monastic life, live for the limited hobbies allowed them by their steel and water limitations. Some do wood carving, others knitting or fine embroidery and needlework. Carpet making, handweaving, tailoring all have their exponents, ~~whilst~~ which the endless time renders them experts. The constant reek of heavy oil is a reminder that no smoking is allowed on board. Once a year, the captain only may take his wife for one trip. Otherwise, in complete celibacy and monotony, these crews wait for the day when wireless control renders their ship independant and they are free to live.

My visit to this ship was rather one of social pleasure than necessity, except to obey the letter of the law. As the ship had not been alongside it was extremely unlikely that even the most enterprising of plague infested rats of Tampico would venture out along the pipe line to travel on an oilship. But Tampico had plsgue, so the the ship must be examined. Hardly had I put the captain au courant with local gossip of mautical men and things in Liverpool, before the tug signalled, "Monkey boat arriving"

This appellation is the one by which ships from the West Coast of Africa are invafiably known on the Mersey, as almost every passenger brings home some strange zoological specimen and on the decks there are almost as many monkeys as passengers.

This "monkey boat" carried the inevitable quota of wastage from West Africa. Thin tired faces, yellow from chronic malaria and fading heat pigmentation, hands white and flabby, trousers hanging loosely from their hips told of the cost to Britain of the development of an unhealthy tropical colony.

Yet in spite of disease and utter monotony, West Africa calls clearly and irrestibly. Is it the perpetual mystery of the peoples and country out there as compared with the realism of the West and suburbanism of the modern East? Do men go only for social freedom or is it the thrill of creating improvements and developments, administrative, constructional or mercantile? Or is it something much deeper, an instinct fostered by Nature to transfer the energy of Europe to the undeveloped countries of Africa? Why the power of the call I never understood. I only realise that I have yielded and gone, again and again, coming back ill each time, but with a love of Africa undiminished even in the rigors of malaria.

After inspection, the "monkey boat" followed in the wake of the others, carrying to England through the darkness, its cargo of broken men and strange animals.

Back on the tug, we had a few hands of poker before the lights of another ship came out of the murk. Broad in the beam and deeply laden, she steamed slowly and majestically past. As the tug puffed noisily abreast of her bridge, I called out "What was your last port of call"?

High up a muffled figure leant over the bridge rail and a voice with a foreign accent shouted back,

"Rosario, Argentine, cargo of grain".

"Stand by for the doctor and let down a ladder on your port side."

A wave of the hand showed I had been understood and off raced

our tug into the night to circle round and come up astern.

South American rope ladders are apt to have outlived their safety point and I was thankful when I got up to the relative security of the rusty rail and jumped on to the deck. I pushed my way through a crowd of deckhands and firemen, suggestive of supers in a French revolution film, and passing the barrage of garlic breath I found "El Capitano".

He was oddly dressed for a sea captin. A loud check cap pulled down over a hard lined face and his dark muffler and long black civilian overcoat gave him a sinister appearance, but made him a suitable leader for his cut throat crew on deck. As we talked, he puffed into my face a mixture of garlic and smoke from the black cigar he held between his teeth. Always edging nearer to me asI retreated, it was not until I got a chair between us that we ceased to gyrate round his cabin.

After the usual civilities and inspection of the crew, I asked him about sickness during the boyage and learnt that a man had been buried at sea ten days after leaving Rosario. Close questioning elucidated only such generalities as that he was "a very sick man". "He holloed all night so no-one could sleep and had to be put alone at the stern of the ship. He was a lazy scorpion, anyhow,"added the captain, expectorating viciously over the side and at the same time wondering what possible importance the event could have to me or to anyone else.

"I think you had better find out if anyone has killed any rats on board this trip," I suggested.

His little black eyes looked at me quickly as if questioning my sanity.

"Parade the crew and find out " I persisted.

He went off muttering protests, but shortly afterwards I heard shouting and shuffling, and going down the companion way, found his ill favoured staff again on deck.

"Now tell them", I said, "That if any man killed a rate during the voyage he is to stand out"

His query, in Spanish, evoked roars of laughter, and two men, the cook and the mate said they had killed a number and thrown them overboard.

"Ask them how they killed them".

The cook had killed one with a metal spoon and another with a broom. The mate had destroyed three or four by kicking them with his boot. Healthy rats are not readily killed by any of these means when they have the free run of a ship, so the executioners were

further cross questioned. At last it came out that the rats had moved very slowly and the mate said that one could hardly move at all and another staggered across the deck as if it were drunk.

The chain of evidence was being forged, despite ridicule, ignorance and language complications. A man had died suddenly after great pain on board a ship from a plague infected port. A number of rats had been killed which from the method of destruction and the description given must have been ill. The imprecation, denunciations and general behavious of the captain when he learnt that I refused to give a clearance paper showed an unexpectedly fine mastery of of English as it is talked in the ports of the workd, but there was nothing to be done except hoist three white lights in the form of a triangle which marked her as a suspected vessel. The ship proceeded on her way but to the quarantine station and not to her dock.

By the time I got on board the tug again, it was too late for any more ships to arrive and dock that tide, so in the grey light of dawn we followed the grain ship up Channel. It was full day light when an hour later we reached the Mersey. It was a cold sunny morning, with a jovial wind which played with the wisp of steam from our siren and blew our thick smoke in gusts over the seagulls following in our wake. Beyond the yellow and white waters of the river, billowy clouds rested on the green fields of the Cheshire coast. At rest in midstream, was a battered cargo boat, her rusty sides and the salt on her smoke stack telling of many storms weathered. A launch raced across , leaving a white path and flashing sunlight from her glass windscreen and shimmering brass work.

It was a morning of revolt against the slavery of safety and earning a living. For long periods, spirit and energy can be disciplined to flow along in the closed pipe of convention, but on such mornings the pipe opens out, the sky and clouds show, it may only be a tree bending to the breeze or the sudden scent of wet earth, but something breaks and adventure calls. Happy is the man who risks all and answers it.

I disembarked from the tug at the landing stage and called to see the progress of another entomological war. The voyage to the bar, the inspection of crews and passengers, and all the cost and effort of the work of the night, was after all, largely due to the fact that the rat flea is the principal carrier of bubonic plague. Now the day's work began with the offensive against another insect, hair nits, the carriers of Typhus Fever.

Going into a long hut on the landing stage, I entered a form of

shearing shed, but instead of sheep , the electric slippers were rapidly shearing the matted hair of men, women and children. Each would-be passenger to the U. S. A. had to submit to a close examination by a nurse and those found to be acting as hosts to the little grey insects, despite protestation in many languages, were passed to the uncompromising and determined looking shearers for preliminary treatment. Leaving the shearers with heads as clean as an ostrich egg, the victims passed to the scrubbers. The latter rubbed on soft soap and paraffin with enthusiasm backed by strong muscular arms.

Steam rising from the bowls half hid the crowds of peasants from Central Europe, many still wearing their national dress. Curses, laughter and shouting blended with the steady crying of babies, soothed by baby words of many tongues, utter by newly shaven mothers and artificially bald fathers. Masses of hair covered the floor. Here were the long lack tresses of an Italian girl, there the yellow clippings of a German. From this melée the subjects eventually issued forth and were embarked, no longer potential carriers of Typhus Fever.

Walking away from the scene, I thought how strangely the apparently sordid may be linked with romance. The hair clipping and soap offensive was launched against the louse. The louse itself was thought to be harmless all through the ages until research work on other insects showed they could carry disease. Did the louse carry Typhus? The only way to determine was to feed lice on cases of Typhus Fever and determine whether they became infected.

But the louse will not live unless fed regularly on warm human blood. So the research workers had linen belts with pockets made, which they filled with lice. For months they wore these round their bodies so that the lice could feed on their blood through the interticés of the linen and flourish to eventually become fathers and mothers of large families.

In too many sad instances they proved self convicted carriers of the disease and killed their host with Typhus Fever. This brave work was done in England during the war by wearers of civilian dress and bowler hats, who were given white feathers in the streets of London because they "ought to be in the Army". Thus complexly works the machinery of the evolution of humanity.

A few yards along the landing stage brought me to the Port Office. Here I made my report and lay down for an hour on the black Americancloth couch provided.

At eleven o- lock the telephone bell woke me. The Dock Master wanted to know if the Rosario ship was to dock on the midday tide.

Yes, she could dock but with the usual precautions and I would come down at once. Calling the clerk, I asked him to send for two Inspectors and two ratcatchers.

The latter, I have always felt are, in spite of their somewhat menial calling, amongst the happiest of mortals. What fox-hunting is to the squire, rat hunting is to these men. Recruited from the poaching community, not from the ranks but from the proven experts, they have through this apprenticeship, received appointments in the Health Staff of the City Corporation. The relationship of magistrate to poacher is altered, by a turn of the wheel, to that of City Councillor and trusted employée, the individuals remaining the same. Only the outside dress, as seen by the world, changes.

Paid to do a job, which before they did under fear of punishment, it is not strange that they are enthuiasts in their work. Many come of a long line of legal or illegal catchers of birds and rodents and these would have one believe that the technique of the profession is hereditary, in that secret knowledge as to baits and traps can only be acquired if vouchsafed by a father to his son.

They are each provided by the municipality with a smart uniform of nautical cut and a little black bag, rather incongruously suggestive of a maternity nurse. Every morning six of these hunters sally forth from the port office to enjoy the game they enjoy most - hunting. Like tribesmen, each has his allotted hunting groungs, the whole dock area being divided amongst them. In the little black bag are the instruments of their profession, gins, irontongs, and traps, as well as the various tempting preparations of rat food, made ~~with~~ from recipes learnt from their ancestors. During the year they will catch fifty thousand rats for examination for plague.

Long association with wild creatures has conferred on these hunters the movements of untamed animals and also often their method of battle. A number have become rather like the ~~raths~~ rats themselves, with quick turning little black eyes, ~~wet~~ set in an angular thin face, surmounting an enormous moustache of whisker length. In others, the terrier dominated and their strong rough faces with wiry hair and quiet eyes are those of the trusted dog. But all have two things, in common, a zeal for the extermination of rats and an extraordinary agility in pursuit.

It was an unforgettable sight, the reaction of these middle aged men to a rat. I might be walking through a warehouse, chatting with a ratcatcher beside me, when silently a rat flitted across the floor and slipped under a heap of bales. With a bound the hunter was tearing at the bales, pulling them over in all

directions and digging ferociously until his quarry was located. A wild scramble ensued in which more often than not the quickness of the hunter enabled him to actually catch the rat in his hands. Its fate was decided by the requirements of the moment. If we needed it alive it was passed into a sack. If not, it was flung fiercely on the floor and so killed instantaneously.

But the final scene was not infrequently one of animal savagery. I have seen a ratcatcher, when bitten by a rat, retaliate by putting the live rate in his mouth, biting its head off and spitting it contemptuously on to the ground. Others, in the heat and pain of the moment, have nipped the rat at the back of the neck and worried it, finally dropping the dead body with an oath.

In response to my instructions, two inspectors and two rat-catchers had prepared for action. Overalls and thick leggings protected their legs against possible plague infected fleas from rats and leather gloves covered their hands. Picking up the maternity bags, we all proceeded down to the dock where the Rosario ship was to lie. As we arrived she was nosing her way through the dock gates with the assistance of two tugs, endless hawsers and two stout red-faced men whose shouting would have suggested to the uninitiated that this was their first effort at docking a ship. Yet they had been doing nothing else for twenty years and knew exactly what to do and when to do it, but roaring at eachother appears to be part of the established ritual.

