KORERO

KIWI BEDOUIN page 3

AEWS BACKGROUND BULLETIN VOL 2 NO 20

VOL. 2, No. 20. OCTOBER 9, 1944.

KORERO

IN THIS ISSUE

Contributions to Korero

You are reminded that a maximum sum of £3, payable in canteen orders where there are canteens under New Zealand control and in cash where there are not, will be divided among contributors in each issue. It is necessary, therefore that all contributors should send us number, name, and full address. Remember, too, that articles are not the only contributions we are looking for. We would like to see also short paragraphs, black and white drawings, and verse. There is space, too, for your comments and inquiries, provided you keep them short. The address is: "D.A.E.W.S., Army H.Q., Wellington." Mark your envelopes *Korero* in one corner.

KIWI Bedouin

A KORERO REPORT

Published by arrangement with Army Archives Section. No part of this article may be reprinted without the permission of Archives Section, Army H.Q.

A TRACKLESS, waterless waste: uninhabited, unknown: a dreary monotony of rolling sand-dunes some of them 400 ft. high and running for scores of miles without a break: a land where by day the naked heat can kill, and night makes it like a valley of the moon: the Great Sand Sea, barrier to the inner Libyan desert. Impenetrable, impassable were the adjectives applied to it. But picked New Zealand troops, led by a British officer who had used his peace-time leaves exploring this very area, penetrated it, and as they gained experience, mastered it. They brought the twentieth century to an unknown portion of the world where through countless ages the wind had eroded the earth's crust in places to the naked rock, and replaced the soft padding of the camel with the roar of petrol-driven trucks. Then they rolled up their sleeves and roared far into enemy territory: gathered information, took prisoners, shot up forts which fondly believed their isolation was sufficient protection, left the enemy bewildered and apprehensive, on edge in a territory he thought secure. They distracted his attention from the area where the main blow would come, in the north, and forced him to dribble away men and materials in a vain attempt to stop their depredations. So it stands—the first saga of Long Range Desert Group.

In the early summer of 1940 when Italy entered the war information as to her dispositions in the Inner Libyan Desert was scanty. It was known that she held a line of oases and wells running from Benghazi 800 miles into the interior, and that at Kufra she had a fortified post and aircraft. The danger that from Kufra and Uweinat air raids or mechanized assaults might be launched against the Aswan Dam or the river port of Wadi Halfa was evident, and it was vital to find out all that was happening in the interior across the Great Sand Sea, 600 miles west of the Nile.

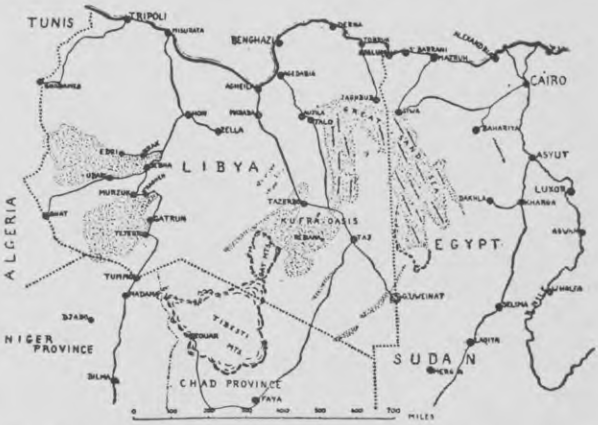
It was finally decided that the best means of obtaining information would be by long-range reconnaissance into the interior by small mobile columns. They would have to be self-contained in fuel for up to 2,000 miles and in food and water for at least some hundreds of miles. They must traverse the greatest belt of sand-dunes in the world and operate in enemy territory without maps and where no help could reach them in the event of casualties to men or machines. To train and lead these columns British officers who had explored this or similar parts of the world were found, and picked officers and men from the New Zealand troops in Egypt formed the personnel. In six weeks the organization training and equipping was complete, and the Long Range Desert Group was ready for those exploits which brought it fame and praise, and to the humbler members of the Group, in the words of one of them, welcome change from parades and fatigues; adventure and excitement enough.

During the training period one of the chief "arts" to learn was the driving

An L.R.D.G. desert bivvy.

of the trucks, 30 and 15 cwt., over the sand-dunes. This called for plenty of practice and skill in gear-changing. A rush down the slope of one dune and up the next, and unless the gear-change was nicely timed—well, out would come sand-plates and sand-mats and it would be a case of all hands but the driver heaving from the rear to get a truck over the crest. On one training trip a truck took the upward slope at speed, shot off the crest and landed on its nose 30 ft. down the other side. The occupants were spilled out, but not seriously hurt, and a broken front axle was replaced by the fitter working hard for thirty-six hours. Soon, however, the drivers had mastered this new type of driving, and over the firmer parts the truck, speeding up, over and down dune after dune at 50 m.p.h. gave the impression of standing still while huge breakers of sand rushed past it.

Some of the difficulties were enough to daunt the most intrepid. As the distances were so great, and maps, where they existed, inaccurate, the vehicles had to be navigated in the same way as a ship. For this a sun compass was used, necessitating an open cab. In order to deal effectively with any roving enemy patrols, a 37 mm. Bofors gun was mounted on the truck with anti-tank rifles and Lewis guns. So a hood could not be used. And that meant that the occupants were exposed to the blazing sun during their daytime travels. Temperatures rose at times to 120° and 130° F. The north wind, which cooled the nights, would sometimes swing to east, south, and west, and stir up the sand till the column was enveloped as though in a fog and the heat struck like a naked flame. Several became delirious with heat stroke, and to show they were not the only sufferers, often under the shade of small rocks would be found dead or dying migrant birds. As water was limited and precious, shaving and washing were dispensed with. In spite of this the only vermin picked up were camel ticks after a night spent in an abandoned Italian camp. Such camps were given a wide berth after that. One man, badly wounded during an attack on a desert outpost, had to be carried seven hundred miles by truck and then flown by plane three thousand miles to a hospital. On another occasion a spill from a capsizing truck split open the knee of one of the party and this



The shaded area of the map lying along the Egyptian-Libyan border is the Great Sand Sea, and L.R.D.G. patrols were the first military force to cross it. Uweinat, on the border, Aujila in the north, Kufra in the south, and Murzuk and Traghen in the south-west are landmarks in the epic journeys of the desert raiders. Their voyages took them also to the Free French province of Chad, south of Libya, and to the Sudan.

A patrol speeds across the hard stony surface of the Inner Desert.

was sewn with a needle and an ordinary piece of string. A truck which broke down was towed a thousand miles to a spot where it could be repaired. Desert sores broke out on some men after they had been on several patrols. Malaria attacked many. On one occasion three men developed the disease while on patrol. They carried on. At the end of the patrol they were evacuated to hospital. By that time they had suffered malaria for twenty-one days and temperatures were still at 103°. The going was as rugged as could be. At one small desert post where a patrol was stationed for a while the shade temperature was 130°, and men had to lie under their vehicles from eight in the morning until five in the evening. Flies added to their miseries at this particular post, and men ate with their heads wreathed in the smoke of a fire to keep the pests away.

Thirst, that terror of all desert places, the foe to be feared on waste of land or sea, struck at one patrol. Using their precious water to fill up a radiator which had leaked, they found on reaching the well at their next stop that the water was extremely brackish. They took some of it with them, but in the meantime drank the water from a Vickers gun. On the return journey they took the brackish water, strained it three times, boiled it, and added plenty of tea and sugar. They drank it—and were immediately sick. By the time they returned to their base they were near to the limit of thirst.

All this and fighting, too! For as yet no word has been said of any military fighting. The only enemy has been Nature—very much in the raw. A preliminary reconnaissance in the late summer of 1940 showed that a self-contained fighting patrol could cross the Sand Sea. Incidentally this patrol discovered on the interior a second range of sand-dunes of whose existence no one dreamed. From Siwa oasis, just inside the British "wire," the patrol crossed the Great Sand Sea and then swung west into enemy country where it sat for four days on the main enemy route from Benghazi to Kufra, studying the tracks of vehicles that had passed. As rain falls rarely there, perhaps once in twenty-five years, tracks remain, and for the experienced civilized man have as much a story as prints of birds and animals for the savage.

The stage was now set. The Great Sand Sea had been crossed successfully, dumps had been set up, and a reconnaissance of the enemy's territory made. So after an inspection by the C.-in-C., who commended them on their work, they set out from Siwa, and for the first time a military force crossed the uncrossable desert. And from then on the raids went forward, daring to the point of impudence, as witness the one on Murzuk, chief town of Fezzan, and 1,200 miles from Cairo. In order to maintain secrecy all wells and tracks had to be avoided and the whole trip was done through unexplored country. A fortnight after leaving Cairo they joined forces with a Free French patrol

which had come up from Lake Chad by prior arrangement, and after a long detour to avoid detection, presented themselves outside the fort. So totally unexpected was this cheeky intrusion that they were greeted with the Fascist salute from stray soldiers on the outskirts of the fort, and a number of men standing near the gate were called to attention by an N.C.O. Taking advantage of astonishment,—surprise is hardly a strong enough word—the party at the gate was promptly settled and the fort set on fire with mortar shells. The aerodrome was occupied, the hangar and everything in it destroyed and thirty prisoners were collared. And so it went on, until by the spring of the next year Italian control of the inner desert was ended.

And the life on these patrols. The fighting was fast and furious while it lasted, and in between were days of weary travelling over the desert. Away from a base for weeks at a time the food carried had to be concentrated. So stew made its appearance—it would hardly be the Army without it. But gazelle meat made a welcome change. Shooting these swiftly-moving animals with a tommy-gun from the back of a swaying, bumping truck at fifty miles an hour was sport de luxe.

And in camp at night there were snakes, if you slept on the ground, to be guarded against, and scorpions, the bite from which would incapacitate you for thirty-six hours.

As problems arose they were dealt with. On one occasion a camel was carried by truck for five hundred miles, sent out on a reconnaissance and then returned by truck. It must have been difficult for a camel to look dignified after that. There were caches to be made for future patrols, mines to lay on enemy routes, emergency landings for our aircraft to be selected and prepared, and enemy aircraft to dodge at times.

