

THE NARROW GAUGE



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THE NARROW GAUGE

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Illustrations.

<u>Cover</u>: A Chattenden & Upnor train at Upnor Docks, hauled by the Planet Diesel. Block: Rly. Magazine, Photo: K.C. Plaw.

Inside front cover: (Winchburgh Railway) TOP. An empty wagon train on the main line, hauled by one of the Barclay locomotives. Photo: A.A. Vickers. LOWER. One of the Baldwin locomotives. Photo: M. Hynd.

Inside Rear Cover: (Winchburgh Railway) TOP. The Philipstoun turning circle at the end of the cable branch. Photo: A.A. Vickers. LOWER. Track lifting party. Photo: M. Hynd. Blocks courtesy Railway Magazine & B.F. Review.

Acknowledgements. Thanks are due especially to J.I.C. Boyd for supplying details of the Glenties branch, and also to the photographers and magazines mentioned above.

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EDITORIAL

Narrow gauge interest in this country continues to rise - and narrow gauge lines continue to close down. The latest casualty is, of course, the Admiralty-owned Chattenden & Upnor Railway which, according to reports, finally closed on 1st January. Fortunately, there are many fascinating railways still in existance abroad and there seems a welcome rise in the interest being shown in these lines by enthusiasts; notwithstanding the usual crop of moans as to "why don't you help our railways instead of going off to foreign parts." The fact remains that there still exist overseas railways the like of which were never to be seen in these islands, whether steam, diesel or electrically worked; and the scenery is often superb. But they may not last much longer, and those that are likely to do so are fast being modernised, so enthusiasts would be well advised to go and see them while they can. A continental holiday need not be much more expensive than one in the British "narrow gauge centres" especially if you are prepared to live fairly rough; while for the younger members youth hostels provide a practical means of accommodation.

Nor need ignorance of the language put you off. You will find most people helpful - including most railway managements - and a surprising number speak some English. One thing which does help is a preliminary letter to the railway organisation concerned. Not only is it a matter of elementary courtesy but it often smooths your path considerably.

Where to go? Well, Spain is the most popular but all countries have something to offer and there are several lines within easy striking distance of England. No doubt the reference department will be glad to help.

Lastly, a sadder matter, at least for me. I have had, reluctantly, to give up the editorship of the magazine, owing to pressure of work. I would like to thank all who have contributed articles and I hope you will give as much support to my successor.

THE WINCHBURGH RAILWAY - by Iain D.O. Frew.

Scotland's last narrow gauge, overhead-electric railway, the 2'6" gauge Winchburgh Railway, closed on 17.2.61. For 58 active years, the railway had carried green-shale ore from several West Lothian mines to the Niddry Castle processing plant at Winchburgh. For all but the first and last year of operation a workmen's passenger service was operated, though never a public service.

1. History & Description.

Construction of the main line from Duddingston No. 1 mine to the works, 2 miles to the south, began in 1902 and presented little difficulty. Opened in 1903, the railway was single throughout with a short passing loop midway. Leaving Duddingston, the line passed though gently undulating, partially wooded countryside, and then dropped steeply through a rock cutting to reach the loop. Thereafter the line passed through the fields on a low embankment to pass below the main Linlithgow - Forth Bridge railway and then climbed up under the main Edinburgh road in a low cutting, to reach the works reception sidings. There were two sets of sidings, for incoming and outgoing traffic. and beyond them was a 1 in 2. chain-operated incline going to the top of the ore storage hoppers. In addition, a long siding led round to the back of the works, giving access to the locomotive sheds and to the exchange sidings with the North British Railway. The track was laid with 60 lb. F.B. rail spiked to wooden sleepers and the overhead electric wire was suspended from wooden posts placed along the west side of the line. The Company had its own generating station at Winchburgh, and produced current at 500 volts D.C.