Walking down the dockside I confirmed that precautions had been taken. The ship would unload all her cargo into a large rat-proof ware house. Once in here, whether inside a sack or clinging to a bale, a rat was unable to escape from the building. Steel sliding doors and smooth concrete walls left him no chance, and sooner or later he would fall to a ratcatcher.

His more fortunate companions on board might attempt to land direct along one of three routes: down a mooring rope, along a gangway or by jumping from the ship to land. All these lines would be blocked. Rat guards would protect the ropes, a sentry day and night would watch the gangway and the ship, instead of lying alongside would be breasted twelve feet off through the use of submerged pontoons. The most athletic rat fails at twelve feet and optimists who tried it fall into the water over the pontoons. The slimy smooth dock walls prevent their climbing up and after swimming about the dock for a time they too perish.

Towering high above the warehouses round the dock, the suspected plague ship was coming slowly to her berth. The rust-coated ~~stern~~ bows silently divided the black waters of the dock creating multiple patches of oil irridescence. Leaning over the rails were the slatternly figures of her crew, whilst the morning breeze lifted and then dropped the yellow flag on its halliard amidships. Occasionally a wraith of smoke floated from her funnel and rode on the wind to lose itself over the roofs and chimneys of the slums round the docks. In the sparkling sunshine the white of her upper-works stood out against a blue sky.

What would the recesses of the steel body of this painted sepulchre reveal to the hunters? In the critical eyes with which they watched the ship being berthed the light of anticipation was already kindled.

Imperceptibly the huge mass of the ship drew closer in, until its long voyage gently ended against the submerged pontoons. A derrick bent its long neck, picked up a gangway and dropped it into position and the hunters hurried aboard to secure samples of the rat population. Under the inspectors supervision, rat guards were placed on all moving ropes and a sentry on the gangway. The ship's carpenter had already knocked out the battens of the holds and within a few minutes the forrard hold was open and the hunters in it delving amongst the sacks of grain.

With its noisy chatter of gears and hot breath of steam, the derrick looked down and lifted half a dozen sacks from which the wheat rained down through holes made by the rats. After providing an aerial voyage high over the ship's rail, across the water over the pontoons and finally the dock wall, the crane suddenly lost interest in the sacks and dropped them on to the floor of the warehouse through a hole in the roof. More clanking, angular movements and it was back for another load.

As I peered down into the darkness of the hold, I could see the two rings of light which flitted about and marked the movements of the hunters. Flashing their torches now in the crannies between the sacks, now up and down the iron stanchions of the sides, they were searching for rats already dead of plague. The derrick had not been cooperating very long before the sharp eyes of one of the ratcatchers saw half a body protuding from a hole in one of the sacks. A loud call immobilised the crane and the rat corpse was procured. Placed almost reverentially in a box, it was given a serial number, sealed down and handed to one of the inspectors. He took his decomposing prize with manifest pleasure, called a taxi,

and within a few minutes the remains were in the laboratory of the city bacteriologist.

Meanwhile in the dark depths of the hold, the search for dead rats continued. Two were soon discovered on a ledge, and three were lying amongst the sacks, and one fell in a gruesome manner with outstretched paws from a bundle of sacks high up in the air, just missing a hunter on its descent. Each as it was found was put in a serially numbered box and dispatched to the laboratory.

Researches had just commenced in the hold aft, when a boy came up the gangway with a sealed note. It was the laboratory report.

I read it with regret. "Result of postmortem on rat 871 showed plague".

The short message meant great cost to the shipowner, delay to the ship itself and days of hard work for the Port Health Staff, medical officers, inspectors and ratcatchers alike.

All the officers and crew had been detained on board and it was therefore only a secretarial matter to get their names and addresses of where they inted to stay ashore. A sheaf of telegrams informed the medical officers of Health of the districts concerned.

"Juan Gallieno disembarked today from S.S. Littorio and is proceeding to 97 Stoney Street St Helens stop rats dead of plague were found on this ship on her arrival Liverpool stop Port Medical Liverpool".

Thus each individual would be kept under daily supervision wherever he stayed in view of the possibility of his developing plague after leaving the ship.

Meanwhite the inspectors had obtained the tally lists for the cargo and a plan of the ship showing the stowage. Laden only with grain, in bags this ship offered a much easier problem than a mixed cargo. All the wheat could be unloaded into the warehouse and the rats destroyed there.

For and aft derricks were now ~~roking~~ working, the number of dead rats found had grown to twenty five and the hunters were still enthusiastically scrambling over sacks deep in both holds, occasionally rewarded by a moist decomposing or dry mummified trophy of the chase.

Further confirmatory reports arrived as to the results of the

post mortems on a number of rats and the next step was to send the fateful telegram to London announcing the decease of the rats and its cause, coupled, however, the reassuring news that all possible steps were being taken to protect the Liverpool resident rat population.

But thanks to a convention, posthumous International celebrity awaited the dead rodents. The warning words,

"Dead plague rats in Liverpool"

travelling by wire or vibrating on long and short lengths would within a very short time reach the remotest ports of the world, from the sunny blue harbours of South America to the forests of masts in the sealing ports of Norway. Ships rolling slowly homewards over the swells of the South Atlantic or battling with the rough winter seas of the North, would pause in their dreams or in their struggle to pick up the tidings. Masters, pilots, port captains and doctors, Customs officers, and Health authorities would learn the story of the Rosario rats who ~~made a single trip~~ died on their way to Liverpool.

The telegram I handed to an inspector to dispatch was to activate a vast and intricate international machine with publicity results greater than any film star has ever dreamt of - a potential tragedy with a few dead rats as the only actors.

Think though of Sumatra. A single ship, possibly a single rat, introduced plague into this island for the first time in 1912. Today the average number of deaths from plague for every week of the year is four hundred. Twenty thousand dead, year after year. The ghosts of the dead and the memories of their agony crowd round the little bundle of brown fur lying on the deck.

It is a strange association, for human plague is but an accidental transmission of an animal disease to man due to the hunger of a flea. Every rat carries fleas, one particular species of the two thousand varieties known and classified. As he hurries about his business, his insect companions cling to him and avail themselves of the endless resevoir of warm blood that his body supplies and thrive, especially in warm weather. Then the rat sickens but his parasites continue to take toll of his blood. Inserting their long biting parts they suck up the infected blood, now containing plague acilli. Gradually with the progression of his illness, the fleas realise that his body is becoming colder and his blood is less to their taste. So they drop off the failing body and lie about until some other warm bodied potential host passes. Generally it is another rat but it may be a man.

No food comes amiss to the hungry, and the flea hops on to

the passer-by. Hurriedly he inserts his biting parts and procee ds to suck up the blood of the new host. But a strange thing has happened. Such he may, but swallow he cannot. The plague bacilli multiplying in his body have formed a mass of bacteria blocking the whole length of his throat. More strongly still the flea tries to suck and then the tragedy for the new host results. The blood rushing up the feeding tube washes against the plug of bacteria in the flea's throat and is regurgitated, carrying with it back into the blood stream of the host a pledget of plague bacilli. The bacilli multiply in the new blood stream and the host, man or rat, dies of plague but generally not before many fleas have fed on the new victim to again spread the disease.

Every stage of the drama can be watched under the microscope. The flea feeding, the multiplication of plague bacteria in its throat until it is blocked, the vigorous sucking to get food, the breaking of the pledget of bacilli in the flea's throat and the final passage of the bacilli down the mouth of the flea into the blood stream of the new host.

For the ratcatchers this knowledge is a sealed book: the chase is the end in itself.

The unloading was now well under way. A clattering fevered life had succeeded the silence of the empty dock with its black water gently lifting the weed on the green covered walls. Clanking of derricks, hammering, the hiss of steam and shouting, gave the ship a superficial renaissance after its own life had gone with the last bell, "Finished with engines".

Each hawser had been fitted with its ratguard, a large circular plate of zinc, the rope passing through the middle. On the one gangway was a man with aconvincing looking stick waited for any unimaginative rat who might be tempted to take the line of apparent least resistance. The ship was completely rat isolated from the shore.

I went into the warehouse where the assiduous crane had now dumpted hundreds of sacks. Here two ratcatchers were zealously engaged in emptying the bags of wheat through a sieve in a search for further dead. Two rows of little brown corpses represented the results of their efforts, rats found dea d and rats killed. For days the monotonous work would continue day and night until the contents of the thousands of bags on board had passed through the sieves.

It was well after midday when a second medical officer arrived to take over the supervision of the work and I had only time for

a very brief lunch before a liner from the United States was due to arrive.

As I passed from the dock into the road, I left the workers in the sunshine and clean wind and faced the long line of workless in the shadow of the uncompromising dock gates. The sad faced and ill clad men were waiting on the bare off chance of more hands being wanted to work cargo. Day and night a little knot of unfortunates gazes on the gates and at seven each morning the men required for the day are taken on, the first in the queue getting jobs. In consequence the ranks begin to form up before midnight and when at seven a.m. the number required is called, the remainder of the queue, as often as not soaked to the skin, drifts away after their long night's vigil. A small company of optimists wait on in case the fatal gates open again to take in two or three more. Of the insecurity inherent in the work of most labouring men, dock labourers must surely bear the greatest share. Seven or eight hours waiting through the night inorder to get eight hours work, with the chance of disappointment at the end. The engagement is only for one day so each day's work has to be sought through the same weary waits.

As the dock gates swung open a look of anticipation passed over the white faces only to fade into resignation as I passed out.

Along the dock wall runs a road of granite sets, grooved by the passage of relics of the Victorian age in one of their last strongholds, the horse dray. Here the crackling talk of the motor lorry has not yet superseded the steady plod of the horse with its accompaniment of jingling chains and shimmering brass work. The drivers still sit huddled up under an arch of tarpaulin, with a sack thrown over their shoulders and bring back childhood days and the fir first horse and cart we owned.

Memory flying back over the years that have piled up so unexpectedly fast, puts us back for the briefest of seconds to the time when we believed we could never grow old and that it was only because old people made up their minds not to play that soon they could not. Absorbed in a struggle not to anticipate fearfully coming events lest we lose the power of action in the present, it is only when the pile of years is momentarily disturbed by a sight or a scent that we realise how fast the present is being absorbed into the past as race along. To what end, rings in the air ananswered. It cannot be that man can grow to the greatness we see in some only to be snapped and ended.

My way lay past lines of respectable old warehouses whose windows now boarded up had once kept watch over the coming and going

of clippers, across railway lines guiding the jerky activities of little green engines attached to gigantic tarpaulin covered trucks, and so away from the world of ships to the noise of Scotland Road. Snarling dogs, crying children and the high pitched shouting of women reflected the discordance and ineffectiveness from which these slums were born. On the steps of houses on opposited sides of the street, two Amazons were carrying on a fierce argument.

"I said to 'er that I didn't know no more about it than she did and he didn't neither" rose high above the clank of a passing tram, as one lady seizing her bucket, banged her front door and so terminated the discussion.

Turning down a narrow old street, my world again changed. Here were offices, poverty stricken in outward appearance, but creators of great riches, as shewn by the names of world-known shippers which appeared in scratched brass lettering on the obscured black glass of the windows. Black coated clerks whose pale faces spoke of a mortal fear of assuming responsibility and awe of their chiefs, walked the pavements, helpless and worried men whose hearts were not in their jobs, if they could be said to have jobs. They gave way apologetically to cocksure business men of strong character but without social graces. The bowler hat was ubiquitous. Pushed far back on the head, it denoted the blusterer of the self-made man. At varying angles over the eyes, it half hid the shrewd man who, in his business interests, was genial with everyone. Horizontal, it overhung the fussily loquacious and heard much gossip.