For a while one patrol did garrison duty at Kufra Oasis, and as by this time the Group had expanded and had elements of Imperial and other Dominion troops in it, social life sprang up. There were Rhodesian troops in the Group, so the " All Blacks " had to take a crack at the " Springboks." They played ten minutes the first half—and by mutual consent seven minutes the second half: and the " All Blacks " made the only score of the match, a try in the first half.

Wireless kept them in touch with happenings in the rest of the globe, and the day the news came through that the Anzacs were fighting a rearguard action in Greece, the patrol at Kufra Oasis was turning out a guard of honour for a visiting Free French Colonel. A sports meeting was held, two items of which were a competition in marksmanship using Bofors guns and mortars, followed by a smoke concert. Oh, yes—it was still the Army. There were growls over orders to shave, parades made their appearance, and two whiskered miscreants found themselves " on the mat " for aversion to razors.

So from small beginnings the Group had become a valuable addition to the Desert Army, and as the Inner Desert was cleared and the battles surged up and down the Mediterranean coast of North Africa the Long Range Desert Group played its part in all the campaigns, its tasks growing bigger all the while, but always surmounted, until in that final clean up of the Afrika Korps it was the Group which did the advance reconnaissance for the Eighth Army's advance into Tripoli and later into Tunisia. And when the famous " left hook " outflanked the Mareth Line it was a Group patrol which led the New Zealand Corps on the job.

What memories those men of the Long Range Desert Group must have. Chief of all—the desert itself. The illimitable space; the blazing heat, the numbing cold; the colouring at sunrise and sunset. They will remember the comradeship of the evening meal by a small blaze of crackling thorns; the thrill of the swift swoop on an enemy outpost, the too hectic excitement of dodging enemy bombers; the toil and exasperation of freeing bogged trucks. Of them it can be said their place in history is secure. Salute—Long Range Desert Group.

Department of Scientific and Industrial Research

A KORERO Report

"WHAT IS NEW ZEALAND doing about science? Are we to be content merely to import our science, paying toll to the country in which the original development was made?" There is a difficulty here, because in most countries scientific research is instituted by the great secondary industries with increased profits to make from new discoveries. We, having no immensely wealthy industries, cannot do this, so many of our best scientists seek wider fields overseas.

Science can help our production, whether primary or secondary, whether for peace or war, and realizing this, the Government has instituted a Department of Scientific and Industrial Research. This Department has functioned only since 1927, but has already done noteworthy work in many fields. Unfortunately, scientists are seldom good propagandists and, even if they were, much of their work is intelligible only to the experts. Occasionally a paragraph slips into the bottom of a newspaper column and we learn that the D.S.I.R. has discovered the cause and cure of a blight or of an insect pest.

What kind of work does the D.S.I.R. tackle? New Zealand's greatest source of wealth is still her primary industries and the bulk of research work is directed to solving the problems of the farmer. We still find the occasional Farmer Hayseed who talks like this: "I've worked this land for forty years, and no so-and-so professor can tell me anything about it!"

The scientists might reply that if Farmer Hayseed had accepted a little advice on soil chemistry and on the control of stock diseases he might have retired by now, instead of still working his land. However, the average farmer to-day realizes that farming is a complicated business and is duly grateful for any help which a specialized study of his problems may bring.

What Taints Butter?

The Dairy Research Institute is one of the most important sections of the Department, and deals not only with the farmer's problems but with those of the butter and cheese factory and eventually of the overseas market. Why does cheese become discoloured, and how can we prevent it? The answer of the D.S.I.R. is that this is partly due to fermentation and partly to bacterial action: it can be controlled by improved methods in the factory and greater cleanliness of milk, and by lower temperatures for the storing of cheese.

White-pine is in short supply; will *Pinus insignis* do for butter boxes? *Pinus insignis* taints the butter, as does matai. Rimu, however, is suitable, providing a method can be found for avoiding splitting the wood while nailing up the boxes.

Why does land-cress taint butter and cream, and what can be done to prevent tainting? Benzyl isothiocyanate was found to be present in land-cress, but this was later proved not to be the sole cause, because some herds seemed able to eat unlimited land-cress without tainting their milk. This problem is only one of many still occupying the Dairy Research Institute. Others of current interest are the prevention of "openness" in cheese, the production of dry butterfat, and research work on "starters" for cheese manufacture. The results will affect firstly the farmer by showing him a way in which he can obtain better prices for his products and a larger yield from his herd, and secondly, by improving the quality of our goods on the overseas market, the economic position of the country as a whole.

Plant Research Bureau

All farming depends in the first instance on growing something from the soil. Whether it be grass, wheat, tobacco, or fruit-trees, the Plant Research Bureau will study its problems. The Agronomy Division of this Bureau is interested chiefly in matters affecting arable crops, and is particularly concerned with new and improved strains. The certification of seed, in conjunction with the Department of Agriculture, is one of its chief services. Certified seed is sold with a Government certificate that it contains only a certain strain and is free from disease or weed seeds—a definite advantage to the farmer. The development of linen-flax has been studied. Suitable manures and a weed eradicator (with the delightful name of Sodium dinitro orthocresylate) have been evolved, tested, and approved.

Another Division of this Bureau is the Plant Diseases Division. Are your apples developing a strange type of scab? Send samples to the D.S.I.R. They will study them and endeavour to find the cause and cure. Mosaic disease in tobacco crops? It was found that the germ of this disease could live for forty years in smoking tobacco and could affect a growing crop from the workman's hands when he knocked off to roll a smoke. The answer—sterilization of smoking tobacco. The problem of mosaic has now been handed over to the Tobacco Research Committee, but the Plant Diseases Division continues to investigate similar problems, particularly those relating to fungus and virus diseases of fruit and vegetable plots.

Pasture Problems

The Grasslands Division studies all pasture problems, especially the breeding of new and improved strains of grass and clover. Tainting of cream, for instance, is often due merely to badly composed pastures. The development of air transport, too, has meant new problems. How are our 7,500 acres of aerodrome to be made to stand up to the wear and tear of heavy planes in all weathers? The D.S.I.R. is still working on this, and the results so far have been satisfactory.

When Japan decided to enter the war our supplies of agar were cut off. This substance is obtained from seaweed and is of great importance for canning work of all kinds and a host of other purposes. Scientists of the Botany Division found that local seaweeds contained agar, and a new industry sprang up: small, it is true, but fulfilling a need and solving a problem. Another point of interest is the growing of plants for medical drugs, carried out by the same Division. The Maori *tohunga* had a whole *materia medica* in the bush and many of his remedies contained drugs which we have imported at high prices. Government scientists are now isolating these drugs and improving the strains of plants used in their production. Atropine, ephedrine, digitalis, castor oil, and peppermint oil are only a few of them.

The Entomology Division is concerned with insects. It is best known, probably, through its efforts to control the ravages of the white butterfly—efforts which have been far from unsuccessful.

Healthy Stock

What of the problems of the stockman? The Animal Research Section is devoted to his particular difficulties. Unthriftiness of stock and "bush-sickness" have been traced to cobalt deficiency. It has been found that stock require one part of cobalt to ten million parts of dry feed—that is, feed without the water, which forms from 50 per cent. to 90 per cent. of green fodder. This infinitesimal part of a cobalt salt works wonders even with good herds and flocks.

Another problem still receiving attention is that of facial eczema, which threatened at one time to become a major plague in New Zealand. The transport of meat and factors influencing the market condition of animal products

are also dealt with by this Section, which has, however, left the D.S.I.R., and is now with the Department of Agriculture.

The Wheat Research Institute is officially controlled by the D.S.I.R. with the assistance of a management committee comprising three wheat-growers, three millers, three bakers, and four other persons representing Government Departments and other special interests. The Institute is financed by voluntary levies from the three branches of the industry, subsidized by the Government.

There are also sections dealing with Fruit Research, Soil Survey, and Tobacco Research. What would be the best manure for fruit trees? The Fruit Research Section has tried them all, singly and in combination, and has evolved a "complete" manure containing phosphates, potash, and nitrogen which under good conditions has given a 77 per cent. increase of crops. Spots, scabs, internal cork, and similar problems are still exercising this section. Problems of storage are dealt with mainly by the Fruit Cold Storage Section. One of recent interest is that of determining what effect fertilizers have on the keeping qualities of apples.

The Soil Survey Section is engaged in surveying the whole of New Zealand from the point of view of type, level, water, and general fertility of soil. The work of the Tobacco Research Section has been touched on above. Briefly it studies the problems of the tobacco grower in exactly the same way as the Fruit Research Section does those of the orchardist.

There are two Research Associations, organized on a plan similar to that of the Wheat Research Institute. The Leather, Pelt, and Shoe Research Association has done valuable work in improving the standard of New Zealand leather and in solving the various technical problems associated with tanning and the footwear trades. The Wool Manufacturers' Research Association has done similar work in connection with such problems as "hairiness" in wool and difficulties in textile manufacture.

Not Only the Primary Producer

The Department, however, does not confine itself entirely to the problems of the primary producer. A Building Research Committee has been set up and is investigating such problems as timber decay and the ravages of termites and borer. Much valuable and interesting work which it might have taken up has been postponed until after the war, and in the meantime the Committee is concentrating on problems of timber preservation.

In the study of borer, for example, some eight thousand five hundred beetles of the *Anobium punctatum* (house borer) were collected and confined in breeding cages for study. The growth of mould in houses presented another problem to the Government, and the answer was quickly found by the D.S.I.R.—application of a 2 per cent. solution of sodium pentachlor-phenate to the finishing materials. This will inhibit the growth of mould. This Committee, incidentally, co-ordinates the work of various branches of the D.S.I.R. and co-operates with other Government Departments. In fact, this is the rule throughout the D.S.I.R.: although the work of the sections is highly specialized, a problem may be under consideration by a number of sections at a time each dealing with it from its own particular angle.

A comparatively new section of the D.S.I.R. is the Industrial Psychology Division. Why do accidents occur in factories? Why is there a problem of absenteeism? Why is the sickness rate higher in one factory than another? With more and more factories springing up all over New Zealand, problems such as these are assuming greater importance, and once again it is to the scientist that we look for an answer.