The first extension was a very short branch to Duddingston No.3 mine, which had been opened close to the main line in 1908, about half a mile north of the loop. Thirty years later, a branch about one third of a mile long was built from just south of the loop to the New Tottlywells Mine. Both these were locomotive worked but the final one, opened in 1941, was worked on the double track, continuous



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cable principle. The demand for oil rose sharply in the early war years and the construction of this $l_{\underline{\lambda}}^{\underline{1}}$ mile branch to the two reconditioned Philipstoun Mines was an emergency measure undertaken with the utmost economy and haste. The branch left the main line by a triangular junction near Duddingston No.3 and proceeded due west through undulating country to reach the beautiful, wooded surroundings of the Philipstoun mines. Had locomotives been used on this section. deep rock cuttings would have had to be blasted to allow headroom under several intervening roads, whereas the line as built gave only 5'6" clearance below bridges. just sufficient for a loaded wagon to pass. The branch terminated under the loading hoppers, which, although near one shaft, were $\frac{1}{2}$ mile from the other. An extensive 2'0" and 2'6" mixed-gauge system was constructed, linking the shafts with the hoppers, being continuous with the underground lines by means of sloping shafts. 2'6" gauge vehicles seldom used the tracks since these were never electrified, and by the end of the war most of the broader gauge had been lifted. although occasional sections still survive. The 2'0" gauge was, however, extensively used for the haulage of loaded wagons from the working face to the hoppers.

For a short time in 1941, the route mileage was $4\frac{1}{2}$ but in November of that year Duddingston No.l became worked out and the northern $\frac{1}{2}$ mile of the main line was immediately lifted. Duddingston No.3 and Tottlywells Mines closed in 1957 and in March 1960, and the corresponding branches were lifted also. The closure of all remaining sections, except for the 2'O" gauge, came in 1961 and resulted from a decision to close the outmoded Niddry Castle Works, the output from Philipstoun being taken by lorry to a more modern plant at Broxbourn. Track lifting began at once, work commencing at the triangle and progressing simultaneously towards Winchburgh and Philipstoun.

The existence of the passenger services is little known. A service from Winchburgh Sidings to Duddingston No.1 began in 1904, and a stop on the main line close to No.3 mine was recognised from 1908. A separate service to Tottlywells was started in 1938, both routes having 2 or 3 daily services, the timings of which varied to suit working hours. These services were maintained as long as the mines were in use, although latterly they were little used.

2. The Working Of The Line.

Owing to a relative shortage of siding space at the mines, locomotive-hauled trains of empty wagons left the Winchburgh sidings only when definitely required. At most mines the wagons were pushed round a turning circle below the hoppers and then hauled back to Winchburgh. Philipstoun bound wagons were hauled past the junction and then propelled back into the N.W. side of the triangle, where they were attached by hand to the cable. At Philipstoun, they were detached automatically from the cable and were quickly propelled under the loading hoppers before being attached to the returning cable. The loaded wagons were then stored in the S.W. side of the triangle to await haulage back to Winchburgh. At Winchburgh the loaded wagons were hauled from the sidings to the top of the storage hoppers along a chain-operated 1 in 2 incline, the links of the overhead chain automatically engaging in a special slot in the tops of the wagons. After unloading, the wagons were let down to the sidings by a similar adjacent incline.

No signalling whatever existed, but telephones were situated at the termini and loop so that the flow of trains could be controlled directly from the nerve centre at Winchburgh.

3. Locomotives

The decision to use electric traction was surprising, since in 1902 the most satisfactory source of electric locomotives was American. Locos. 1 & 2 were built by Baldwin in 1901 and delivered by Americ Westinghouse for the opening of the line. They were highly primitive, with heavy, cast-iron frames surmounted by a flat platform upon which was mounted the two 25 h.p. motors and the control gear, the driver being entirely in the open. A long pole collector was fitted to one side. Like all the other locos. except No.3 they were O-4-Os, the wheelbase being $4'8\frac{1}{2}''$. Although new Metrovick control equipment was fitted at the end of the war, they remained otherwise in near original condition.

No.3 was supplied by British Westinghouse in 1907 and had a slightly more elegant appearance. The one 100 h.p. motor was enclosed beneath a slightly streamlined casing but the unfortunate driver still had to occupy an entirely open platform at one end. It was an O-6-0 with an equally divided 108 wheelbase.

No.4 was supplied by English Electric in 1929, being manufactured at the Dick Kerr Works, Preston, (722/29). It had two 36 h.p. motors, one at each end, with a fully enclosed cab in between, and had a 5'0" wheelbase. For many years it suffered from serious armature trouble but this was eventually overcome.