I passed the avian ~~crouching~~ crouching figure of a jew who was feverishly making a proposition to a simple looking round faced man. Two men fat and easy going, who might have stepped out of a Frank Hals picture, radiated cheerfulness as they talked of bridge of the night before, each one patiently listening to the details of his friends hand, only in order to ensure an audience for a description of his own.

Cotton prices, golf scores, bridge and gossip formed the limited orbit round which the animation about me was perpetually revolving. The struggle to beat competitors at their own game has moulded these men to strange characters. Ask one for a thousand pounds for philanthropy or to help a lame dog over a style and you will probably get it, but watch the variation in the amount of whisky in the glass according to whether the drink is in your home or in his. Visit a palatial house and see the financial magnate insist on eating his meals on a bare table in the kitchen whilst his son, toying with champagne in the mess of a crack regiment is well on the way to the fulfilment of the north country saying, "Brass to rags

takes nobbut (only) three generations".

Wrangling and fighting all days at the office for the joy of beating their fellows, out of school, once their interest in an individual or an object has been aroused their sympathy invariably takes a practical form and their generosity is unlimited. Incredibly shrewd along their own line but generally of childlike simplicity outside of it, their character is a fascinating tangle of contrasts, which dominated by drive and forcefulness of purpose makes of them the most stalwart of friends and the worst of enemies.

Obeying the dictates of time, I swallowed a glass of beer and two clammy ham sandwiches at a snack bar and went back to the Port Health Office.

Here I found another crisis had occurred. A ship ready to sail had signed on firemen as usual from the poorer parts of Liverpool. Each came aboard with his bundle of domestic possessions and inadvertently brought representatives of the insect population of his home. In the long lazy days at sea, aided by the warmth of the fo'castle, the new arrivals occupied the cracks and crannies of the berths and there set up house. Generation followed generation and more and more food was required, which the unfortunate crew have to supply in the form of blood collected silently during their hours of well earned sleep. A certain number were not noticed, but as the numbers multiplied from ten found in a bunk in the morning up to fifty, the long suffering crew reported to the Captain. The complaint was duly logged but nothing drastic could be done until the ship returned to Liverpool. Here, all the wood work had to be taken down at a cost of some hundreds of pounds and the visitors dealt with.

Once more the fo'castle was bug free, once more when the ship was ready to leave the new crew arrived with new bugs. History repeated itself during the voyage and again complaints by the crew were logged. This process had been going on for some years when someone suggested that if each new crew dumped its kit in the fo'castle and superheated steam were then turned on for an hour, the trouble would not recurr. So between two voyages a pipe was fitted to carry steam to the fo'castle and instructions were given that all kit was to be put in the fo'castle and steam would be turned in for an hour after the ship sailed.

Then, an hour or two before she sailed, the bomb that I had to face, fell. The firemen, who had each voyage logged endless complaints about the insects, announced through their Union that the proposed disinfection was an insult to themselves and that unless every first class passenger's luggage was treated in the same way, there would

be a general strike of firemen in Liverpool. In the face of this step, I had no alternative but to allow them to go to sea with their bugs as apparently they desired to do.

It is but one incident, but it serves to demonstrate how readily medical progress and research may be discouraged by the attitude of the public. "Find out the cure for cancer" is the cry of the public to medicine. After years and years of patient, self aacrificing work it is found that only smokers get cancer of the tongue and that drinking hot fluids and eating hot food predisposes to one of the commonest forms of cancer, that of the stomach. What is the Public's reply.

We would rather live a few years less than stop smoking or eat cold food".

And so they do.

It is not strange that research workers as a whole tend to drift towards cynicism and to derive the impulse to discrover, not from humanitarian considerations but simply from the fascination of trying to disentangle a complicated problem. Consequently, whether the results have a direct or indirect effect on humanity is often of little interest to the scientist. It is sad and there are exceptions, but the firemen with their bugs typify only too well what so often happens to drive research workers to this outlook.

Out of the office window over the heads of the crowds on the landing stage, I saw the white upper works of the liner slowly moving against the blue of the sky, her gigantic red and black funnels still idly smoking and lines of passengers like rooks crowding her decks. At her masthead rode a seagull and others sat on her bridge rail. In Liverpool sailors tell you that these are not birds but the spirits of old sea captains who have commanded the ship and who meet her each time she returns to England to see she is correctly navigated up the difficult Mersey estuary. When her course is safe they perch quietly on the bridge or on the masts but should she near a sand shoal they fly wildly anout shrieking out their warning. Some old sailors will point out individual birds .

"There's old Captain Blackstone, a quiet man he was. He always rides on a corner of the bridge. And that's Captain Brown - he was a proud man and he comes up on the masthead. But rough or fine, they're all there to see her come in and watch that everything's O.K."

As the ship comes alongside, there is a pause as the sea life dies before the noisy bustle of landsmen spreads over the vessel. The gulls settle down to rest, the throb of the engines ceases, no head wind flaps the canvas, the smoke only rises lazily as a thin column. Vitality has gone. The silence is only for a minute until the first gangway is lowered, but it marks the end of the voyage and is symbolic of a piece of work completed.

Directly the gangway is lowered, a Customs officer goes on board followed by a little party. After the gold plumage of the Customs, these individuals are unobtrusive, and indeed are so retiring that neither passengers nor crew even notice their presence on board. Two represent the Home Office and their work is to see that no one lands to stay more than three months in England who has not means of subsistence and so might come on the rates, and generally to acquaint themselves with the objects of any foreigners in visiting England.

In addition the Police have two or more representative according to ~~the representatives according to~~ the number of "wanted" gentry on

board. This harvest is at once searched for in the vitals of the ship and there garnered or allowed to land without a word and clandestinely followed by a trained observer.

Finally a port medical officer works in collaboration with the aliens officer in order to detain any foreign individuals who, by reason of chronic illness or physical disability might be unable to earn a living and so come on the rates. Epileptics, cases of tuberculosis, lame blind and mental defectives would otherwise crowd to the country with the best social services and within a few years we should find ourselves hosts to tens of thousands of unfortunates from all parts of the world.

Britishers can, of course, enter under all conditions, provided their names do not appear in the little black book which one of the detectives carries and which he may be seen diligently and hopefully consulting as each passengers name is called out. Occasionally he is rewarded and a gentleman, protesting violently, is requested to join the harvest waiting in one of the saloons for the arrival of the closed car provided by the authorities.

That morning a strangely silent man, who appeared anxious to say as little as possible about himself, roused the suspicions of the Aliens officers and so of their colleagues the police. Close questioning elicited no satisfactory information as to where he had been and why he was coming back to England. He was suspected of being in the secret service of some Government and certain papers found upon him confirmed the possibility. In addition the names to which the letters were addressed did not correspond with the name on his passport.

So he was arrested and without any protestations on his part was taken to join the "wanted" class in the saloon and eventually arrived in a cell in the local prison.

Late that night a wire from London arrived in the Port. A British agent was expected on the ship in question and had failed to reach his headquarters, and we gathered much anxiety was felt. We remembered the simple man with the enigmatic face who refused to give answers to enquiries and realised he was an agent as we suspected, but on our own side. After profuse apologies which he received with complete indifference, he was hurriedly released from the prison. Our regrets took the practical form of standing him dinner before he left on the midnight train for London, but in spite of alcohol, with which he was no mean performer, he slipped out of our lives with the same mystery as he had entered them.

Today's liner was from the U. S. A. and as we came on board I could hear that the goats and sheep were already being separated.

"Subjects in the Smoke Room; Citizens in the Dining Saloon" re-echoed along the decks in the raucous voices of the stewards.

The "Subjects", abbreviated form of "British Subjects" as they filed to their allotted saloon , cast glances of annoyance at the "Citizens" with their free sounding proud title passing to the dining saloon. However, the "Subjects" came into their own as they are dealt with first, and once by their passport they have proved their title to "subjects" nothing can prevent them getting ashore. But the path of the "citizens" is more difficult.

Although it is repeatedly explained to them that no-one can leave the ship until all have been examined, there is for some unexplained, psychological reason invariably a struggle as to who shall be seen first.

Why is it that in any crowd there are only one or two individuals who realise that if no-one can leave until all have been examined, there is no object in struggling. In the hot atmosphere of the saloon, the possessors of massive abdomens prefer to drive them as wedges between the less developed bodies of their fellow passengers. Those with long arms wave passports over the heads of others in an optimistic attempt to catch the eye of an Aliens officer. On every occasion several individuals, after a prolonged offensive, reach front line, only to find they have forgotten to bring their passports or have remembered to bring the wrong papers. A hurried search in handbags, a muttered expletive and the unfortunate yields up her position to be swallowed up unsympathetically by the struggling mass behind.

Revelation comes later, when it is found that all are taken in alphabetical order! The seething crowd disintegrates into its irate components, ties are re-arranged, faces re-done, hair lightly combed and all signs of the struggle removed as the restless spirit of competition is succeeded by the philosophical calm of waiting.

Each citizen is dealt with separately and secretly. The great majority have come for less than three months so except on medical grounds the question of their detention does not arise. All show their return tickets and evidence of sufficient cash to last them three months.

I take my seat by an Aliens officer and as each passenger comes up to the table I see he is not crippled or unable through loss of limbs to earn a living. During the question and answer time I have

an opportunity of excluding mental deficiency and of forming an opinion as to the presence of any chronic diseases. Anyone who does not appear to be in good health I detain, and send below for detailed examination.

We were nearly through with the first class passengers when a pompous middle aged American bustled up to the Aliens officer and without accepting the proferred chair, or taking a breath, boiled over with reasons why he was visiting England.

I thought his pallor was not merely due to his excitement, so I asked him to go to his cabin and undress. He drew me aside and surreptitiously slipping a £5 note into my hand, said aloud,

"I'm quite well. You won't need to examine me, will you?"

It did not take me long to select words which made it clear to him that, whatever value his methodsmight have elsewhere, in his present position, they would land him in prison. He was profusely apologetic and hurried off to his cabin with endless protestations of regret for the mistake he said he now realised he had made.

It was not until we had finished the first class passengers that I went down to his cabin. He was fully dressed.

"Why haven't you undressed for examination" I asked.

Neglecting the question he reverted to his old topic.

"Doc, I'm most awfully sorry for the mistake I made up in the saloon", and at the same time his hand sought mine and I felt him push in four £5 notes! He believed he had underestimated the seniority of his man and hence the mistake on deck for which he blamed himself so deeply and tendered his apologies to me.

We had some very plain speaking before I findally examined him and then found him perfectly well..

It then transpired that he was very anxious to meet a lady in London, and as he explained, it was worth a great del more than £20 to him if he caught the boat train and her.

As the delay had caused him to miss it I agreed to consider this as sufficient punishment, provided he put the £20 in the ships box for orphansand widows of seamen. Otherwise I should feel obliged to report his operations to the police.

With grace he put the notes in the box and pointing out that we had both made mistakes, he in his methods and I in my opinion that he was not telling the truth about his health, we went off and had a drink together. He promised to let me know how matters worked out in London.

A few days later I received a voluptuous post card, with the letters "O. K". scrawled across it. So I condluded his out of pocket expenses to the Widows and Orphans on landing were well covered by subsequent business developments.

The first and second class passengers being disposed of, our little party followed endless lengths of wood panelled corridors, changing the smells of luxury, cigars, scents and fresh white paint, for those of the steerage, boiled cabbage, and the reek of closely confined humanity.

In the other classes pleasure or business covered almost everyone's reason for the journey. In the third class, however, the reasons were different as the joys and tragedies of life are various.

Here was a tall, anxious man in black shabby clothes carrying a child whose eyes still had that wise and wondrous look of babies as if not yet acclimatised to this world. A clerk from New York, he had his wife's dead body on board, that he was bringing home to rest in her little village somewhere in Herefordshire. And he brought the baby to leave with his mother whilst he went back to fight again for its living in an office in New York.