The Core of the Department

In addition to these sections, which are set up to deal with specific problems, the D.S.I.R. maintains a number of

permanent scientific services. These, though perhaps less spectacular in their work and results, are in a sense the core of the Department. Probably the best known is the Dominion Laboratory. This is also one of the oldest sections of the Department, having existed for some sixty years before the formation of the D.S.I.R. in 1927. It makes regular examination of milk supplies, tests drinking water supplies, and co-operates with all Government Departments as required. In a police case glass splinters found on the clothing of a suspect were found in the Laboratory to correspond in specific gravity, reaction to ultra-violet light and refractive index to glass from a shattered windscreen. They differed from samples from a hundred other sources. The police acted accordingly.

Iodine in relation to goitre, the chemical treatment of ragwort, investigation of processes for retreading tires, camouflage paints—a hundred other activities are carried on in the Dominion Laboratory. A tin of powder in the pantry—is it baking soda or rat poison? The Dominion Laboratory will tell you.

Allied to the Dominion Laboratory is the Dominion Physical Laboratory. This body handles problems more peculiar to the physicist: pyrometric furnace controls, the repair of x-ray tubes (a valuable service undertaken in view of the shortage of all such supplies), co-operation with the Army Inspection Department on such questions as that of the effect of humidity on radio parts, and so on through a range of fascinating problems. There is also attached to this section a metallurgical laboratory. Its problems are very technical, though of interest even to the layman. Why did the rocker-boxes on a certain type of aircraft engine fail? A metallurgical problem obviously. The new Whirokino Bridge is to be built of welded girders; what is the best welding procedure? Metallurgists are studying the problem with test welds and strain meters.

The Dominion Observatory is known to New-Zealanders chiefly through its time signals. These, by the way, very seldom vary by more than a quarter of a second from New Zealand Standard time, and are checked daily by radio from Greenwich and Washington. The study of earthquakes (seismology) and astronomy are also part of the work of the Observatory.

The Meteorological Branch was transferred to the Air Department for the duration of the war and the daily weather forecast for some time became a State secret.

The Geological Survey has concentrated its energies on the accurate surveying of New Zealand from a geological or minerological aspect. Research into the possibility of locating petroleum in New Zealand has been one of its latest endeavours. Coalfields, goldfields, phosphate deposits, and the location of other economic minerals such as lime and water supplies have been mapped. Up-to-date information on these is available.

When New Zealand mobilized for war, the D.S.I.R. was naturally involved. At the service of all Government Departments, as it normally is, it was called upon to solve new problems due to the extension of their activities. Much original and independent work has been undertaken in conjunction with the Armed Forces, but most of this is, of necessity, secret.

This, then, is the Department of Scientific and Industrial Research. It serves all Departments and is at the service of all sections of the public. Although New Zealand hears but little of its activities and many people hardly know of its existence, there is no part of our national life which does not owe something to its work.

When you get back

We have tried to make the information given here as complete and accurate as possible, but it should be remembered that changing conditions may invalidate some of it. These articles can be regarded, therefore, only as a general guide. They do not bind *Korero* or any authority.

BOOT TRADE

Bootmaking

The normal term of apprenticeship is five years for boys under eighteen and three years for adults above this age. The trade contains as many as fifty processes, and the apprentice is trained in three or four operations, the choice of which rests with the employer, who is guided, however, by the interests and aptitudes of the apprentice.

Concessions to Servicemen.—A returned serviceman entering the trade is given a six months' training, during which his wage is subsidized to bring it up to the minimum-wage standard. At the end of this time he becomes a skilled worker in certain operations, which will entitle him to the minimum rate of pay and any increase the employer may offer.

At the present time in Auckland there is a training school where men are given a six months' intensive course in bootmaking prior to being placed in industry under direction of the Man-power authorities. This emergency training scheme can readily be adapted to meet the needs of returned servicemen.

Wages.—Under the scheme trainees are paid about £5 5s. per week, while the ordinary wage for men employed in bootmaking-factories is about 2s. 6¾d. per hour, plus cost-of-living bonuses. A foreman's rate is upwards of £7 per week.

Prospects.—As there are no sitting-down jobs in the bootmaking trade for men, it is not suitable for those who are physically handicapped. Apart from this, opportunities in the trade are good.

Boot-repairing

Boot-repairing, on the other hand, would be suitable for disabled men, and training in this section of the trade is being developed in order to aid in rehabilitation. At the present time boot-repairers are in great demand, but the increased production of civilian footwear and the abolition of rationing will lessen the demand.

LEATHER-WORK

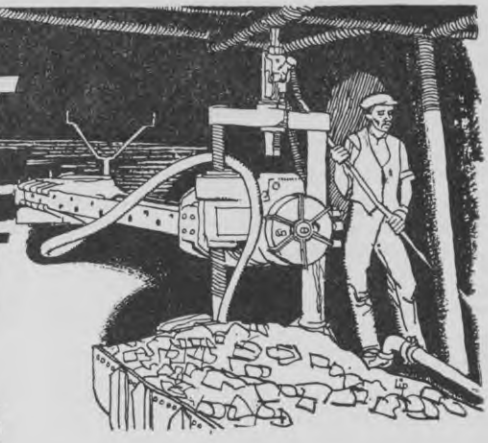
In the saddlery, harness, and collar-making branch of this trade, which is highly skilled, a five years' apprenticeship is required. When the war ends and the motor comes back on the road, saddlery will be even more limited than at present and will provide employment for few men.

Other branches of the leather trade, however, have shown a marked development recently, and these branches—apart from the making of leather belting to drive machines—require little training. Such, for example, are the branches of the trade concerned in the making of suitcases and of belts, pouches, leggings, watch-cases, and other articles required by the Army and Air Force. This work is all particularly suitable for disabled men, and training centres have already been established to give returned servicemen adequate tuition.

The Czechoslovakian refugees have opened up a new field in fancy leather goods previously imported—ladies' handbags and the like—but, while the cutting is done by men, the task of making these fancy goods is mostly done by women.

There are plenty of openings for men, however, in the tarpaulin and heavy sections of the trade.

WESTPORT COAL + PORT



By J. D. McDONALD

THERE IS coal-dust in the air at Westport. Twenty miles north, at Stockton, electric locomotives haul the ½ ton " tubs " of coal from the mines to the " bins," and bull-dozers roar at the " opencast " coal-quarry. Nearer to Westport, at Millerton and Denniston, the tubs perform a ceaseless round trip on an endless rope from the mines to the bins. At Charming Creek, Diesel engines draw the coal through some of the loveliest scenery in New Zealand—now a little coal-dusty. To the east from the Cascade mine the coal is " flumed " by water-power down a long trough for seven miles. To the south at Charleston the " overburden " (top-cover) over the coal is swept away by hydraulic sluicing. Lorries do the transporting.

Everywhere coal is in the air. Its transport is responsible for the operating profit on " the only paying line in New Zealand." Westport exists to export coal.

The coal-dust in the air at Westport begets a parched feeling in its throat. The wide mile-long main street frames, at its south end, the rugged grandeur of Mount Kelvin—*but*, strategically situated on convenient corners are seventeen pubs, one of which offers excellent accommodation to the moneyed traveller, while others offer a chance to be " one of the family " in the friendliest possible manner.

In smoky little back parlours friendly little groups meet to play " forty-fives " with uproarious oaths and much heavy thumping of the table. For the uninitiated it may be stated that in this game the " five fingers " (the five of the trump suit) beats all other cards. The trump suit order is five, jack, ace, king, queen —all other suits begin with the king. Non-trump suits win high in red ; low in black. Obviously the ace of diamonds is the lowest card in the pack unless diamonds are trumps, in which case it is the fourth best. The word " obviously " in the preceding sentence is a little optimistic—as the ace of hearts (the " Maggy ") is always the third best trump. It is credibly reported (*a*) that the game is of Irish origin, (*b*) that there are no written rules, (*c*) that the game can only be learned by playing it, and (*d*) it is as characteristic of Westport as whitebait or coal. Perhaps after all, there are some things obvious about the game.

For Westport is a town of apocryphal stories and things that couldn't be true—but are. Where else could, long ago, a hotel, all lights blazing, blithely sail down the river to sea but in a Westport flood ? And where else could one hear the utterly damning opinion, " He's the sort of chap who'd burn down a pub ! "

The list of improbabilities begins with the legend that Tasman watered his ships at the Mohikinui, continues with Cook's being blown off-shore at Cape Foulwind (the pleasantest part of the district), and the amazing journeys of Brunner and Heaphy (1846–48) from the South Wanganui via the Buller to Hokitika. They took with them 10 lb. of provisions and were away for months. We read in their diary, " that they suffered from hunger." Brunner, stout fellow, opined that he had

overcome the principal obstacles to exploration in New Zealand in that he " could walk barefoot through the bush, and live on fern-root." At the end of his journeys his digestive apparatus probably matched the soles of his feet. He discovered coal in those momentous days, and suspected gold.

In 1857 Mackay made the perilous journey along the coast from Cape Farewell to the Buller and on to the Grey. His reports led to the journeys in 1859 of the intrepid surveyor Rochfort, who completed the first detailed survey of the district. Rochfort discovered coal-seams near the mountain which bears his name and gold in many places, but did not let the latter detain him (or his assistants) from the surveying. He says, " The royal mineral was lying glistening in the sun and in such quantities as induced rather a mutinous spirit; my hands having a greater preference for the golden prospects before them than for the sterner duties of surveying." Yet they did not halt even for one day. Rochfort was duty incarnate—and how appropriately named. Does this turning of the back on fabulous wealth seem improbable ? It happened ! Haast made his way into the district in 1860. He discovered coal at a place he named " Coal-brook-dale " and gold in most of the rivers. He completed the survey of the area, made an excellent report on its geology, and added riders on botany and zoology. A man of parts evidently.