The final additions, Nos.5 and 6, came from Barclay of Kilmarnock in 1943. Each had one Metrovick 60 h.p. motor and Metrovick control gear, and the wheelbase was again 5'0". The slightly streamlined metal casing enclosing the cab and motors gave these machines a sleek and powerful appearance.

The 2'0" gauge sections are worked entirely by Ruston diesels. One 20 h.p. engine is at present the only motive power above the ground but a further 15 diesels are in use underground.

4. Rolling Stock.

265 ore wagons, a few special wagons, and four passenger coaches made up the rolling stock. Initially the ore wagons were of all steel construction but they were latterly being rebuilt with wooden frames which had a longer life. They had a capacity of 30 cwt. and each was fitted with 3-link couplings, a track level cable gripper, a cable degripper device at the rear, and also a slot for the overhead chain section. The wagons were always kept the correct way round, to ensure the efficient working of these devices, hence the use of turning circles at the termini. The wagons were finished in red oxide and had overall measurements of: length 6'0"; width 4'0"; height 4'2". The wheels were 12" diameter and the wheelbase was 24".

The special wagons were of assorted shapes and sizes and included some fitted with fire-fighting equipment and one fitted with a Bruce Peebles induction motor.

The first passenger coach was supplied by Hurst Nelson in 1904, and was of a primitive design. The wooden body had only one door, always kept facing away from the overhead wire standards, and a few tiny windows along the sides just below the roof. In the centre of the floor was a hand operated brake, and simple bench seating for 24 was provided round the sides. The unsprung wheels were 20" diameter and the wheelbase was 6'0"; the only luxury was provided by sprung buffers. Three additional coaches of a fairly similar design were built in the company's own workshops in 1904-5, and all were painted dark green.

5. Conclusion.

By the time these words appear in print, most, if not all, of the line and works will have disappeared, Connel of Coatbridge having secured the demolition contract. A few items have, however, been salvaged, notably four wagons which have gone to the Talyllyn Railway and are now in service there, after being converted to the 2'3" gauge. The frame of one coach has been hought by the Queensferry boat club, for use as a launching vehicle. Locomotive No.2 has been preserved by the Royal Scottish Museum and it is possible that No.1 may be preserved privately.



"GIBRALTAR, 1943-4" by. K.E. Hartley.

At first sight, one would imagine that the Rock of Gibraltar would be the last place to find a railway. So it came as a pleasant surprise. early in March 1943. on disembarking from the s.s. LETITIA, to discover near the dockyard various narrow gauge tracks, some wagons and just inside the entrance - a loco. shed, obviously in use and capable of holding at least four small tank engines! My musings as to possible motive power were cut short by the need to march with full packs to our billets, which were half way up the Rock and approached by an ever-steepening road. When we had at length got settled in. I discovered that Loretta Camp commanded an excellent view of the harbour and dockyard, although for full enjoyment of the scene one really needed field glasses. But, with the naked eye one could see tracks leading all over the different parts of the yard and jetties - some of considerable length while a large number of flat and open wagons, painted grey or red oxide, and some box vans could easily be discerned. Constantly moving puffs of steam and a shrill chorus of whistles indicated the whereabouts of several small locos., busily shunting to and fro. It was not possible to make out much detail but perhaps 'Gib' would not be too bad, after all!

A day or two later, I discovered one or two nice views of the line, which was metre gauge: a rock cutting, on a curve, leading past the gas works, via a tunnel, to the dockyard, in one direction - and in the other, as I afterwards found out, towards (but not to) Europa Point, the line curving and twisting considerably, and cutting through several spurs of rock by means of short tunnels. Duty and wartime restrictions combined to keep me from seeing a lot of this very picturesque section and I never actually saw a train on it.

Another line tunnelled straight through from outside the naval yard to a point on the other side of the Rock, near some oil tanks. This tunnel was being used for storage 11

GIBRALTAR DOCKYARD RLY.



No.4.

Bagnall 1752





from sketches by K.E.H. 1943.

purposes but otherwise it would, I think, have been possible to look right through it.

The line I saw most of left the Dockyard and ran along "Wellington Front" alongside the public road, until it disappeared near the scaplane base, where the road turned sharply to the right. On this section I several times saw a neat Bagnall 0-4-OT with outside cylinders, hauling a few tipping trucks loaded with rubbish. Two different engines were seen: No.4 (Bagnall 1752) and No.6 (No. unknown) - the latter was painted a medium green all over, except for the smokebox, while No.4 was in a darker green with black buffer beams.