Next came a young woman, whose pretty face, though careworn, still had much of the child in it. She was thirty three and her forced happiness bravely hid the fact that she had extensive cancer of the womb and was coming home to be cured or die in her own country. Her confidence in her doctor had drawn her back from a remote settlement thousands of miles away in the Canadian Rockies and she came relying on his calm judgment and the unfailing kindness she had known from him.

Following her was a young Canadian girl who was to be married the day after she arrived to a mechanic. I can still see her wildly joyous eyes as she leant over the rail close to the widower bowed over his only touch with his old happiness.

Then came a young farmer who had made good in Canada and was going home to see his old father and mother in Ireland. Next a girl from London, who had married a Canadian and gone out with him only to find through the merest cahnce of a meeting with a mutual friend that he already had a wife in another part of Canada. She was returning disillusioned, her hopes of a home shattered to try to take up her work again in an auctioneer's office in South London.

So one followed another, mostly tragedies. Hope and happiness reign only on the outward bound ships, too often to be crushed in

the depressive loneliness of an unsuccessful prairie farm or the pitiless competition of a large city. Homeward bound come the unsuccessful, the weaklings and those whom illness has unfitted for the fight. Unwanted political or religious refugees rub shoulders in the steerage with those deported from other countries for epilipsy, mental disease or tuberculosis. All have played their parts but for each one the play has failed, either through his own fault or on account of circumstances over which he had no control. Some were badly produced or did not know their parts, some missed their cues whilst the imagination of others outstripped their physical capabilities.

The old mother wrapped in her grey shawl of sea sends out her children strong and happy and in the evening received them back, without asking who has failed or why, for love ever blinds itself to failing strength as too sad to be dwelt upon.

It was late in the afternoon before the ship was cleared and the last of her mixed human freight had gone ashore to follow a new thread of life. A grey mist floated over the dark water of the river. The black mass of the ship, with her rows of lights, rose against the flames of the setting sun as though she were cut from cardboard as stage scenery. The landing stage was deserted save for a solitary policeman and two little ragged boys who stood absorbed by the vision of the fairy palace.

As I passed them I knew from the smell which hung about them that they were bilge boys, and so most humble collaborators in the efficiency of the ship they were watching. Their qualification for their work is their small size on leaving school, thanks to under-nourishment, rickets or tuberculosis. Their work is to spend their days in three feet of space running the length of the ship between the true and false bottom, clearing out with their hands the lumps of heavy oil and other waste that block the bilge pumps. They creep about in the darkness amongst the stinks of decomposition, of dead rats and rotting cotton waste, unable to sit up, much less stand for long hours together with the aid of a candle.

Occasionally one is overcome with gases of decomposition and only his little undersized mates can recover his body. Reeking of oil and shunned in the daylight by their fellows, their skin generally ulcerated from the fumes and oil, knees and elbows worn bare and their eyes red and inflamed from chronic irritation, they yet rise above the tribulations to which the civilisation they have so recently joined has condemned them, and far off in the black of the bowels of

the ship you hear them whistling and singing.

But it is only for a time. The very diseases that qualify them for their work progress and many only travel a very short way along life's road.

Often they are bright, cheery little fellows, without a grudge against anyone and childishly grateful for a bag of sweets or a bar of chocolate before crawling into the steel hole which leads to their work. But on the young faces of some the shadow of hardness has already fallen and distrust of the world they are facing for the first time, is written large..

The two boys I met told me that they had just done the bilges of a big ship leaving for India and that they had finished for the day. I gathered that the evening was to be devoted to a motor trip to Manchester. The proceeding to be followed was to wait about on a hill until a lorry with the Manchester number plate passed and slowed down. Then to scramble on to the back and there travel under the covering of tarpaulin. After visiting the docks and shops in Manchester they intended to travel back to Liverpool by the same method. It appeared that their usual way of spending the weekend was on similar lines.

Taking some bread and margarine on Saturday midday they had travelled extensively over Lancashire and parts of Yorkshire, sleeping in a lorry or a ditch as opportunity offerred. I learnt that there was quite a large section of the boypopulation of their acquaintance that passed their week-ends similarly and that a number with longer time at their disposition had visited places as far distant as Glasgow and London.

On the way back to the Port office they gave me much information as to the practical points to be observed should I, as they suggested, care to make a trip myself. They stressed the importance of selecting a lorry with only one man in front ~~and~~ in order to avoid possible surprise raids by his mate. Tarpaulin covered lorries were best in case of rain. Some lorry drivers were friendly but the general principle to work on was that they were not. The method of testing the potentialities of such friendship was they described in detail and the fact mentioned that the preliminary experiments were best carried out hanging on to the back of the lorry going slowly up a steep hill or with some other line of retreat open. The exact technique of climbing aboard with the aid of the tail lamp was described and information given as to the best methods of leaving the vehicle at various speeds. Finally my informants reminded me of the necessity of carrying a list of Registration letters in the case of cross country journeys, in order to select a suitable lorry.

Astounded by this wealth of technical detail on a so little known subject, I found myself all too soon at the Port office. My grubby friends ambled off, stopping, I noticed, to examine closely the next point of interest in life which was just opening for them, a dead cat lying in the gutter.

In the office, tea served with condensed milk in a thick cup awaited me, and also another crisis.

Some time previously a leper from Indo-China had been found wandering about in the city and had been sent to the Port Hospital. Here he had been treated for a time and then his repatriation decided upon by the Authorities. He was to travel on a large cargo boat and to accommodate him we had arranged for a wooden cabin to be built on the well deck aft where he could be kept isolated.

The construction of the cabin caused some comment, and when the crew learnt that it was for a patient, suspecting a leper, they refused to sail unless the hut was taken down. As the ship was to leave that night, the cabin was dismantled, but we still had somehow to get the leper out of the country.

This was the problem and at first it appeared insoluble. Postponement was useless as other crews would refuse similarly and our orders were that the patient was to go.

We knew that the risk to the crew was non-existent and their refusal was bred only through unnecessary fear of infection. So after discussion, we decided to let the ship sail and follow her down channel with the leper on board a launch. Once at sea, refusal to work the ship brings the crew under the serious clauses of the Mutiny Act, and the hut would readily be reconstructed later by the deck hands in their own own interests.

The deed was done at 2 a.m. that night well out at sea under cover of darkness and when most of the crew were asleep. On his return to Liverpool the Captain reported all had worked perfectly and the patient, much improved by the sea trip, was in hospital in Hanoi.

My last duty for the day was dealing with the rats brought in from all parts of the docks by the ratcatchers. Those already dead in the process of capture, poison snares or bird lime traps, were given a serial number, labelled and put aside for dispatch to the laboratory for examination for possible plague. Those still living were in sacks, each marked with the name of the ship they had come from or the part of the docks where they were caught. In each sack was any number of animals from one to ten or more.

Their fate depended on their place of origin. Those from ships which during their voyage had called at any plague infected port were drowned in a tank of paraffin or killed with chloroform in a box covered on the insite with white paper. These two methods of execution were used in order not to lose the fleas, which in the case of the paraffin method remain on the body and with the chloroform are stupefied and can be easily counted against the white paper lining of the box.

The paraffin victims were then combed with a fine comb on to a sheet of white paper and the number of fleas per rat counted. These could then be graphed out so as to show the average number of fleas per rat for each day of the year. When the average number of fleas per rat reaches a certain number which to a great extent depends on the temperature of the air, the likelihood of plague spreading is greatly increased. After the fleas have been counted the bodies of both paraffined and chloroformed rats are labelled and sent to the laboratory for examination.

A few rats were kept alive to help in the solution of a number of unsolved problems as to the movement of the various members of the fraternity, movements so important in connection with the possible spread of plague.

Does a rat travelling on a grain ship remain constantly on such ships or does he change his habitat to a fruit ship or possibly live chiefly a shore and only take a sea voyage from time to time? When a ship comes in do the rats generally remain on board or do a great many of them come ashore? Are the rats in the stewards pantry and consequently the closest in the activities to man the same as the rats in the hold?

These and many similar questions I sought to solve.

The apparently animated sacks writhed about on the cement of the floor. Squeaks in varying pitches reflected the anxiety of their occupants. A ratcatcher picking up one with perhaps a dozen rats in it, undid the string and held the throat of the sack in his hand. I thrust my arm down into the bag and pulled out a rat.

There is a technique about doing this. Invariably at the bottom of the furry, squirming mass there are two rats, each with a nose pressed into a corner of the bottom of the sack. Strangely enough one can push one's hand and bare arm in amongst the creatures without being bitten as each animal appears to think it is the body of another.

Pushing far down in the sack, I make for the corner, slip my hand along the back of the rat there, and getting hold just behind the head, pull him out through the mass of his fellows. I have done this with hundreds of rats and have never been bitten. Indeed, it is the only satisfactory method as the use of tongs or forceps may damage the animals and to wear gloves or anything on one's arm is to ensure that one will be well-bitten.

To mark the rats I tried various methods. Numbers such as are used for pigeons placed on the legs interfere with running and may be gnawed off, either by the rat himself or one of his friends. All forms of rings on the legs or tail not only make the rat different from his fellows and so may land him in trouble, but in the wild state they are very liable to lead to ulceration.

The method I found that least disturbed the life of the rat and so maintained his activities as nearly normal as possible was the use of paper fasteners, of the push through and bend back type. On the head of each fastener a serial number was marked and the points were sharpened. It was now possible to pass the points through the ear lobe, leaving the end on the inside and bending back the points on the outside. I recovered large numbers of rats months after liberation and in each case the marking remained without ulceration and apparently without troubling the rat in anyway, often after a trip to South America or the East!

So holding the victim gently behind the head, with my forefinger and thumb, I slipped the paper fastener through his ear, dropped him into a sack and delved for another. Against the serial number of each rat I kept a note of the date and place of his liberation, in a South American ship, in a dock for fruit ships or in a grain warehouse.

Each marked rat was put into a sack labelled with his place of liberation and with their squirming burdens on their shoulders, off went the ratcatchers on their mission of freedom, and perhaps thirty rats that night found themselves once more at liberty after their harrowing experiences.

The rats departed, I too was free to go home for the week end.

I.

England.

Lockwood Jan. 1919 –
February 1920.

London May – June
1920.

E N G L A N D.

JANUARY, 1919 TO APRIL 7TH, 1922.

NORTH HOUSE, LOCKWOOD, HUDDERSFIELD.

JANUARY, 1919 - FEBRUARY , 1920.

London. May - June 1920

M.D.M. arrived in England from Mesopotamia in January, 1919 and went home to Lockwood to take his part in the settlement of family affairs necessitated by the death of his father. When this should be accomplished, and he demobilised from the Army, he was firmly determined to specialise in Public Health Work.

It was decided that he should resume the family practice until such time as it should be deemed advisable to sell it. His demobilisation on June 23rd, 1919 set him free to do this and to concentrate on a study of general local health conditions. This continued until February 9th, 1920, when the practice passed from the Mackenzie family.

North House, which beyond its professional uses, had been the shrine of a singularly happy and united home- life was retained as a family possession, but let on a lease to the purchasers of the practice. For some time, a family base was maintained at Lockwood, at first in a cottage, adjoining North House, called the Sycamores. The work that had been carried on in North House for the past thirty years had been a dedication to the highest and in all of it the mother of M.D.M. had taken not only an active but a creative

part. The relinquishment of it was to her a thing beyond expression in words, almost of thought. A new life would follow, more likely than not, elsewhere, but for the moment, she wished to be near her own people.

c.f. 2a.