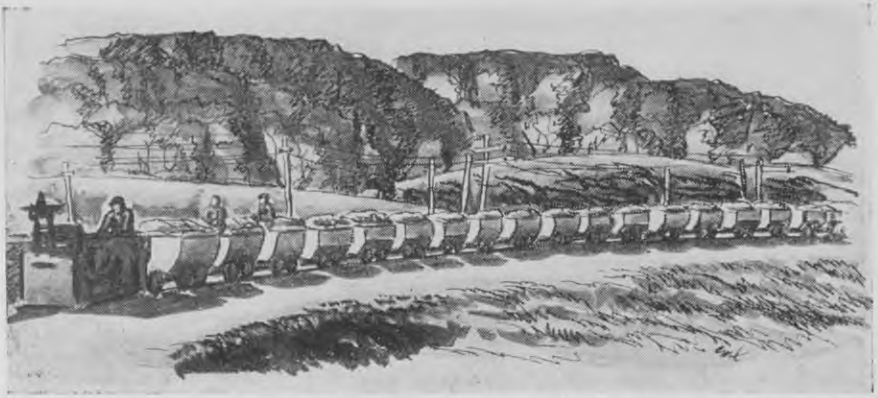
In 1860, too, some Maoris from the Buller showed Rueben Waite, storekeeper of Collingwood, samples of gold. He left at once for the Buller. Until 1862 the discoveries were rather overshadowed by those in Otago. **Then the rush was on!**

For a few years the diggings flourished, and Charleston, Addisons, and the Lyell were names to conjure with. Fortunes were made and lost. Now these romantic places are memories—names—a large cemetery in a ghost town is all that tells of the golden days.

The visitor has the option of reaching Westport by service car from Nelson via the Hope Saddle; from Blenheim by following the Buller from its source in Lake Roto-iti; from Christchurch via the Lewis Pass; or from Greymouth by way of the " coast road." The scenic beauty of all these routes is well known. On the recently completed Buller Gorge railway, at Redman's Creek, is a bow-string arch bridge—one of the most beautiful in New Zealand. By whatever route the visitor reaches Westport he will arrive at the south end of the main street in which, as is typical of New Zealand small towns, all the business part of the community is concentrated. The streets are named after prominent statesmen, rather as Christchurch runs to bishoprics. Thus we have Palmerston Street (the main street) Bright, Cobden, Gladstone, Disraeli, Peel, Russell, and Derby (pronounced as spelt). New Zealand is represented by Ballance, Stout, Domett, and Stafford.

In Palmerston Street is one of the three major examples of civic enterprise, for it is magnificently lit by mercury arc lights. Another example is the splendid Borough Chambers—characteristically unfinished. The municipality runs its own toy hydro-electricity plant from its own private toy lake, but as the supply is not adequate extra power must be obtained from the mine-plant at Denniston. In Palmerston Street are the town's two new motion-picture theatres, one of which opens only on Fridays and Saturdays. But a much more significant thing is that one of the two local breweries has gone into liquidation.

Practically every bank trading in New



At Stockton electric locomotives haul the ½ ton "tubs" of coal from the mines to the "bins."

Zealand has a branch in this same street—a reminder, no doubt, of the days when the district was an important gold-mining area, and Charleston, now a one hotel "ghost town," had fourteen thousand inhabitants and nearly a hundred pubs. None of the banks have rebuilt for many years. This is significant too. The "good old days" are over, but "old identities" sitting on the window-sills of shops and, contemplating the rain, dream of them. No more do roistering miners from the "diggings" bring with them all the glamour of quick wealth. The coal-miners are paid fortnightly, and on "pay Saturday" Westport becomes very animated indeed. The difference on "back Saturday" is very marked. The completion of the Buller Gorge, railway, by removing Westport's sense of isolation, has shed the harsh light of reality upon the romantic dreams of the "Golden West." The search for gold is now a prosaic matter of dredging, an enterprise requiring large capital, and there are few dredges in the district.

Architecturally, Westport differs very little from other towns of approximately four thousand inhabitants save that most of its buildings are older. In the main street are new public buildings such as the County Chambers and the post-office, rebuilt after the Murchison earthquake of 1929, when the town was severely damaged. The Buller Hospital is large but rambling, and the best architecture is in the technical high school, on the outskirts of the town. The local library is centrally housed in a solid, if rather depressing, brick structure. It is in need of almost everything but so far the alertness and vigilance of the rate-conscious folk have prevented the Country Library Service doing anything about it.

The town, as a whole, is flat and well planned. All the streets are wide, recently tar-sealed, and they intersect at right angles. There are few blind streets, but there is little attempt at beautifying a town which lends itself so admirably to that purpose. The esplanade, with the possibility of being one of the finest river-side walks in New Zealand, is overgrown and neglected, a children's playground is still under consideration, and the domain at the south end of the town is not a frequent resort of citizens. Yet it is a little gem of unspoiled native bush.

Westport is a town of young people, perhaps because mining is the essential of essential industries. So the dances at Westport, although "over-girled," do not reveal that fierce competition for men that is seen elsewhere. These young men, too, are the present holders of the Seddon Shield, emblem of superiority in football for the districts

of Nelson, Marlborough, Motueka, and West Coast. The matches have the keenness of an Otago-Southland encounter—fierce challenges are as fiercely met—and feeling sometimes runs very high. Local pride is very strongly developed in this respect. The miners furnish the backbone of a light but phenomenally tough forward-pack. Perhaps it is the life that makes them that way. In winter the miner leaves home before sunrise and returns after dark. He does not see the sun, his work is heavy, is carried on in an impure atmosphere, and is not devoid of danger—yet he would not change it! Once underground no other worker is as independent as he. And there is, too, his fierce pride in his calling. He merits admiration and pity—but he does not pity himself.

Westport is rich in "characters"; people who, by their originality or eccentricity, have acquired a sort of license. There is Fred, who, in his cups, will propound and solve intricate mathematical problems, trumpeting the while that "unless we can reduce it to maths, we know nothing about it"; and Charlie, who tells Irish fairy tales. The tales are good, even if the fairies are not, and the possibility of their reduction to maths. is remote. And then there is Danny, whose passion is the early history of the district, passed on in richly humorous terms.

Westport's soil is underlain by a hard pan of iron conglomerate. Thus Westport is surrounded by worthless, sour, marshy "pakihi" lands rather like the Russian "podsol." Extensive (and expensive) research has gone forward under the direction of the Cawthron Institute, but the results have not been wholly satisfactory. There seems little possibility of the economic development of, say, dairying in the immediate neighbourhood of Westport. What little timber that is readily available is being rapidly cut out. So the theme returns to coal.

The best bituminous coal in New Zealand, some of the best steam coal in the world, lies along the Paparoa Range. Geologists say that this coalfield was originally laid down as a flat sheet, much as it still is at Charleston. Earth movements, as shown by the great Kongahu fault, raised the land and subjected the coal to tremendous pressure during the upthrust. Thus its quality was greatly improved. The seams occur on the top of the ridge, at Denniston (2,000 ft.), Millerton, and even on the top of Mount William. All these places rise cliff-like from the coastal plain and the coal is lowered by ropeways down an incline of breath-taking steepness.

At the bins, the tubs having been emptied into enormous containers, the coal is screened (sifted) and the "screened coal" and "slack" loaded separately into the hoppers, which carry it away. These hoppers resemble inverted pyramids with trap-doors for the discharge of the coal. They are fitted into a four-wheeled frame called a "bogie." Loading consists of backing the hoppers under the bins and thus filling them by gravity with about 8 tons of coal apiece.

Some goes by rail to Christchurch, but most of the coal passes over the Westport

From the Cascade Mine the coal is "flumed" by water-power down a long trough for seven miles.

Wharf. Loading of ships is done by three old steam-cranes and one new electric one. They pluck the hoppers out of their bogies and swing then over the ship's holds. A "knocker-out" strikes the bottom release mechanism, and 8 tons of coal pour out. He gives the hopper a few perfunctory knocks to dislodge loose coal, and then it is rapidly returned to its bogie. At night the glare of the great flood-lights mounted on their towers 90 ft. above the wharves casts, upon a carpet of steam, strange patterns of the latticed jibs of the cranes and their loads.

The whitebaiters.

Once loaded, the ships, which berth heading up-stream, are swung in the 200-yards-wide river by letting go the headlines and thus forcing the current to turn the vessel seawards. At precisely the right moment the stern lines are cast off and the ship proceeds down the mile-long stretch of river to the bar. The bar at the mouth of the Buller has an importance far greater than one would expect. The river enters the sea due north, and thus the entrance is protected from the westerlies which play havoc at Greymouth; but the bar, in spite of the constant work of three dredges (two suction and one bucket), is shoaling, and the port is deteriorating. The discharge from the river, plus the sand carried at right angles to the entrance by the New South Wales current, have brought this about. As Westport is now to become a "national harbour" to ensure expedited coal-supplies, the problem of its bar has become a national headache.

Originally designed by Sir John Coode in 1880, the harbour-works consist of extensive training-walls of Cape Foulwind granite and the typical long wharf of a New Zealand river port. There was to have been a large floating basin as well to accommodate large ships—but this is unfinished. As the shoaling of the bar is a natural phenomenon it may well be that the remedy is not dredging or carrying the moles further out—it may be more to the point to use vessels especially designed for bar harbours and shallow draft; something similar to a tank-landing ship for example.

The Buller itself is a massive and noble stream, about 200 yards wide at its mouth, but in its last mile there is very little flow. Navigation is much easier than at Greymouth. In flood the river is a daunting spectacle. Ships have all available lines out and the screws turn full speed ahead against the terrific nut-brown swirl that thunders past. On such an occasion as this over half a century ago the river changed its course and flooded the local cemetery so that the coffins bobbed merrily seawards. The main street before that flood is now the bed of the Buller. Normally, however, its green waters are peaceful enough, so that it is rather surprising that the local sailing and rowing clubs do not make a greater appeal to the young people. The facilities for both are excellent.