I believe that 13 of these locos. were built about 1895 for the Admiralty, and the type was classed by Bagnall's as "Gibraltar". Wheel dia. was $2'0\frac{1}{2}$ "; wheelbase 3'6"; Cyls. 8" by 12"; length 13'; width 5'7"; and tank capacity was 230 gallons. I never encountered one of these engines whilst on foot - always I was being transported by army truck - so that the chance of getting more than a brief glimpse was remote. I cannot say how many of the 13 still remained in service.

One morning a party of us were marched into the dockyard, to visit the aircraft carrier Indomitable. This was the only time I got inside the area - and, to my joy, we passed close to No.3 "CALPE", a somewhat bigger loco. of O-4-OST type, built by the Hunslet Engine Co. It was apparently fairly cld and had a stovepipe chimney, domeless boiler and a cab open at sides and rear - though side curtains were fitted. It was not possible to decide on the colour scheme! Years afterward I found that a good photograph of this engine when new, and some dimensional details, appeared in the "Model Engineer" Vol. 12: (4.5.05.) but I have no record of them. "CALPE" was often in use and could be distinguished fairly easily, even from Loretta Camp.

A further fresh loco. was passed on this memorable occasion, a modern-looking, massive 0-4-OT by Andrew

Barclay, but it was not possible to see any Works details. This engine had quite short boiler mountings and an arched cab roof; the roofs on the other engines were nearly flat. Like that on CALPE, the footplating on the Barclay was dropped at the cab, to which a single step gave access.

These were the only identified steam locos. that I saw, but doubtless there were others, as well as i.c. engined affairs and - so I was told, electric (presumably battery). I saw an A.E.C. 0-4-0 petrol(?) loco one day, near the dry dock - the bonnet and radiator being similar to those on A.E.C. road vehicles. A normal cab was fitted and the wheels were outside the frames and, so far as I remember, had coupling rods.

No particular observation of the rolling stock was possible but it was of normal n/g pattern, and in some variety. Centre buffer-couplings were in use. Two small tramway-type cars, 4-wheeled, could be discerned tucked away in an odd corner of the yard, apparently out of use.

I have often regretted that it was not possible to explore the Dockyard Railway more fully for, apart from the photo. of Calpe, I have never seen any mention of it. Apart from the permanent line, there were some short 60 cm. gauge temporary lines, used in constructing tunnelling, etc., during the war, on which standard "jubilee" type steel tipping wagons were used, propelled either by hand or by $3\frac{1}{4}$ ton Hudson-Hunslet 4-w, 2-cyl. diesel locos. built about 1942. . GOODBYE TO THE C. & U. - by the editor.

The news that the Chattenden & Upnor Railway had finally closed completely at the end of last year was very saddening, for this was more than just another industrial railway. As most members will know, it was built around 1885 by the Roval Engineers as an experimental military line - the 2'6" gauge being the 'standard' military gauge of the time and then coming into prominence along the frontiers of India: and was used for training railway troops and for experimenting with various types of equipment until 1905, when the transference of the R.O.D. to Longmoor rendered it redundant. It was then taken over by the Admiraly (actually on 1.4.06), who had also acquired the 'works' at Lodge Hill which the railway connected with Upnor docks. It remained in their hands, being used mainly for the carriage of explosives, until 1961 when, after the last regular service ceased on 19.5.61, it was handed back to the R.E. and most of the stock was offered for sale: some has gone to the W. & Ll. R.

These facts, however, cannot convey the charm of the line. That could only be sensed on a visit, for it was a real railway, with stations, full - and highly unusual signalling arrangements, and a regular service of mixed trains for which a new composite coach was provided as recently as 1957; while in addition, morning and evening workmen's trains were run between Lodge Hill and Chattenden Station, with semi-open coaches. At first these were of 'knifeboard'patter but later on they were replaced by 'toastrack' coaches drafted in from another depot.