In the spring of the year, M.D.M. went to London to read for his degree in Tropical Medicine, taking the Colonial course at the School of Tropical Medicine, May to July; the course in Tropical Bacteriology at King's College Hospital during the same period. In August, he sat for his examinations, taking first places in Entomology and Helminthology at the London School for Tropical Medicine; the Diploma in Tropical Medicine of the Royal College of Physicians and the Royal College of Surgeons, England, also the Diploma in Tropical Medicine and Hygiene of the University of Cambridge. He received his degree of Doctor of Medicine in Tropical Medicine and Hygiene in the University of London by the Thesis on the of Typhus, a copy of which appears in the Mesopotamian Section of these records.

In connection with his original essay the following extract from a letter of Colonel Fremantle is illuminating:

Bedwell Park,
Hatfield,
Herts.

16th September, 1920.

Last night I was able to finish reading through in some detail your M.D. thesis about typhus. It is a most valuable bit of work, on which a definite system with

precise instructions and all details for its application should be drawn up for use by all public Medical Services concerned, or likely to be concerned, with louse-borne disease. As a thesis it is buried away. It ought to be at once made use of in connection with typhus in Eastern Europe, and by the Army and Indian Medical Service. Are you proposing anything in this direction?....

A month earlier Colonel Fremantle had written to him:

"I wish you and I could work together again someday, although I do not quite see how. Always let me know if I can help you in any way. But I agree with you that the main help is that of being fellow-visionaries. There are so few in our line of our profession, who see as we do."

In August, he received the offer of an appointment to a Fever Hospital in Birmingham, but he refused it as he had decided to read for his Diploma in Public Health and he felt he could not do this job thoroughly unless he gave up all his time to it. Here follows an extract from his reply:- VIDE 3a

He wrote to his friend Dr. Harold Kerr of the Newcastle-on-Tyne Health Department, asking his advice in the matter of a part-time post, and receiving the following reply:- VIDE 3b

Events so resolved themselves that that was the decision to which he came.

II.

Newcastle-on-Tyne

November 1920.

—

June 1921.

L I V E R P O O L.

JULY 4th, 1921 - FEBRUARY , 1922.

Port Sanitary Office,
Pier Head, LIVERPOOL.

July 8th, 1921.

I have had a very full~~y~~ week indeed. The work is very interesting and varied and has great possibilities.

My first job was to meet the "Celtic" from New York on Monday and go over her passengers. This took some hours. On Tuesday, a Cunard liner "Algeria" from Boston, arrived with three or four hundred first-class passengers, and these took me most of Tuesday. Wednesday I was inspecting Mussel beds off Wallasey and Hoylake. Thursday, food inspection, rat-searching supervision and boarding boats from India, Australia, etc. To-day an R.M.S.P. liner from Chile, Peru, Brazil, etc, is due at five o'clock and this will take up the evening.

I am to live at Netherfield Hospital (Infectious Diseases) and in order to have me about the hospital to supervise and relieve the resident at alternate week-ends - which correspond to my week-ends on duty at the Port and do not interfere with my off-time - I am being given board, residence and laundry free, so my job is worth another £200 a year - a good haul. I get off altogether from 4. 30 p.m. on Friday until 11 a.m. on Monday, every alternate week-end!! a gentleman's week-end! As a matter of fact, I am on duty two week-ends in succession; then one off; then one on; then two off in succession, i.e., three week-ends off every six weeks. This is most excellent. Furthermore I am to do lecturing at the University School of Hygiene during the winter at two guineas a lecture, twice weekly. That is at present about another £100 a year. Not so bad!

In view of my phenomenal good fortune, I am hoping to arrange for you a trip to Norway. Father would have wished it, and, without appearing sentimental, you cannot see these fjiords, the glaciers and the snow and not feel the greatness of some Power behind all; the absolute grandeur of Nature is to me awe-inspiring. In the deep silence and magnificence, one feels a God does in verity exist, and how small is human endeavour.

P.S.O. LIVERPOOL.

July 11th-12th, 1921. M.D.M. to E.B.M.

After receiving the letters, I wash out Norway. Some other time.

I was in the Cunard office yesterday on business and they told me that whenever I had three weeks to spare to see them, they would be glad for me to take one of their liners to New York and Boston and back - any time. The Yeoward line also will be glad, if I can get off for one month in one of their boats - Lisbon, Morocco, Canary Islands, Madeira. The doctor has a grand suite: a bedroom and beautiful sitting-room on board opening out of each other. The Cunard wanted one of us to take the "Algeria" to New York on August 4th, but as neither of us could get away, I suggested Potts of Newcastle and I think he will go.

As I write, a stentorian voice shouts: "Let go astern!" a liner just leaving for the Amazon on "the old trail, the out trail, the trail that's always new". The boats leave from a few yards from my window. It is extraordinary to think that the engines starting now will not stop again until they reach Las Palmas.

It is pleasant to sit in a chair quietly and think of you both toiling in the corn - the thought almost makes my back ache in the old places again!

P.S.O. LIVERPOOL.

July 18th, 1921. M.D.M. to E.B.M.

I have to come home this week-end, on Friday or Saturday, for my camp-bed, blankets, etc, as I sleep down on the pier on nights on duty.

I have just had a heavy week-end: six large passenger ships yesterday, starting at 6.30 a.m. and this morning a White Star boat, the "Celtic", came in at 6.30, with nearly two thousand passengers. I have just finished her. The American girls are most amusing and the last word in fashions.

The following conversation took place between two women in Scotland Road, a very poor district, the other night: "I said I didn't know no more about it than he didn't; nor she didn't neither" - !!

I have now drawn an official Liverpool City Police whistle and have a most excellent life-preserver, so am completely protected.

I have lots to tell you about the work, which is most entertaining. I only wish I could talk American.

Bedwell Park,
Hatfield,
HERTS.

August 6th, 1921. From Col. Fremantle to M.D.M.

Thanks so much for your jolly letter. Your ears would have burned if you had heard what Kerr said to me about you the other day. I am so glad you gave such a good account of yourself at Newcastle and am sure you will do the same at Liverpool. It must be jolly work and the best way of doing any work in this world is to enjoy it. I am glad you do. Good luck for it. Let me know if I can help you in any way ever, and I shall always be glad to hear from you from time to time as there are few people in this world who see public health matters from the same angle as you and I.

Was it your brother who wrote the charming article in the Times about holidays on the Broads the other day?

My congratulations on your scholarship and first class honours - an excellent performance.

I am glad you are working up our little Mespot Sanitary Dinner for the autumn.

The rest of the letter discusses possible dates for the dinner, which took place at the Princes Restaurant, Piccadilly on November 10th, under the title of Re-Union of Certain Members of the late Mesopotamian Expeditionary Force.

It was the occasion of a great gathering of old friends, and was an unqualified success. It gave scope for the exercise of M.D.M.'s organizing faculties and brought him many congratulatory letters. Among them was one from Colonel

Buchanan, Senior Medical Officer at the Ministry of Health, which concluded with these words:

"I hope you will make a point of asking for me when next you find yourself at the Ministry."

In two months' time M.DM. availed himself of the invitation and received from Colonel, by then Sir George, Buchanan a sanction, which had the force of Ministerial support to a new work claim which was urging itself upon him.

House of Commons.

August 10th, 1921. From Col. Fremantle to M.D.M.

This note made for me by our L.C.C. Director of Housing.. ...will amuse you.

The shortage of plasterers on our Housing Estates led us to adopt asbestos sheeting instead, with wood fillets to cover the cracks. Orr and his department were strongly opposed to this in view of their long and large experience of vermin, e.g., on this old Totterdown Fields Estate. I've set the M.O. and architect on to devise with the contractor a means of defeating the enemy: e.g., filling cracks with (? antiseptic) mastic. But the difficulty is unequal contraction and expansion with temperature. Does this suggest anything for you in connexion with shipping, typhus, etc.

A letter from Colonel Fremantle dated October 14th, contains this reference to the same subject:

Thanks for your note about vermin in woodwork. It is extraordinary how insidious these little devils are.

P.S.O. LIVERPOOL.

Wednesday, August 17th, 1921. M.D.M. to E.B.M.

The time in the Isle of Man was most enjoyable and a grand break in work. At once, on landing, I proceeded to secure the pale grey hat. Now I have got it and the

effect is sombrero-like to a degree. Put on at an angle, and with a cigarette, it converts me into the perfect half-caste South American villain. You will be astonished when you see the effect in the open, and at an angle.

ILLUSTRATION.

Kenneth, will, I fear, make fun, but if I can get another for him, I shall make him a participator in the outrage. I have not yet tried the effect of a cigar, but smoking a cigarette and holding my pipe as a revolver, I have already caused some sensations amongst my friends.

I am just starting off now on some research work on the migration of rats about the docks and city. I propose to catch numbers, mark them and let them go; recatch them etc., and work for some months following out their movements: both black rats and brown rats in connection with the spread of plague.

White has gone off to-day for three weeks so I shall be busy.

P.S.O. LIVERPOOL.

August 23rd, 1921. M.D.M. to E.B.M.

Yes, the Isle of Man steamer went aground within twenty yards of the lighthouse and mercifully struck a patch of sand and not rock which would have meant a catastrophe. I was out on the Mersey, in my tug, at the time. A dense fog! We were shrieking with our siren every thirty seconds and goind dead slow, deep booming sounds from steamers around us and screeching sirens; fog bells ringing every few minutes on ships and on land and we heard a steamer signalling on her siren, saying she was in distress. We tried to get in touch with her but could not find her. One can scarcely realisse what a fog is like until one has been feeling one's way through it at sea. You can't see a yard ahead and have to steer only by the compass. Ships keep looming up through the fog and are swallowed up again. The water is oily calm and between the steamer sirens call there is a deep muffled silence with white walls all around and above one. Another ship with passengers ran ashore in the same fog higher up the Mersey near Garston and broke herself up on the rocks but all were saved.

P.S.O. LIVERPOOL.

August 27th, 1921. M.D.M. to E.B.M.

I was on duty last night and go on again at 4 p.m. for to-night's duty.

P.S.O. LIVERPOOL.

September 4th, 1921. M.D.M. to E.B.M.

It is Sunday morning. I have just come off the "Coronia" (?) since 6.30 a.m., now I am off to the "Antigua" from the West Indies and this afternoon the "Canada" from Montreal. To-morrow morning 6.30 a.m. "Baltic" from New York and 8 a.m. the "Douro" from the Amazon; and so we proceed.

P.S.O. LIVERPOOL.

September 23th, 1921. M.D.M. to E.B.M.

I have had a hardish time lately, owing to the night man being on holiday, necessitating me doing night work as well as day work.

P.S.O. LIVERPOOL.

October 7th, 1921. M.D.M. to E.B.M.

The World Service Exhibition is here at St. George's Hall under Mr. Gibson. There are some things you really must see. There is a wireless apparatus going at which you listen to hear Paris, Lyons, Nantes; ships at sea, etc., and can understand all they talk. A most wonderful room; a magnificent display of the work of marine laboratories; a wonderful industrial section, child welfare. I do want you to see it all.

P.S.O. LIVERPOOL.

November 9th, 1921. M.D.M. to E.B.M.

With reference to the lesson Sunday (Armistice Sunday) I must leave this with you, but I feel most strongly that a private or sergeant and not an officer should perform at this, preferably some one who has been wounded. If Kenneth were home, I think he would do excellently, but

failing him, I should suggest young Cawthray, whose brother was killed - if he is an ex-soldier. I will leave it entirely with you and you will probably wait until you hear definitely from Kenneth.

(Query ? Scout Service ?)

P.S.O. LIVERPOOL.

November 23rd, 1921. M.D.M. to E B.M.