The river itself, however, appeals strongly to all ages and both sexes for several months from August 1 onwards. At that date the whitebait season opens. Both banks are lined by alert fishermen, endlessly dragging their nets (set-nets are prohibited in this area). Luck favours some, but it is widely believed that a life-time's study of the vagaries of the current, a knowledge of the state of the tide, and shrewd judgment in arriving first at the selected "possy" practically ensure success. There is at least the comforting reflection that if one "is not getting whitebait—why, then, there are none running." At this point it is not unusual for some callow youngster to arrive with a couple of kerosene tins

full, but the veterans are not in the least embarrassed thereby. As they succinctly observe, " It just shows you ! "

These whitebait are the young of the inanga. At the time of the August–September spring tides they ascend the rivers in millions. Those that survive fishermen, trout, and birds spawn by affixing their eggs to reeds in the shallows which are under water only at these times. The next similar tide floats these eggs away to sea to continue the fascinating life-cycle of whitebait. This, however, is no more fascinating than the life-cycle of whitebaiters. They are out at the earliest light of dawn. One can vaguely make out their shapes as the grey river mists swirl about them. Frequently they have St. Peter's own luck, yet they are never deterred by it. Last year catches of a dozen kerosene tins were reported, and £5 per tin provides a ready-made reason for the popularity of the sport. At the time of writing the season is just opening, and the mind tends to be distracted by thoughts of whitebait fritters, whitebait cooked in milk, and whitebait curried. The thought of whitebait cooked in butter must be thrust ruthlessly behind one. A toothsome thought, nevertheless.

Westport's isolation is past. So, too, are its dreams of the " good old days." There is a future for this little town of romantic yesterdays. And that future lies in coal. Should the carbonization or hydrogenation of coal ever become a fact in New Zealand it is at Westport that the experiment must be made, for in a small area in its immediate neighbourhood lies nearly all of New Zealand's high-grade coal. As this coal is the only great natural asset we have it appears that the processing of it may become as important in our country as it is in Germany.

Then, perhaps, the indomitable little town which survived a devastating fire (1869), a disastrous flood which swept half of it away (1873), and which was undaunted in the face of a terrible earthquake (1929), and a tornado (1944) may again see prosperous days.

With its back drop of the Bucklands behind it, set so admirably alongside its mighty river, Westport pours annually over its wharves thousands of tons of coal; a black cascade that has built industries all over New Zealand and a reputation beyond. Westport has always supplied Admiralty coal, and the townsfolk like to think of that wild night at Apia when the hurricane hurled the shattered wrecks of the navies of Britain, Germany, and U.S.A. on to the reef. That night when the *Calliope* fought, yard by aching yard, into the teeth of the hurricane; when her double-banked stokehold crews took up their night-long battle for the safety of the open sea—and won ! The coal they fired came from Westport.

SUBMARINE JET PROPULSION

Recent comments on the antiquity of jet propulsion remind a correspondent of the *Manchester Guardian Weekly* that although the idea may be comparatively new for air-borne traffic it is as old as the hills—if not older—where under-water locomotion is concerned. The cuttlefish and its kin have used it for untold ages. It is not commonly known that many fishes can travel at high speed with tail and fins quite motionless by means of jets of water expelled forcibly from the gill slits.

Frank W. Lane, the naturalist, states that an examination of some three hundred swift-moving fishes revealed the fact that two hundred and seventy of them had gill slits placed in the exact position for the most efficient use of jet propulsion. In addition, the jets of water have the added advantage of creating what is known as " induced streamlining " along the body of the fish while it is in motion.

When a fish wishes to apply the emergency brakes it simply puts its jet propulsion mechanism into reverse gear, sucking in water through the gill slits and ejecting it rapidly from the mouth.

NEW ZEALAND TREES

BEECHES

By Dr. W. R. B. OLIVER, Director of Dominion Museum, Wellington

NEW ZEALAND FORESTS may be divided into two principal groups—pine and broad-leaved forests on the one hand, and beech forests on the other. While in the first group there is a mixture of trees, in beech forests the dominant trees are one or more species of beech. There are five species of beech in New Zealand. They all have much smaller leaves than have the beeches of the Northern Hemisphere; and there are differences in the flowers as well. Generally, beeches are found in poorer or drier land than are the broad-leaved trees. They affect mainly mountainous districts, while in the valleys the more luxuriant mixed forests predominate. Beeches are noble trees with straight, dark-coloured trunks bearing the foliage in a more or less stratified manner. This results in least damage from wind.

The leaves of the mountain beech.

The mountain beech.

The mountain beech has small, simple leaves. It grows in the more unfavourable forest situations. For instance, in the dry districts of West Canterbury and on the mountains east of the divide it is the principal tree, It forms the upper limit of vegetation on Mount Ruapehu, but, strangely enough, is absent from Mount Egmont. The black beech has simple leaves, larger than those of the mountain beech. Like the mountain beech, it grows in localities unfavourable to other trees. The silver beech is a beautiful tree with shining round leaves with finely-lobed margins. It likes wet and foggy climates, and grows to an immense size. The two other species—the red beech and clinker beech—have serrated leaves. These trees form extensive forests in both islands.

When polished, beech timber has a pleasing lustre with a wave-like pattern. Silver beech is a light-coloured wood very suitable for furniture, houses, tool handles, and so on. Red beech, as the name implies, has red wood. It is valuable for outside work — railway sleepers, wharves, bridges, posts, and so on. The timber of all kinds of beeches is extensively used. All species of beech, but especially the silver beech, are worthy of cultivation. As with the northern beeches, copper-coloured varieties are known.

THE LADIES TAKE A HAND

Inter-Service Basketball Championships

THE SPIRIT of friendly rivalry and competition between the three Services finds expression from time to time on the field of sport. This time the ladies took a hand, and teams of Waacs, Waafs, and Wrens from Northern, Central, and Southern Districts met in the Inter-Service Basketball Championships.

On Saturday, the 9th September, while Auckland was showing Wellington a thing or two about Rugby football at Athletic Park, nine teams of servicewomen met in Homeric contest beneath the shadow of the Carillon. Not that the Carillon was casting much of a shadow on the day in question: the sky was overcast, with a light but keen wind blowing transversely across the Mount Cook School courts. It was actually a good day for the players, though a trifle chilly for the spectators.

The New Zealand Basketball Association co-operated with the Combined Services Sports Committee in running the tournament. Trentham Camp supplied a loud-speaker system, and the Navy provided an announcer, whose official impartiality was maintained only with great difficulty in the face of his partiality for his home team. The Y.M.C.A. provided afternoon tea for all comers.

The first draw resulted in three teams being placed in each of sections A, B, and C. Army Central won section A, after a close game with Air Force Northern, the score being 6–5.

Section B was won by Army Southern with a pair of crushing victories over Navy Northern and Air Force Central, the scores being 18–4 and 16–3 respectively.

In section C, however, the teams were more evenly matched, and each team lost one game and won one, thus gaining two points each. The round was decided by a "knock-out" competition of five-minute spells, in which Navy Central defeated both Air Force Southern and Army Northern, thus winning the section.

Round 2 began with section D made up of the winners of sections A, B, and C, section E of the runners up, and section F of the losers. Section D competed for the championship, section F for the wooden spoon, and section E just for the love of the game. Section D, as may be imagined, was keenly contested, and resulted in a win for Army Southern, Army Central being runners up and Navy Central third. Both Army Southern and Army Central played magnificent games, with plenty of good, clean passing, and excellent combination.

The wooden spoon went to Navy Southern who, though outclassed from the start, went down fighting in true naval tradition.

The finale of the tournament was a North *v.* South match played between teams selected from each of the three services. This was possibly the most exciting game of the day. Southern gained a slight lead, were overtaken by Northern, then proceeded to reduce the advantage. The final score was 14–13 in favour of Northern, by which time the players were exhausted and the spectators hoarse.

The spectators, incidentally, ranged from officers of the three services to stray privates, "erks," and "matloes" with "sister-in-arms" in one of the teams. All agreed that the ladies had carried on the traditions of Service sport in the finest manner.

Good Show, Girls.

Night Express

A KORERO REPORT

UNSHAVEN, LIMBS cramped, hungry, need of a bath, dreary, black from soot, and in temper, that cigarette—your thirtieth—tastes as pleasant as the smoke in the carriage from the tunnels. A morning as grey as your mood. But you're there. "Is that all your luggage?" asks the taxi-driver. It is the end of a journey. A journey by Night Express.

Night Express. Wellington, three o'clock the afternoon before—426 miles through an island, sixteen hours—Auckland, seven o'clock in the morning if you're not late. All through the night you travel. "It's probably a unique train journey; no other quite like it," someone said. Sure, you just ask the Americans. You do; and they tell you about dining coaches, observation cars, ice water, and high speeds. About not an island, but a continent to cross. But they'll also tell you that no line in their country has had to be tunnelled, dug, pushed, ripped, and torn through such impossible engineering country. They'll say it is "the height of human impudence to have built a railroad through such an alpine geological curiosity shop." They're right.

The four hundred miles or more of track from Wellington to Auckland has thirty-two tunnels; it includes mountain ranges and rivers, wide, meandering, and torrents, deeply-cut, rushing; it is over the amazing Raurimu Spiral; it has a complexity of slopes and steps and barriers; it runs through shifting swamps and under crumbling cliffs. It has little of the straight run of plains. You forget your dreariness and think of the bridges and viaducts and tunnels, you realize that its construction is an engineering miracle. But a miracle that had to be planned and drawn and skilfully considered; its theory carried into practice no less exactingly.

Question: Is there anywhere in New Zealand with the confusion of noise and people and busyness of the Wellington Railway-station before the departure of the Auckland express. *Answer:* Probably not.

Knots of people, hats and coats and suitcases, talking, hurrying, in your way. Babies crying. Queues for left luggage, queues outside the barrier, queues for permits, for tickets, for reservations, queues outside the R.T.O.'s office of Navy serge, Air Force blue, Army khaki. "Mind there, gangway please"—you move quickly before you're knocked flat by the porter and her electric trolley piled high. That small boy must be lost. People, milling crowds of people. A wedding party, bright with clothes and laughing, showers of confetti. A Provost station patrol stamps past; subconsciously, guiltily, you move aside. Crowds in the refreshment-rooms, crowds

at the bookstalls, crowds outside the barriers talking, almost shouting at their friends inside the bars. Eleven minutes to go.

Above it all is the loud-speaker. Nothing can drown those instructions. " All seats, all aboard for the Auckland express. All seats, please. Show your ticket and reservation at No. 6 platform gate . . . all seats, please . . . six minutes . . . all seats . . . hurry on . . . telegram for Mr.——" A train whistles, a bell clangs, interrupting. But it's not for you. The talking and bustling and noise grow greater. It takes you all your time to move.

And it's " All seats, please. All aboard for the Auckland express." The last call. You hurry. So does everyone else.

What a bedlam there is on that station. Half an hour later all is quiet. The building is deserted. There is the calm and the dignity of a cathedral. Just a little dirtier though, a little more untidy.

Fourteen carriages—ten second class, four first. No sleepers these wartime nights. A big train. It means approximately four hundred passengers are travelling. They're mostly servicemen. It's almost a troop train. The minute bell clangs. Some one rushes wildly through the barrier. He couldn't have cut it any finer.

And you're off. Slowly, smoothly you leave the station. Until Paekakariki, the other side of the first line of hills and the several tunnels, the first stop, the long heavy train of carriages and vans is drawn by an electric engine. Such a load is hard work. The speed is slow. It would take a long time to Auckland at this rate ; it takes a long time even to Paekakariki, to the first cup of tea. It's pleasant, though ; the afternoon sun streams through the window, warm on your face. Comfortably you lie back in your seat, head on pillow, not reading yet, looking at the last blue windy-wet glimpses of Wellington Harbour. Smack into a tunnel. As fast from darkness to sunshine. The journey has begun.

The carriage is cheerfully noisy with laughter and talk ; someone strums a banjo, there is singing, a mouth-organ. It is also tidy, the floors clean, luggage orderly in the racks, the passengers straight in their seats. Reserves for the journey are marshalled and reviewed ; cakes in a tin, oranges for thirst, the smoke of cigarettes and pipes is blue in the sunshine. A forbidden bottle of beer—" careful, digger, here's the guard " —and if you're playing cards, seats turned inwards, pillows for a table, be careful not to show any money because that's not allowed either. You're moving, pulling powerfully, through hills, the sun is setting. Almost evening, soon night.

Professor Joad was surprised recently when he walked through a troop train on a long journey in England to find so few of the passengers with books to read. To him it seemed such a waste of time ; he counted, he said, more than a hundred servicemen before he found one reading a novel. You have a look for yourself. You share the professor's surprise : here is a journey of sixteen hours and in the five carriages you walk through there is hardly a bound book to be seen. Digests are everywhere, picture magazines almost as common. There's a *Korero*—but no books.

Maybe it doesn't mean a thing ; maybe it's just that people with luggage to pack, a hundred things to do, a train to catch, just haven't the time to think of hours that will be free, of books to read. Also, if you're leaving one city for another, you don't take away library books ; and if you're on soldier's pay you don't spend 12s. 6d. on a novel for sleepy train times. You leave Professor Joad to be surprised by himself.

Through the long hours, the miles of the night, there are changes from the gay talk and the orderly carriages. Early morning, hardly light, shows a different picture. The first impression now is of overcoats and scarfs and hats and luggage ; the sprawling figures you see second. Pillows are soiled with soot and smoke. The floor is untidy with the litter of a journey. The air is heavy and stale. An occasional grunt, a curse as someone stumbles in the half-light over an outstretched leg, the annoying rattle of a window, a blind, the striking of a brightly-yellow match—they are the only noises now. There is no talking.

And all the time the rhythmic clackety-clackety-clack of steel wheels on steel rails, of speed through the night.

Even the clipping of tickets is not the perfunctory business it may appear. You ask the guard. If he's got time he'll tell you. He'll also tell you that it's only one of his jobs. The internal affairs of that whole train are, in fact, his responsibility. The safety and comfort of those four hundred passengers have his care and attention. It takes many years to know the needs of that job, the ordinary routine ; and, in addition, there are special instructions for every trip that must not be forgotten.

Each ticket has to be carefully clipped, its validity checked ; possible errors in issuing must be looked for, misuse detected. The work has to be done methodically, not a minute wasted. And all the time other and equally important matters have to be kept in mind.

A reduction in speed, not noticed by passengers, has its significance for the guard. From the carriage door he reaches for a tightly-folded piece of paper from a wayside station official. The train picks up speed again. The guard reads the note—the crumpled piece of paper is a crossing order, an important message telling him that the scheduled crossing with a train from " up the line " has been altered. Ticket clipping is resumed, questions answered, seats found ; by the time that guard is back in his own compartment the next stop is not far away. A few puffs of a cigarette, but there are still reports and returns to be finished, letters sorted and pidgeoned-holed ready for delivery at the right stations. And to ensure as short a delay as possible at stopping stations, piles of luggage and parcels have to be looked over and sorted.

Ten minutes for refreshments. Crowds rush the counter. But there is no cup of tea for the guard. A dozen things have to be attended to before the clang of the minute bell, the blast of the whistle, the smooth turning of the wheels. The station is left black in the night. Hurricane lamp swinging, the guard makes his careful way through the sleeping train for fresh tickets to clip, if necessary (these days, if possible) to find seats for the latest arrivals.

At the next stopping station he is to hand over to another guard. Before then everything has to be squared up. Less than an hour later he will take over the running of a south-bound express, for another four hours' rush before he is finished for the night. It will be daylight before he is in bed, but his sleep won't be disturbed. With so much to do and the responsibility for the comfort of several hundred passengers, his working-time has been fully taken up. But everything has gone smoothly ; for him it is all in the night's work.

*

You giggle. You can't help it. You're in the cab of the engine. Behind is seven tons of coal, or what is left of it ; in front a mass of gauges and levers and handles. The huge fire in the huge furnace is almost frightening in its intensity. The fireman looks strong and tough enough to lay low any man in the world—except the driver. That engine is not troubled with mountain ranges. It has power to spare ; and everything of it is a sign of its strength. But you giggle to yourself. You can't help it—because in front of the furnace, neatly on the floor, is a tiny household hearth brush, painted cherry-red.

You've talked yourself into a ride in that cab. While you're waiting, a small

boy on his father's back looks eagerly through the entrance just as the fireman swings a shovel of coal on to the roaring fire. "Ooooh," he asks, "is he going to boil his billy?" It's some billy. One hundred and thirty tons of it. To keep it boiling means a lot of work for that fireman, no chance to let up—mile after mile of hard, dirty, sweating work in cramped conditions that would have even a physically-fit man in agony before the top of the first rise. No wonder this fireman's muscles look as strong as the steel of the engine.

Engine, one hundred and thirty tons; train, nine hundred tons; coal, seven tons; fireman, 198 lb. You can't help being impressed. But you wouldn't like his job.

You smile at the red hearth brush and the small boy while you're waiting for the journey to continue. If you haven't ridden before in the cab of an express engine that's about all the amusement you're going to get for the next hundred miles. Since you were five years old you've wanted to ride in the engine of an express. Now you wonder why. It takes about three minutes to come to the conclusion your ideas have been misdirected.

You wouldn't think a one hundred and thirty-ton engine would jump. It does. It also leaps, sways, kicks, thumps, jiggles, jogs, twists, turns, knocks, snorts, roars, rumbles, rears flings, swings, and shudders. And the bad thing is that it does all these things at once, in the same roaring breath. You were sick in the inter-Island ferry one night, but you must have been fooling yourself—it was never like this.

You hang on for your life (your *very* life); and in the first few minutes the whole train is completely wrecked hundreds killed, when this engine (1) jumps off the line; (2) runs into a cliff; (3) smashes into a small station; (4) can't get round a curve; (5) blows up; (6) leaps over the side of a bridge into a river; (7) shakes itself to pieces; and (8) can't get into a tunnel because the entrance is too small. In the first minute you think that engine is out of control. After the second minute you're certain. And you wonder, too, why the driver sits there so unconcerned, indifferent apparently to the danger and the narrowness of the escapes—what's the use of blowing the whistle at this stage—and the fireman only makes matters worse by heaping on more coals. In an aeroplane you have a parachute, in a ship a lifebelt; in the engine of an express you have nothing but the small consolation that when something happens you'll be the first to know about it.

Yes, for the first few miles, if it's the first time, a journey in an engine is at least alarming. There is none of the smoothness of a journey in a carriage seat, none of even that cramped comfort. In your seat, waiting for the long night to pass, you wonder sometimes at the dawdling speed; in the engine you wonder that anything on rails can move so fast. You ask the driver just what the speed is. Thirty-eight miles an hour. More like one hundred and thirty-eight, you'd been thinking. For them, forty miles an hour is a good average; up steep grades it is less; along straight level stretches it rises to almost sixty.

The noise, that roar of fire and steam and moving wheels, is terrific; it is a nuisance, too, because there is so much you want to ask the driver and his mate. You yell, from a foot away he yells back, but it's not much use. It's only on the down grades, when the steam is turned off, that it is quiet enough to find out the things you want to know. And then only with difficulty.

"A man wouldn't have to be in the front like this if he'd known as much then as he does now." The driver is telling you, yelling, that it was in 1900

that he first came to this part of that country. The railway-line wasn't through then ; the land could be bought for £1 an acre or less ; now it is worth anything up to £50 an acre. For forty years he's been with the Railways Department—his first responsibility was as a cleaner with a piece of cotton waste ; now he's an express driver, this engine in his care and (apparently) his control. He knows every piece of its mechanism. He knows also every inch of the line, each curve where speed has to be slackened, each stretch of straight where it's safe to open up. To him it doesn't matter that the night is black, that visibility is almost nil with rain or fog. It's a nuisance, but he could take that train through with his eyes shut.

He knows the history of that countryside, too. People rushing through the night associate the stopping stations with coffee and a pie, a place to buy a magazine, a bottle of orange. The smaller stations, where the train does not stop, pass unnoticed. But the driver knows that this small town was the first in New Zealand to have electric light, that the next has signs of oil, that here the Maoris killed all the whites one dark night of war, that there a world-famous scientist was born. You wish that it was quieter, so that you didn't have to miss so many of the things he has to say.

A light through the trees, half a mile away. A blast on the whistle. The light blinks off, then on again. The driver grins. It's his daughter's place and he's saying good evening to her.

So on you go through the night, the powerful light of the engine slicing dramatically through the blackness. Dark outlines of hills rise shadowingly by your side ; you see snow. Then they are gone. You pass through the towns, the centres that you know—Feilding, Ohakune, Frankton Junction, Palmerston North. But there are names you haven't seen before—Wiri, Porootaroa, Oio, Dinwoodie, Mangaonoho. For all you know they could have been the names of the main towns of Central Australia or Mexico or Tibet. You find you don't know so much about this country called New Zealand.