I have been kept very busy, especially over the week-end. On Sunday, I started at 3 a.m. and was working on the river continuously until 3 a.m., Monday morning. So I took things easily on Monday!!

The dinner was a great success. All congratulated me on the undertaking and General Fell is getting from the War Office a full list of all medical officers who served in Mesopotamia throughout the war (I fancy between one thousand and two thousand) and I have been asked to act as secretary for a dinner for four hundred or five hundred of them next November. It would be a big show, but I think worth while doing.

P.S.O. LIVERPOOL.

December 5th, 1921. M.D.M. to E.B.M.

I went up to Carlisle this week-end. On Saturday morning, K. went round his jobs. Then we started out on his motor-cycle; had lunch at Longtown, then on through Canonbie and Langholm; thence over the moors, twenty-one miles to Lockerbie and home by Ecclefechan and Gretna: between sixty and seventy miles. On Sunday morning we motored out to Mrs. Johnson's, where we worked, taking pine-tree stumps out of the ground. After lunch, we walked down to see the falls on the Eden. I left at 7 p.m.

The chief event of this week and one to which I look forward in fear and trembling is a dance at the Adelphi Hotel, as the guest of Mrs. Hope (wife of the M.O.H.). This takes place to-morrow and is, I fear, a very swish affair.

The ships are arriving laden with Christmas fruits: raisins, currants, candied fruits, from Greece and the Mediterranean ports. Tons and tons and tons of it!

I hope you can fix up to come here for a day. It

would simplify your Christmas shopping, do you good, and be a very great pleasure to me.

P.S.O. LIVERPOOL.

December 11th, 1921. M.D.M. to E.B.M.

I come home on Friday next and have written Dr. Moore asking permission for Dr. White, Dr. Frazer (my colleague at the Hospital) and myself to see Dr. Moore's small-pox cases. If so, Dr. W. and Dr. F. would come over on the Monday following, the 19th, and we should meet at Huddersfield; go to see the cases and then call upon you for lunch, or tea or both. I should go back to Liverpool on Tuesday morning, the others going back on Monday evening. I trust this would convenient.

Forty-five thousand cases of Spitzbergen apples (delicious) from British Columbia arrived in the Mersey yesterday. Each case contains about two hundred perfect eating apples and costs thirteen shillings. I can get hold of a few cases I think. They might provided specialities in the way of particular Christmas presents (herewith detailed) and could be addressed at the Docks and forwarded direct. Will you let me know by return how many cases, if any, you will require?

LOCKWOOD.

December 11th, 1921. E.B.M. to M.D.M.

We have just got our Rashcliffe house to house collection for the Russian Famine Fund made and we have got £13. 19. 7.!!!

To-morrow evening all bring in their collections: the Wesleyans, Baptists, Bentley Street Methodists, Rehoboths, Particular Baptists, Thornton Lodge Wesleyans, Lockwood Parish Church.

I, like Matthew, carry the bag. I like working with the religious bodies here. All are so friendly and so personally kind.

It seems scarcely credible, in a port, but Dr. White and Dr. Frazer had not come across any cases of small-pox in their experience, so were glad to embrace the opportunity afforded

by Dr. Moore's patients in Huddersfield. On the Monday evening after their return to Liverpool, M.D.M. looked through the current number of the Lancet and read there the appeal for doctors for the Famine Area of Russia. True to character, his mind and imagination raced away from and ahead of the present, left home and Liverpool behind and projected itself upon Russia, visualised the conditions of life and death there and what there was there for him to do.

He called out to his mother: "Listen to this, mother", and he read:- "Russian Famine Friends Relief Committee: Doctors wanted."

"That's exactly my work. I know what will happen there. There will by typhus and cholera and malaria, things I know all about. I learned all about them in Mesopotamia. I'm going to write to enquire."

His mother was struck breathless. She knew her son.

"But, Melville," she said, "You can't. You can't go. You are only just fixed in Liverpool. Think! Your work there."

"This is my work", he replied, holding out the fatal copy of the Lancet to her.

He returned to Liverpool and went direct to his Chief for his opinion on the Russian Appeal.

P.S.O. LIVERPOOL.

December 17th-20th, 1921. M.D.M. to E.B.M.

I spoke to Dr. Hope to-day about going to Russia and he has agreed that if a definite organization will write

to his Committee asking for my services he will second me for service in Russia for, at any rate, six months. So now, I am getting in touch with Colonel Fremantle and the Friends' Relief Committee, but I urgently require copies of my application for Liverpool. You remember the printed form of application. I am particularly anxious to get these at the earliest possible moment, so hope you will get them off by the evening post to-morrow so that I receive them the first thing Thursday. I hope you can manage this. Please send all the applications you can find. I believe there are several copies.

Of course, until I am definitely settled you will not mention anything in Huddersfield as it might fall through.

I see that in Russia some villages are having five hundred cases of cholera a day (this week's Lancet) in addition to typhus. I long to get busy with steam disinfectors, and a chlorinated water supply. It is absolutely my work for which I am trained.

The apples went off to-day and one box to you.

LOCKWOOD.

December 21st, 1921. From E.B.M. to M.D.M.

I naturally feel anxious about this proposal of yours and hope that you have given thought to this step. There is great personal risk, with your headstrong methods of working. It is not desirable to underestimate the value of your knowledge in view of your own country's needs nor to incur risks. Your experience has been gained at great cost in many ways and to rush into risk is absolutely foolhardy. Balance up your thinking powers, dear. I know you can help in that work, but you will not have an Army backing, nor funds without limit.

NEWCASTLE-UPON-TYNE.

NOVEMBER, 1920 - JUNE, 1921.

In October he joined the classes in practical work for the D.P.H. at the Newcastle Medical School, living at first in the household of Mr. and Mrs. Sheppard at the Vicarage of the Venerable Beade, Gateshead. However, in a few weeks' time the coveted part-time post was found for him by Dr. Kerr, and in November, he was appointed Medical Officer in (English) Infectious Diseases at the City and County of Newcastle-upon-Tyne Hospital for Infectious Diseases at Walker Gate. In January, he was transferred from the work to that of Assistant Urban Tuberculosis Officer and resident Medical Officer in the Tuberculosis Sanitorium of the City Hospital.

The following letter is a summary of his work during this period.

City and County of Newcastle-on-Tyne,
City Hospital for Infectious Diseases,
Walker Gate.

January 3rd, 1921.

A mere line to tell you that I was to-day appointed Assistant Tuberculosis Officer to the City and County of Newcastle-upon-Tyne at a salary of £350, with board, laundry and residence and every afternoon off to attend classes, the agreement to be for one month's notice on either side. Dr. Kerr wants me to hold it till June only and he will find me something else either here or elsewhere. It is a good job considering it leaves my afternoons free and means one less branch of training to go through. I finish Saturdays at midday until Monday morning and have in addition every evening off, except Wednesday.....This with my D.P.H. work will keep me busy until March 7th, but

if all goes well, I shall get my D.P.H. and B.Hy., and in addition have been Medical Officer at a large Fever Hospital and Assistant T.B. Officer to a large town in addition to my M.D., D.T.M. & Hy. and D.T.M. (Eng.) - a good year's work, I think.

I also get all Public Holidays, and one month's holiday in the summer, if I am still here. This job, of course, is only looked upon as one of training and, not in any sense, one to hold any length of time.

In March, he passed the first part of the examination for the Diploma of Public Health and for the Degree of Bachelor of Hygiene (Durham) and in June took the finals, gaining first class honours in both, and was awarded the University (Luke Armstrong) Scholarship in Comparative Pathology.

On April 24th, he writes:-

I am pretty hard at it at present but generally get an hour's tennis each day. I enjoy it greatly and also feel it is probably wise to keep fit. The reading at present is Sanitary Law - hard, dry stuff, but of great importance in application. My head echoes with legal phraseology and redundances, (apparently): 'immediately before or at the time of, or as soon as possible after admission' seems, somehow, more than is necessary."

In May, the post of Assistant Port Medical Officer to the Port Sanitary Authority of Liverpool was vacant and he placed himself among the applicants for it. This is how he wrote to his mother about it.

Walker Gate Hospital.

May , 1921.

I am in for a big job at Liverpool: Assistant Port Medical Officer, and am getting testimonials, applications printed; photographs of my work in Mesopotamia. Fremantle is doing what he can for me, as well as Wood (M.O.H. Bootle); Dr. Kerr (M.O.H. here); Dr. Dickenson (T.B.O.

here) and Harries (Medical Superintendent City Hospital, Birmingham). This would be a very responisble and big job, if I can get it, but there is sure to be tremendous competition for it. It is, as you know, searching for infectious diseases in vessels arriving from plague areas, yellow fever, small-pox, etc., and meeting all ships arriving in Liverpool. Dr. Kerr has been kindness itself and given me a topping testimonial, as well as the Tuberculosis Officer. My application goes in next Wednesday. I will send you a copy, but I have much to do before then.

Walker Gate.

May 8th, 1921. M.D.M. to E.B.M.

My chief is off for three weeks and I am consequently in charge of the whole of the Tuberculosis organisations of the City of Newcastle, and responsible for them. This with the application referred to in my last letter and my examination work keeps me busy.

It is a horrid business this applying, horrid to break up the friendships I was rapidly forming here and horrid to ask for testimonials from friends. My poor chief was very upset when I told him three days ago. We had got to be very good friends and I met his wife yesterday and she said he had been depressed and upset since. Every one has been kindness itself. Clegg sat up with me from 8.30 p.m. Thursday until 7. 30 a.m. next morning, (we never went to bed) Friday, ~~drawing~~ up my applications. The M.O.H. here is writing to Hope, and Wood is seeing Hope this week and dear old Fremantle has written to Hope personally (utterly busy as Fremantle is) urging my appointment. The printers have done my application beautifully and I am correcting the proofs this afternoon. The application has necessitated much letter writing. Naturally Liverpool men will have a big local pull, but I note that Hope, the M.O.H. for Liverpool, is a Barts' man which should help me.

My application is to be in Liverpool before Thursday midday. Then follows a meeting of the Sanitary Committee, and if I am one of the candidates they want to see, I shall be asked to go to Liverpool about Wednesday week. In that case, I should hope to see you on both journeys, calling at Huddersfield.

Walker Gate.

May 21st, 1921. M.D.M. to E.B.M.

My chief is still away and will be all next week. It is tppping being in full control and I am having a strenuous but very useful time. T.B. is a ghastly disease in the victims it selects - generally speaking it is very fatal and progressive in young people, but as people get older it becomes much more chronic and altogether a much less serious proposition. It is patients of twelve years to twenty-five years old that we invariably find do the worst. A great deal, however, depends on good home conditions, and with proper Sanatorium treatment for a few months and no need for the patient to earn a living when she leaves the Sanatorium, the prognosis is very much better.

You will be glad to know I have been asked to go to Liverpool for an interview with the Committee on Thursday at 2. 30 p·m. I am staying Wednesday night with Dr. Wood at Bootle and shall see the M.O.H. for Liverpool Thursday morning and the Port Committee in the afternoon.

Walker Gate.

May 28th, 1921. M.D.M. to E.B.M.

I had on the whole a very pleasant time. Dr. Wood and his wife and four children were kindness itself and I had a topping time with them. Thursday was spent alternately playing the part of a man-eating tiger and that of a Medical Officer of Health. I was wakened on Thursday by all four children rushing into my room. After breakfast I went round to see the Bootle School Clinic - a very fine affair, quite one of the best I have seen. At eleven o'clock in the forenoon I went to see Dr. Hope, the M.O H. of Liverpool, and Dr. Hanna, Chief Port Medical Officer. I came back to lunch at Wood's, where one of the senior Tuberculosis Officers of the Ministry of Health was staying whilst inspecting the area. I went to the Committee at 2.30 p.m. and was there until 4.15 p.m. - a long wait. There were three other men on the short list and I understand they had had between forty and fifty applicants for the job. The other three men were:- (1) the Medical Superintendent of one of the Liverpool Fever Hospitals; (2) the Assistant and County Medical Officer for Derbyshire; (3) a man from the north of Scotland. Three out of the four of us had commanded Sanitary Sections in Mesopotamia.