It's dawn, the morning light is chill. The fireman swings giant shovels of coal into the giant furnace, tidily sweeps up the floor with his little red brush. At the next station the driver and he will leave this engine, to switch over to the cab of a south-bound express. You will go back to your seat. After twenty years you decide that after all you don't want to be an engine-driver—and not only because your face gets so black from the soot and the smoke in the tunnels.

You say good-night, you liked these two, the driver and his mate. In the carriage washroom you clean your face, your hands, as best you can. Thankfully you lie back in your seat. It seems so comfortable. You go to sleep wondering why engine-drivers wear white ties. It seems right enough for Fred Astaire to wear a white tie. But why engine-drivers ? You asked, but there was too much noise to hear the answer. You wonder . . but you're asleep.

"QUESTION BOX"

An Experiment to Promote Discussion

DISCUSSION GROUPS play an important part in A.E.W.S. activities by encouraging men and women to express their thoughts freely and intelligently to a group of their fellows. Constructive thinking and better citizenship are fostered with the regular discussion of international, national, social, and economic problems. But, as with any group of people, one section will invariably take confident and fluent part in the discussion, while another section will content itself with listening. To try to overcome this and to encourage all members of the group to take part in the discussion, one area headquarters in New Zealand has tried with success the experiment of a "Question Box." Here is an outline of how this group was managed.

Before a weekly discussion the members of the group were asked to prepare any question they would like answered, write it on a slip of paper, and address it to another member who they considered would answer the question satisfactorily. It was not necessary for them to sign the question, nor was any limit placed on the time taken to answer. Thus every encouragement was given to those who were timid or nervous of entering the discussions. The questions were placed in the Question Box and later distributed to the persons concerned by the unit Educational Officer. A full week was allowed members to prepare the answers and to obtain any help they needed.

The questions asked covered many topics and promoted spirited discussion. Some of the questions asked are quoted to show the subjects members of the group are interested in: (1) Should the occupants of State houses have the "right to purchase"? (2) What is the meaning of "market research" and "market investigation" so often used in connection with advertising? (3) It is often said that a country gets the government it deserves. What is the meaning of this, and do you consider it correct? (4) Who was initially responsible for this war, and do you consider this a "War to end War"? (5) Do you consider men's dress is sensible and healthy? If not, what changes do you suggest? (6) Give your view on what is meant by the expression "Democracy in Industry." What part should Parliament play in fostering true democracy in industry?

A Waac dealt with the question of women war workers. Here is the question and answer given to the group.

Question.—"Millions of women all over the world are at present doing men's jobs. Do you think most of them will be willing to give up this work when men again become available?"

Answer.—"Most of us will agree that it is the women's place and right to give up their wartime positions to let returned men find employment again. It is more important for men to be employed than women and it should not be a sacrifice for any girl to give up her 'duration job' to a man who has made much bigger sacrifices serving in the Forces. We often hear it said that the women's place is in the home, but in wartime we find women can fill men's places in thousands of different jobs and that our women are fast becoming men's equal. But in peacetime, with less production with less man-power, both men and women will find it difficult to secure employment, especially where the wages have been exceptionally high.

"I think that the males should be the chief breadwinners, but we will find some women will not wish to give up good positions formerly filled by men, and I think that they can be classed as the widows of servicemen eager to earn high wages for the upkeep and education of their children; the engaged girl who has lost her fiance overseas and wants security in case of life-long spinsterhood; the modern selfish type eager to earn high wages to wrap herself in luxury; the wife who finds she earns as much as, or more than, her spouse and considers money more important than the welfare of her home.

" Those girls who will be only too pleased to give up their wartime jobs will be the wives and sweethearts of men returning to be rehabilitated and those girls who have entered ' duration jobs ' with the proper patriotic spirit. The New Zealand Government has made a law wherein all men have to be reinstated in their former positions, and this will have to be strictly acted on by all employers. The Government may have to pass a law forcing girls to give up positions where men have previously been employed, and so save supporting so many with Social Security funds."

A LETTER TO KORERO

INVERCARGILL'S LICENSING TRUST

As you request comments on your magazine, here is one which may not be easily digested.

In connection with your article on Invercargill's Licensing Trust in the issue of *Korero* dated the 28th August, might I express my extreme disgust at the composition of this article. I am no prude or wowser, but, frankly, I was amazed at the emanations contained therein.

Firstly, might I protest against the extremely poor type of humour in the so-called " poem." To my mind this is nothing more or less than sacrilege of the highest order and could well have been left out. Probably, however, I may be behind the times in these days of enlightened education, but fail to see the necessity for anything of this kind.

Secondly, I am afraid you have not conveyed a particularly good impression of the servicemen and servicewomen of Invercargill. I take it that the restoration of licensing was, apparently, the only reason they joined up. In any case, the less said about the last election the better, particularly as it has been publicly announced that the Services votes on the licensing issue in Invercargill totalled more than the number enlisted there.

Thirdly, and lastly, might I suggest that future publications savour less of political propaganda, a point on which I have heard considerable discussion.

" Keep It Clean."

[The statement that " it has been publicly announced that the Services votes on the licensing issue in Invercargill totalled more than the number enlisted there " is inaccurate. An allegation by some person or organization should not be construed as a public announcement. According to information supplied by the Electoral Department there were on the Forces rolls (Army, Navy, and Air Force) 1,700 names of personnel who had gone overseas and were entitled to vote for Invercargill. Forces' votes recorded in New Zealand numbered 718, which figure included men who had not been overseas and thus were not on the Forces' rolls, and also any Invercargill men who had returned to New Zealand. As 1,719 Forces' votes were recorded in New Zealand and overseas, obviously fewer voted than were entitled to. We invite our correspondent to write to us again telling us what he means by " political propaganda " and quoting the *Korero* articles or passages in articles which he thinks contain it. If he will do that, we will be glad to discuss his third point with him.]

SERVICEMAN INTO CIVILIAN

In C.A.B., Vol. 2, No. 15, " Serviceman Into Civilian," page 8, para. 2 (*a*) (iv) : *for* " Pacific Area, including New Caledonia and the area forward from that base," *read* " 3rd Divisional Area, including New Caledonia and the area forward from that base, but excluding Fiji, Norfolk Island, and other Pacific areas."

RIDE 'EM COWBOY

A KORERO Report

A GOOD tough game of Rugby is enjoyable, and ice-hockey, they say, is fast, but for sheer concentrated excitement and thrills give me the hurricane-deck of a thoroughly roused cattle-pony. There's more action packed into sixty seconds of such experience than sixty minutes of anything else.

The usual "Western" thriller, when it includes, as it almost invariably does, an account of taming an "outlaw," gives the impression that it is a pitched battle of unbridled ferocity between horse and rider for an hour or so. The picture needs toning down. Although a bucking horse indulges in some weird contortions, they only last in their intensity for about a minute as a rule. Even outlaws must breathe, and between each fierce bout the "bad 'un" spends his time in harmless pig-jumps. Then when he has got his wind he will get back to business. The whole affair will last about twenty minutes to half an hour.

For mustering sheep and cattle in New Zealand a horse is indispensable, and so there is still plenty of horse-breaking. There are the regular horse-breakers who go the round of the big sheep and cattle stations each spring and "bust" the unbroken horses. On a big station the horse-breaker will stay three months, perhaps. Two horses a week, sometimes less, is his rate, and when he has handled, bitted, and mouthed them for three days, and ridden them for another one, they are turned over to the shepherds to ride. They still need to be taught paces and manners—canter, trot, and, above all, walk. Riding after, and cutting out, cattle will teach them to answer the reins, and waiting by gates will give them patience. Many of them resent their newly found servitude and buck at unexpected moments. All of which adds to the "shepherd's sweet lot."

Many shepherds break in their own ponies, and their method is an abbreviated and rough-and-ready copy of the horse-breaker's. Sunday being the one free day on a station, the shepherd will run his pony in before breakfast, and afterwards rope it. Then during the morning he handles it, puts on a bridle with a mouthing bit, and, before lunch, gets on its accoutrements—saddle, breastplate, and crupper. Round the yard prances and minces the animal, wondering what the blazes has happened.

After lunch a little more handling, and, finally, with the help of a couple of friends, the hectic side of the business. Horse and rider, as the cavalry-sergeant said to the recruit when he gave him a freshly-broken horse to ride, have got to find each other out. The rider's pals squat on the rails of the horse-yard and watch the fun. If the rider is any good, the pony soon knows its master and "packs up." It is a superficial method of breaking in, and the pony will try at odd intervals during the following week to "dump" its burden, and after a spell in the open paddock will make a determined effort. If the rider is thrown, it is a more difficult business next time, for the animal has tasted power. Another couple of falls, and unless someone is there ready to show the pony his mistake, an outlaw is in the making.

A horse does not buck until it sees the man on its back, and feels his weight, and fear and ignorance bid him strive to rid himself of the unaccustomed encumbrance. Once the animal loses its fear it will not bother to buck. If plenty of time is taken with the preliminary handling, the first shock is lessened. With this in mind, but without the time, some owners tie a large sack securely in the saddle, and let the pony work off its first energy on that. All these methods are short cuts, however, and a horse broken this way will buck when it has the chance until the fire of youth is out of its veins.

The shepherd approaches the task in a dual spirit. To him the pony is a necessity and a means of earning a livelihood, and the breaking in is a commercial venture as well as a trial of riding skill. A pony which thinks it is boss is a confounded nuisance, and liable to buck at the wrong moment. So the shepherd takes precautions.

A colonial stock saddle is the most favoured. Some use the Mexican type, but not many. The horn on the pommel is dangerous if the pony falls or goes so far as to roll. Stirrups are tied under the horse's belly. This gives purchase and grip for the knees, and, incidentally, means that the feet will come clear if you are thrown. A " monkey," a strap looped several times through the dees on the pommel of the saddle, is fitted on. That completes the preparations for the fray. Some make assurance doubly sure by strapping a surcingle over their thighs and round the horse's barrel. These are the " bushies " and " sailors " on horse back who have no idea of riding, but simply mean to stick there by brute force.