I was elected unanimously, so the Chairman told me afterwards. Dr. Hope was most kind. Dr. Hanna is one of the nicest men I have met. He told me there is any

amount of scope for research work in the post, in connection with plague amongst rats, anthrax (of which there is a good deal each year), small-pox, typhus, etc., as well as malaria and dysentery. He said the work was so interesting he had done nothing else for fifteen years. He is a very well known man and all three of us have the London M.D. He is a Barts' man. I am to go in a month's time when I have worked out my notice here. When Dr. Kerr sent for me to-day, and I told him, with two councillors, in the office, he said: "Damn!", and then congratulated me. He is an awfully good fellow, and I feel these breaks here with the men very much.

They had three cases of small-pox and one case of plague in the Port Hospital when I was in Liverpool. So one should see something. It will be queer talking Hindustanee to patients again.

It will be good to get back to Tropical Medicine again and within reach of the Liverpool Schoold of Tropical Medicine to work at.

I am sending you the correspondence, a group of the most kindly letters. Every one here was the same and helped me all out. I think the world generally is full of really good people, with very few exceptions, and all full of a true Christian spirit of helping others. It is extraordinary how Christ's teaching has spread in the comparatively few years since his death.

Walker Gate.

June , 1921. M.DM. to E.B.M.

I thought you would be pleased to know that the University Senate yesterday at their meeting awarded me the "Luke Armstrong Scholarship" of the University (value £100) for my work in March Examination in Comparative Pathology. This award has not been made for five years until the present year and carries with it the title of "Luke Armstrong Scholar in the University of Durham in Comparative Pathology". I did not say anything to you about being in for it as I did not think I had any chance of getting it, as it is one of the biggest scholarships they have here for qualified men. I am supposed to spend the money on Research Work, on books or on travel but do not need to stay at Durham to do it so shall carry on with the money at Liverpool or else spend it on travel during my holidays, e.g., to see Leprosy, etc., in Norway or Yellow Fever in the West Indies. I am very pleased as it is a biggish haul and a useful recommendation later in

comparative bacteriology and pathology. Results for this exam come out to-morrow. I have done all right so far.

Walker Gate.

? June 10th, 1921. M.D.M. to E.B.M.

Just a line to say that I passed the D.P.H. and the B.H. and was awarded first class honours. I had the distinction of being the first honours in this exam. for the last eight years. Professor Howden was very pleased. After our viva to-day, the successful candidates were asked in to a large hall where the examiners were sitting and Professor Howden as Secretary of the Medical School read out the results which included the award of the Scholarship on last March work. He said: "Dr. Mackenzie has passed both the D.P.H. and the B.Hy with first class honours and has also been awarded the University (Luke Armstrong) Scholarship in Comparative Pathology. I must be excused if I mention that Dr. Mackenzie's father was my College chum and co-prosector in Edinburgh and I feel deep pride in Dr. Mackenzie's success. This day would have been a great day for my old friend and (bowing to me, he said) I hope he knows." I hope he does.

The Professor in Bacteriology offered me a post at the Medical School in Manchester as Bacteriologist, but I prefer to stay for the present in Tropical Medicine. It was good of him to offer it, but as he said: "If you want to do Public Health, get into Liverpool under Hope." Kerr (my own M.O.H.) and Hill (County M.O.H. Durham, a topping man and the leading County M.O.H. in England) were most anxious to know what I was going to do and complimented me on my papers. First Class Honours means over 80% in every subject - Bacteriology, Chemistry, Advanced Physics, Vital Statistics, Public Health Legislation and in a Clincial Examination in Infectious Diseases, in examination of buildings (outdoor practical) plumbing etc., as well as in all vivas.

Of course I love the work and learn it because I love it.

Walker Gate,

June 3th, 1921. M.D.M. to E.B.M.

I leave Newcastle a fortnight on Saturday but I have not heard what date I start in Liverpool. I have had a note saying the City Council confirmed the appointment.

There is the confirmation of the Ministry of Health to come through as this appointment, though the man is chosen by the Liverpool Corporation, is under the Ministry of Health directly. They pay half the salary and I am removable only by them and not by the Corporation, thus there is "security of tenure" in the job. Much of the work is for the Minstry, but for convenience the City Council elect the man.

Walker Gate.

June 16th, 1921. M.D.M. to E.B.M.

Officially I finish here a week on Friday, but Saturday 25th is Graduation Day at Durham and I am almost compelled to be there. Meanwhile correspondence has been passing between Kerr (M.O.H. Newcastle) and Hope (M.O.H. Liverpool) relative to my transference. Kerr I know wants me to stay on here for another month or so to show the new man my work and the strings generally and as I have had no further news re date from Liverpool, I must leave dates unfixed for the present and of course defer to Dr. Kerr's wishes in the matter.

I have had a topping time since my exam. With the Cleggs last Friday; guest of the 5th Battalion Northumberland Fusileers at mess on Friday night; Kenneth and Buckle (assistant bacteriologist of the University) on Saturday; Major Martin to dinner on Monday; dinner with Dr. and Mrs. Kerr last night; three men in for tennis to-morrow; night, dinner with the Cleggs; with the Dickensons, etc , next week and a day's motor run to Otterburn, Bamburgh and home by Alnwick with Dr. Armstrong, etc., next week. Dr. Kerr has heaped kindness upon kindness. His latest was at the City Council on Monday last to say that one of his staff was leaving Newcastle in a cloud of glory (giving details) to take up a most responsible post in Liverpool (details) adding, "I hope the Council of Newcastle will see their way to sending a congratulatory letter to Dr. Mackenzie with their very best wishes. I know this is unprecedented, but the results he has achieved are unprecedented". I don't know what was arranged, he did not tell me, but one wit got up and proposed a vote of severe censure be passed on Dr. Mackenzie for leaving Newcastle.

Never before has reference been made to a junior on the Council and such a letter as Dr. Kerr well knows, would be invaluable to me later in getting any job I wanted - of more value than exams passed. He is and has been a second Fremantle to me in every possible way and I would do anything for him for the inspiration and high ideals he devotes himself to.

Here follows a letter from the T.B. Sub-Committee.

City & County of Newcastle-upon-Tyne.
Health Department,
Town Hall.

16th June, 1921.

Dear Dr. Mackenzie,

At a Meeting of the Sub-Committee as to Human Tuberculosis on the 13th instant, I was instructed to convey to you the congratulations of the Sub-Committee on your recent academic distinctions, and their regret at your resignation from the service of the Corporation of Newcastle-upon-Tyne.

The Sub-Committee desire to place on record their appreciation of your work while here and their good wishes to you in your new appointment at Liverpool.

Yours faithfully,

H. Kerr.

Medical Officer of Health.

Dr. M.D. Mackenzie,
City Hospital,
Walker Gate.

Walker Gate.

June 22nd, 1921. M.D.M. to E.B.M.

I have heard definitely that I am to start duty in Liverpool on July 4th, 1921, Monday next.

I should, of course, be delighted if you cared to come to Durham for the Graduation Ceremony which will take place in the Banqueting Hall of the Castle, but I always think such ceremonies are feeble to a degree and unworthy of qualified persons wasting time either giving or receiving tokens. A pure and absolute waste of time.

I shall come home the following day, June 29th, thirty-two years since my arrival at home on the 29th of June, 1889, I believe.

I am up to the eyes in work as I have had to hand over all to my successor this week and I want to leave my billets as we did in the Army - everything in order and clean.

I had a glorious run yesterday - Rothbury, Wooler, Belford, Bamburgh, the Farne Islands, Seahouses, Alnwick, Morpeth, one hundred and fifty-five miles. I shall indeed by sorry to leave Northumberland, although yesterday was the first time I have been out of Newcastle since I came, It has indeed been a busy time, and I regret I have not been able to see more.

Durham Castle.

June 23th, 1921. M.DM. to E.B.M.

I deeply regret that it is impossible for me to leave Walker Gate before Thursday morning. I shall leave Newcastle definitely at 9.53 for Leeds and shall get the first train on to Huddersfield, and will explain when I see you.

Town Clerk's Office,
Municipal Buildings,
LIVERPOOL. W.

1st June, 1921.

Dear Sir,

I have to inform you that the City Council at their meeting held to-day confirmed the recommendation of the Port Sanitary and Hospitals Committee to appoint you as Assistant Port Medical Officer at a salary of £700 per annum, increasing by annual increments of £50 to £800 per annum, and no war bonus.

The engagement is terminable by three months' calendar notice to expire on the last day of any calendar month.

The Medical Officer of Health will communicate with you as to the date you will ~~required~~ be to take up your duties.

Yours faithfully,

G. Hammond Etherton.

Town Clerk.

The City Hospital for Infectious Diseases,

Walker Gate,

Newcastle-on-Tyne,

November, 1923.

To

My medical training was undertaken at St. Bartholomew's Hospital, London, and I qualified in Medicine, Surgery and Midwifery in 1911. I hold the degrees of Doctor of Medicine (in Tropical Medicine and Hygiene) and Bachelor of Surgery in the University of London, also the Diploma in Tropical Medicine and Hygiene of the University of Cambridge, (1920), and the Diploma in Tropical Medicine of the Royal College of Physicians and the Royal College of Surgeons of England. I have obtained the Primary Fellowship of the Royal College of Surgeons of England, and the Certificate of the London School of Tropical Medicine, being placed first in the latter in both Tropical Entomology

and Helminthology (1920).

In 1921 I took the Diploma in Public Health and the degree of Bachelor of Hygiene of Durham University with first class honours and was awarded a Scholarship in Comparative Pathology by the University.

In addition I was selected for the special War Course (under the Army Authorities) at the Liverpool School of Tropical Medicine, and have recently attended a special course in Tropical Bacteriology at King's College, London. In March last I passed the first part of the examination for the Diploma in Public Health and for the Degree of Bachelor of Hygiene in the University of Durham, and am sitting for the final examination early next month.

I have had had resident Hospital experience at St. Bartholomews' Hospital and as House Surgeon to Sir James Berry at the Royal Free Hospital, London, and also held appointments as Prosector in the Anatomical Department and as Clinical Pathologist to the late Mr. C. B. Lockwood, at St. Bartholomews' Hospital, London.

Subsequently the prolonged illness of my father necessitated my taking entire charge of his practice in Huddersfield, where for three years I had a wide experience in the work of

an industrial and residential practice, and held the posts of Public Vaccinator and District Medical Officer under the Poor Law.

On obtaining a Commission in the Royal Army Medical Corps I was posted to the Mesopotamian Expeditionary Force and during the first fifteen months of my service was attached to the British and Indian Hospital for Infectious Diseases at Basra, (800 beds).

Whilst there I was in sole administrative and Clinical charge of the Smallpox Hospital of 120 beds.

During successive periods I also had the clinical charge of the wards for Plague (90 beds), Typhus (60 beds), Cholera (100 beds), Relapsing Fever (100 beds), Dysentery (40 beds), Cerebro-Spinal Fever (100 beds), together with the beds for the ordinary infectious diseases, such as Enteric Fever, Malaria, Scarlet Fever, Diphtheria, Chicken Pox, etc. During the above period fully 200 cases of Smallpox, 200 cases of Plague, between 200 and 300 cases of Cholera, 200 cases of Epidemic Cerebro-Spinal Fever, and a very large number of cases of Relapsing Fever, Typhus Fever, Dysentery, and Malaria, passed through my hands. Whilst at this Hospital I was detailed to investigate and report upon the administrative action necessary for the prevention of the spread of Epidemic Cerebro-Spinal Fever in the Mesopotamian Expeditionary Force.