And if a shepherd graduates in that school and fancies his chances, he can try a hand at riding the outlaws at the agricultural shows which are held in every district in the spring-time. He will have a monkey, but no stirrups, and a halter and reins instead of bridle. *Then*, if he can ride, is the chance to show it. Not brute force, but balance and skill, will keep him in the saddle.

And if he wants to learn how it's done, let him visit the circus next time it comes round, and watch a rider of the calibre of " Snowy " Thomson. With a sack across the horse's back, and another rolled up across his withers and only a halter on his mount he's there for good, no matter what trick the outlaw pulls. " Oh, stay a very long time, cowboy ! "

FROM THE NEW STATESMAN & NATION
May 27 • 1944 ★ by C·E·M·Joad

THE FUSS dies down, the dust begins to settle, and the nine days' wonder passes into its tenth day, as the Brains Trust, tamed and groomed, subsides into an established national institution for the weekly delivery of decorous lecturettes by eminent persons in reply to guaranteed non-inflammable questions.

The original association of Huxley, Campbell, and myself on the Brains Trust was largely accidental; yet the combination proved unexpectedly effective. The public liked to hear the scrapping which Huxley and I brought to the discussion of such questions as the relation between the brain and the mind; it liked still more to hear Campbell keeping his end up with both of us—when he was clearly shown to be wrong by Huxley or even, on occasion, by myself, he would get scores of letters from sympathetic listeners testifying to their faith and trust in him—and on occasion hitting the bowling all round the wicket.

For example, after Campbell had made the country roar with laughter by his illustration of the use of the word "allergic" from persons who could not eat marmalade because it made their head steam, he discomfited the scoffers by triumphantly producing letters from marmalade-head-steamers congratulating him on his knowledge of their peculiarity. The Brains Trust also introduced thousands of people for the first time to the interchange of ideas. At its best it conveyed the suggestion of a good after-dinner discussion between educated persons on matters in regard to which the truth is not known. Thus listening gave many people the sense of enjoying a new experience. It was, again, a source of perennial satisfaction to hear the experts caught out . . .

These were only some of the many incidental reasons for the popularity of the Brains Trust. For the root causes I think one must go deeper. I venture to suggest three. First, that there exists among people an accumulated fund of unexpected seriousness. There has been a good deal of sporadic evidence of this during the war. Army classes and discussion groups, A.B.C.A. lectures, Mass Observation reports indicating renewed interest in religious questions, the revival of music to which the success of C.E.M.A. testifies—all these are straws that show which way the wind is blowing. The Brains Trust is, I think, the outstanding piece of evidence. Nor is the fact surprising. There have been ages crueller, wickeder, more brutal, but never so silly an age as the one before the war. Eight out of nine of us did no serious reading of any kind after we left school at fourteen; only 10 per cent. had contact with any religious organization, and by most of us the questions with which religion has historically concerned itself were ignored. It was not that they were not answered; they were not asked. Very few young people, less than 2 per cent. of those under twenty-three, were members of a political party.

The press, I think, consistently underrated the underlying seriousness of a public whom it fed with crosswords, football pools, crime stories, sex stories, and snippets of gossip and gobbets of news, on the assumption that the powers of the average man's concentration were exhausted by two minutes' reading on

any one topic. Women in particular suffered from under-stimulated minds.

It was this unexploited vein of seriousness in the public that the Brains Trust tapped. The mail-bag of a regular member of the Brains Trust was a revelation. "I am isolated," people would say, "I have nobody to talk to. I would like to read about philosophy or science or psychology, but I don't know what books to read and I have nobody to tell me." One was astonished at the extent of people's information usually misapplied, or erudition almost always unappreciated. What a lot of books and pamphlets have been written which nobody ever reads; what a lot of theories are gestated which nobody understands; what an immense mass of unsuspected cerebration goes on in the minds of unacknowledged thinkers. During the last three years I must have had well over a thousand letters conforming to the following stock-draft type:—

—*Punch*

"Then there will be a question on heredity from a listener in Buxton—but Huxley will answer that one."

DEAR MR. JOAD,—

"I always listen to the Brains Trust with the greatest interest, and appreciate your contributions in particular . . . I am astonished at the wealth of your knowledge. All this makes it the more surprising that you should have made such an unmitigated fool of yourself over . . ."

Over whatever it was! Enclosed with the letters were a batch of pamphlets written by the author, and guides to Swedenborg or Ouspenski or Christian Science, or Spiritualism, or Rosicrucianism, or Astrology, or Theosophy, or Herbert Spencer, or Mrs. Eddy, or whoever or whatever it was that would put me right.

Secondly, there is the failure of popular education to satisfy the people's needs or to win their interests. Something, it is clear, is radically wrong with our educational system if we are to judge by results, of which one is the bringing-up and sending into the world of a generation of young people who, taking them by and large, are without the desire to read or the habit of reading. "On a train journey not one in a hundred," I said, "can be seen reading a book." "But that," I admonished myself, "is plainly an exaggeration." So I set out to put it to the test. The train, from Edinburgh to London, takes normally nine hours, and on this occasion was an hour late. It was full of soldiers. They had long exhausted their somewhat slender resources of conversation; the mild delights of looking out of the window had palled hours ago; there they sat hour after hour bored and low, and to not one in a hundred did it occur to relieve their boredom by reading. For I went through the train counting—counting soldiers and airmen of all ranks, and I reached number one hundred and four before I found my first book reader. He was reading *No Orchids for Miss Blandish*.

The B.B.C. was hailed as a great potential educator of adults, and there have been many gallant efforts to make good its early promise. On the whole they must be written off as failures. Like so many educational institutions in this country, like the University Extension lectures, attended by their select coteries of the cultured, like the W.E.A., with its seventy thousand gallant students, it has succeeded in appealing only to an unrepresentative handful. Education in England is for the mass of the people a thing apart. It is conducted in a vacuum; or was until the Brains Trust idea provided a new bridge to link education and the people. No doubt

the Brains Trust offered hors d'oeuvres rather than a meal, but the hors d'oeuvres were consumed by the million and appetites were whetted. Of course, we said some silly things, and it was humiliating to be reminded in an Oxford common room of some sickly little half-truth which the spur of the moment had pricked out of one. But then we had no straw with which to drop our bricks, and it was never clear to me anyway, what Oxford dons were doing with radio sets at 8.15 on a Tuesday night. The encouraging thing was that out of the hundreds of letters that I received, a fairly steady percentage were from those who asked, "What books can I read?" "What classes can I attend?" "How can I study for a degree?" Huxley, no doubt, can say the same. The beginnings, then, of a new technique of popular education for those who, wanting to study, to read, to think, had nevertheless remained aloof from the institutions which exist to cater for their need.

Thirdly, the Brains Trust broke through, if only for a time, the glaze of B.B.C. gentility. The B.B.C. is part of the Civil Service at least in this: that its dominating objective is to avoid a row as symbolized by a question in Parliament. There may be good reasons for this attitude in a Government Department, but it seems to me to be disastrous in an institution one of whose objects should be the promotion and stimulation of thought. Thought is formed and guided by the vigorous advocacy of different points of view, irrespective of their truth or falsehood; yet we look to the radio in vain for the vigorous expressions of strongly held opinions. Where the canvas of controversy should be painted—overpainted, if you will—in blacks and whites, the B.B.C. gives us only a monochrome of grey. The world is as full as ever of fools and scoundrels, but whatever is said must not offend the scoundrels or provoke the fools. The expression of strongly held opinion always offends somebody. Therefore, it is concluded, there must be no strong expression of vigorously held opinion. The B.B.C., in fact, proceeds upon the assumption that nothing must be said over the microphone which could produce a ripple of disagreement in the still waters of the minds of Tory maiden aunts, born two-thirds of a century ago and living on—for such do not die—into a different age in the closes of cathedral towns. When Quintin Hogg once attacked me on a Brains Trust with heat and feeling, calling me an old man whose views had helped to bring on this war in the past, and, if persisted in, would bring on another war in the future, there was the devil of a fuss. The B.B.C. was deluged with protests, and I received a couple of hundred letters from soft-hearted persons anxious to express their sympathy with the victim of Mr. Hogg's unprovoked attack. For my part, I was unable to see what the fuss was about. Why shouldn't a man say what he thinks, and say it as forcibly as he thinks it? It was only because the B.B.C. had for so long soothed our ears with radio syrup, administered to us by decorous voices, inculcating platitudes with Oxford accents, that people were shocked.

"Can't we have more questions on philosophy?" C. E. M. Joad is probably asking B.B.C. producer Howard Thomas, while Julian Huxley looks inquiringly at the cameraman.

Now, for a time the Brains Trust broke through this tradition. In its early days when the Trust was comparatively unimportant, we said what we liked and answered questions on religion and politics. Presently religion dropped out altogether — under pressure, the B.B.C. made a clean breast of this— and the questions on politics grew fewer and fewer, although the B.B.C. never admitted that there was a virtual ban on political discussion. Finally, a point was reached at which not even the mildest of political questions could be ventured upon. Thus, to cite a couple of examples that came within my own experience, where dozens could be given, the Brains Trust was not allowed to answer the questions, "What are the causes of anti-Semitism?" "What is the difference between a Conservative, a Liberal, a Socialist, and a Communist?" Meanwhile the B.B.C. was giving itself marks for permitting on the Brains Trust free discussion.

Howard Thomas is, no doubt, right in thinking that the popularity of the Brains Trust was largely due to the interplay of personalities, but, as the hubbub increased, one was bound to ask oneself, popularity to what end? And, for me, the end was education. The Brains Trust served this end by virtue of its ability to guide listeners through the rapids of controversy and to plunge them at last into the dark and bracing waters of thought. I venture, then, to claim that to an institution which has increasingly come to equate controversy with sin, the Brains Trust has done service by bringing back something of the great English tradition of discussion, disagreement, plain speaking, even on occasion of invective.

(*Britain's Brains Trust*, by Howard Thomas, is available through your A.E.W.S. Library.)

By Sgt. F. W. Burton.

"Don't shoot, it might be the Camouflage Officer!"

By Sgt. F. W. Burton.

"Then my skipper yelled, Right-oh, George, let 'er have it!"

E. V. PAUL, Government Printer, Wellington