Later, for six months, I held the post of Assistant Port Health Officer to Basra, and in the absence of the Port Health Officer acted in his stead, with full administrative medical charge of the Port, which possessed eleven berths, and very many river moorings for ocean-going boats. The number of ships arriving in port daily averaged from five to fifteen, consisting of transports, civilian passenger, coolie and cargo boats and a large number of trading bessels from Bombay, Aden, Bushire, Somaliland, and the Persian and Arabian Ports of the Gulf. Cases of Smallpox and Plague were constantly arriving from the above all of which were heavily infected with both diseases. My duties included the inspection of military and and civilian traffic, the granting of Bills of Health, the inspection and condemnation of all varities of food stuffs, the disinfection of ships with the Clayton Fumigating Barge, the diagnosis of plague in rats, mosquito destruction on board ships, and the general sanitary control of several thousand coolies engaged in working cargoes, amongst whom outbreaks of Plague, Cholera, and Smallpox were frequently occurring.

In August, 1918, I was appointed Specialist Sanitary Officer to an area with a population of approximately 40,000 troops, and 20,000 civilians. In addition to the supervision

of water and food supplies and of the general hygiene of the troops, my duties included the command of a sanitary section of some 200 men, extensive anti-malarial work in conjunction with the Royal Engineers, the investigation of plague incidence in rats, the confirmation of doubtful cases of infectious disease before removal to hospital, the search for and diagnosis of cases of Cholera, Plague, Smallpox, Typhus, and Relapsing Fever by house-to-house inspection throughout the native villages, the investigation of several hundred cases of Ber-Beri, and of several outbreaks of Food-Poisoning, Anthrax, and of Rabies, Foot and Mouth Disease, and Rinderpest of animals.

When Typhus and Relapsing Fever broke out in the winter of 1918-1919, I was detailed to design and organise the mobile Disinfecting Train Service, and I was in command of the first of these Trains during the fighting along the Euphrates Defences. The work included the diagnosis of cases, the control of the methods of prevention in the affected areas, and the initiation and supervision of the Disinfecting Stations. I had the honour to be "Mentioned in Dispatches" for this work. The method employed and a general description of the work is given in the article published in the JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

I have also had considerable experience in the diagnosis of Leprosy.

In December, 1920 I was appointed Resident Medical Assistant to the City Hospital for Infectious Diseases, Newcastle-on-Tyne and Assistant to the Tuberculosis Officer of the City. This post I held for six months during which time I conducted my own clinics at the Tuberculosis Dispensary in the City dealing with large numbers of cases of notified Tuberculosis, and of cases referred for diagnosis. In the absence of the Tuberculosis Officer I had complete charge of the Tuberculosis organization of the City. At the City Hospital for Infectious Diseases I had the clinical charge of 70 beds for advanced and observation cases of Pulmonary Tuberculosis, and alternating duty with the Resident Medical Officer responsible for the Fever Wards and for the bacteriological requirements of the Hospital.

In June, 1921 I was appointed Assistant Port Medical Officer to the Port Sanitary Authority of Liverpool, and Aliens' Medical Officer. In this post my work included dealing with outbreaks of Infectious Diseases in the Port, the inspection of food and experimental work in connection with the migrations of the rat population etc.

In February, 1922 I was appointed Senior Medical Officer to the French Russian Famine Relief Unit working in the Volga valley and later acting Senior Medical Relief Officer to the Hanson Relief Administration in Russia, which was working throughout Russia. I returned from Russia in August of this year.

PAPERS, REPORTS, ETC., by M. D. MACKENZIE.

"The prevention of Typhus and Relapsing Fever in Mesopotamia during the War."

(Journal of the Royal Army Medical Corps).

(War Office Official History of the R.A.M.C. during the War.)

"Notes on the Epidemiology of Malaria in South East Russia."

(In the Press.)

The following reports were forwarded by me on instructions from the Deputy Director of Medical Services or the Assistant Director of Medical Services, several of which were circulated through the Mesopotamian Expeditionary Force.

The best technique for Vaccination of large numbers of Smallpox contacts.

An outbreak of Smallpox on S.S. "Bamora."

An outbreak of Food Poisoning with 14 deaths.

The general scope of and duties to be undertaken by Sanitary Sections.

The immediate steps to be taken on the outbreak of Epidemic Cerebro-Spinal Fever in a unit.

The use of a locomotive in disinfecting for Typhus and Relapsing Fevers.

An outbreak of Plague on S.S. "Scottier" (3 cases).

The value of Nasal and Gaseous Disinfectants on carriers of Meningococcus.

The design, construction and staffing of large Disinfecting Stations.

An outbreak of Beri-Beri in a Chinese Labour Corps.

The efficacy of Thresh Machines, Serbian Barrels, and Sulphur Dioxide in the destruction of Typhus-infected lice.

The prevention of Cholera amongst coolies on board ship.

2a.

6th February, 1919.

St. Bartholomew's Hospital and College,

London, E.C. 1.

Dear Sir,

I have received your letter and am glad to hear of your return home after service so far away as Mesopotamia.

I am afraid I cannot answer your question definitely whether you can read for the Diploma in Tropical Medicine and the Diploma in Public Health concurrently but I do not see any reason why you should not. As far as Tropical Medicine is concerned you would have to do work at the School of Tropical Medicine, Connaught Road, Royal Albert Docks, E. 16, because we, here at Bart's do not provide a special course in this subject; but the D.P.H. course can be taken here. I gather that you have done a good deal of the work for the D.P.H. and that you have only Bacteriology to do to complete it. We intend, if a sufficient number of men came forward for it to begine a course of advanced Bacteriology suitable to the requirements of men working for the D.P H. on or about May 1st, and the course in question would follow the general lines described in the handbook, page 48, paragraph 5 and page 62, paragraph 3. The fee for the course would be five guineas.

Yours faithfully,

(signed) T.W. Shore.

Capt. M.D. Mackenzie, R.A.M.C. (Dean of the Medical School.

The Sycamores,
Lockwood

3a.

19. VIII. 20

I have decided to take my D.P.H. next as you advised and hope to sit for both parts in March next. I am feeling, however, that this will require all my energies to complete. There is a considerable amount of chemistry, bacteriology of water, milk, etc., which I have not yet touched, as well as

Sanitary Law and outdoor Sanitary work. I do not want to take an appointment and not do the work thoroughly and well. I am going, therefore, to ask you if it will be convenient for me to start work with you after next March. It would be very kind of you to let me know of any vacancy occurring after that month. It would be my intention to take the M.R.C.P. and wondered if you would care for us to work together for it. I hope you will realise that I amply appreciate your kind offer and that it is only the feeling that with the dual work I might not be able to do the work as thoroughly as you would yourself do it. Unless I could do this, or rather until I can do this, I should prefer not to accept the appointment. I am sorry not to join you earlier but you will, I know, understand my feelings in the matter. I must take my chance of a vacancy occurring after March next.

36.

16. IX. 20.

The D.P.H., wherever you take it, has to be worked for, but provided that fact is recognised there is no reason at all why you should not take on some part-time job that would help to keep the wolf from the door, if you can find one that is not too exacting. Plenty of men, indeed by far the majority, do other work while reading and putting in necessary classes.

With your excellent experience, you should have little difficulty in getting something in the vicinity of a medical

school, but be quite sure it will leave you sufficiently free for the main purpose. I doubt whether you are likely to get such a post, though, in Public Health, unless it be in some area where part-timers are employed. We are all whole time in Newcastle, except for the specialist people in the M. & C.W. section.

Should you decide to take out your course in Newcastle, let me hear from you not later than October 5th.

Yours faithfully,

H. Kerr.

TOWN CLERK'S OFFICE,
MUNICIPAL BUILDINGS,
LIVERPOOL, W.

TELEPHONE No. 8720 BANK.

PLEASE ADDRESS LETTERS
THE TOWN CLERK.

1st June, 1921.

Dear Sir,

I have to inform you that the City Council at their Meeting held today confirmed the recommendation of the Port Sanitary & Hospitals Committee to appoint you as Assistant Port Medical Officer at a salary of £700 per annum, increasing by annual increments of £50 to £800 per annum, and no war bonus.

The engagement is determinable by three calendar months' notice to expire on the last day of any calendar month.

The Medical Officer of Health will communicate with you as to the date you will be required to take up your duties.

Yours faithfully,

T. Hammond Littlebury

Town Clerk.

Dr. Melville D. Mackenzie,
The City Infectious Hospital,
Walker Gate,
NEWCASTLE-ON-TYNE.

Liverpool Port Sanitary Authority.

Duties of the Assistant Port Medical Officer.

- - - - - - - - -

(1) The boarding of Vessels under the Cholera, Plague and Yellow Fever and Allied Orders of the Local Government Board and under the Port Sanitary Authorities (Infectious Disease) Regulations, 1920. One of the Assistant Port Medical Officers is required to be on duty for three hours before and one hour after high water each tide to board vessels under these regulations.

(2) Assisting in the supervision of the work of the Sanitary Inspectors, Rat Searchers and Rat Catchers of the Port Sanitary Authority. This includes the investigation of all conditions likely to affect the Public Health, whether on board ships in the port or on dock quay sheds, warehouses or any other buildings in the dock estate.

(3) The undertaking of any special enquiries or investigations as and when required by the Senior Port Medical Officer.

(4) The Medical Examination of Aliens under the Aliens Order, 1919.

Hours Of Work.

The Assistant Port Medical Officer is required to attend at the Port Sanitary Offices daily, except Sundays, during the usual office hours of 10 a.m. to 5 p.m. (10 a.m. to 1 p.m. Saturdays). In addition he may be required to board vessels at any time between 6 a.m. and 6 p.m. or to attend for the Medical Examination of Aliens at any time when passengers are disembarked.

As there is at present a Special Medical Officer who attends to the boarding of vessels between 6 p.m. and 6 a.m. the Assistant Port Medical Officers get three week-ends out of six off duty, as follows :-

On Duty - - - - - - - - One week-end.
Off Duty - - - - - - - One week-end.
On Duty- - - - - - - - Two week-ends (One Alien Duty only).
Off Duty- - - - - - - - Two week ends.

When a Medical Officer is on boarding duty he must be available at all times, for it is impossible to foretell exactly what may arrive and require his attention.

But when he is on Alien Duty only the passenger vessels due and their approximate time of arrival are usually known a day or two in advance, and the Medical Officer is able to make his own arrangements accordingly.

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Liverpool Port Sanitary Authority,
Prince's Pier Head,
3rd. May, 1921.

TELEPHONES:- CITY 202
AND CENTRAL 1029.
TELEGRAMS:-
CENTRAL 1029 NEWCASTLE-ON-TYNE.

City & County of Newcastle upon Tyne.

Health Department,
Town Hall.

16th June, 1921.

Dear Dr. Mackenzie,

At a Meeting of the Sub-Committee as to Human Tuberculosis on the 13th instant, I was instructed to convey to you the congratulations of the Sub-Committee on your recent academic distinctions, and their regret at your resignation from the service of the Corporation of Newcastle-upon-Tyne.

The Sub-Committee desire to place on record their appreciation of your work while here and their good wishes to you in your new appointment at Liverpool.

Yours faithfully,

H. Hers.

Medical Officer of Health.

Dr. M.D.Mackenzie,
City Hospital,
Walker Gate.