By the time your editor first knew the line, it was diesel-operated but two steam locomotives, NORBURY and BURNETT HALL, still lived out in Chattenden Yard in semiretirement, and the last knifeboard coach had only recently been withdrawn from service; indeed the skeleton framework of one coach still stood gauntly at Chattenden, while a complete coach body acted as a shelter on the station platform. The normal service was always fairly heavily 15

The CHATTENDEN & UPNOR RLY.



loaded and still included the old bogie coach with its creaking wooden body, divided into compartments for 'officers', 'ratings', and 'guard', - the officers had the dignity of buttoned leather seat cushions - but the only people who seemed to use it were railway enthusiasts and local people going shopping, and it was probably attached as much for braking purposes as for any other reason.

The line had its little peculiarities, especially in its operation: in spite of the elaborate signals and tokens, one was quite likely to find that one of the battery-electric contrivances from Lodge Hill had wandered off down the line while the train was running round, and it would turn up later in some siding. At that time, too, there were restrictions on photography and one was not allowed to enter either Upnor Docks or Lodge Hill. This meant waiting for the train at Upnor (Low Level) platform, listening to it labouring up through the woods until it ground over the level crossing, and then jumping on as it slowed to walking pace through the little station for heavy trains were never stopped on the steep grade if it could be avoided and the line did not level out until after the junction with the disused Tankerfield branch. As the platform was rather short, boarding the train could be quite a scramble if more than one person was doing it. but then there was the climb up through picturesque countryside, over the main road and along the curved approach to Chattenden Station, with its drooping signals, neat platform and loop, and its large depot reached by a trailing spur guarded by a towering shunting signal. The rest of the ride was bleaker, with only the interest of a token exchange at speed, when passing Magazine signal box, before one was decanted onto the bare platform while the train disappeared across a road and through the forbidding gates of Lodge Hill. Still, one could always look round the ramshackle sheds with their collection of assorted battery-electric vehicles before returning to Chattenden, and the always obliging shed staff. Now it is. alas. no more, and the light railway world is the poorer.

FURTHER NOTES ON THE I.O.M.R. COACHES - by D.A. Boreham.

The interesting and scholarly article by Mr. Clayton which appeared in issue No.29 of the magazine furnishes a good example of the kind of research which has to be undertaken before any complete documentation of a railway can be established. As it happens, I have in my possesion not only the original manuscript of MacNab's book but also the preliminary textual sketches he made, and most of the original information from which the book was compiled.

I am thus in a position to fill in some of MacNab's blanks, and what puzzles me is why he did not do this himself. For example, as Mr. Clayton truly says, MacNab gave explanations of classes 'A', 'B', and 'E', leaving out 'C' and 'D'. Why, I wonder? He had all the information to hand! Anyway, here it is:

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Class A, numbered 1 - 12, were first-class only.
Class B, numbered 1 - 24, were third-class only.
Class C, numbered 1 - 14, were 3rd/brake coaches.
Class D, numbered 1 - 2, were 1st/3rd composites.
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Class 'E' were the 4-w brake vans and the combined number of these, when the IMR and the MNR were amalgamated, on April 20th, 1905, was 7; but it is not now certain how many of these belonged to each company (MacNab says 2 belonged to the MNR. If there are any now remaining, they are El, renumbered E4, and E5.

Between 1890 and 1909 the 4-wheelers ran close-coupled in pairs and in most cases the same pairs were put on new underframes at various times between then and 1926. Between 1926 and 1934 they were renumbered in the 'F' series and at dates unknown the gaps between the bodies were filled in, although there is a photo. on p.72 of MacNab's book clearly showing the two bodies, unconnected. All the gaps were filled in by 1947, and probably earlier.

On p.18 of the magazine are photos of F65 and F73. These

coaches were originally B22/C7 and A4/D1, so Mr. Clayton is right in supposing that F73 included a composite. The other composite, D2, was combined with A3 to form F72.

F.75 is a special case. It was composed of Al2, and C9. Neither of these were standard of their classes, however. Al2 was the Governor's special centre-door saloon; C9 was somewhat similar but destined for the Governor's aides-de camp (French for stooges), and was therefore 3rd class.

At the time of the amalgamation the IMR had 36 'F' class coaches, according to tradition. The two MNR bogie coaches thus became F37/8 and the Foxdale coach F39. I do not know whether F39 was carried on the Foxdale Railway's books or not.

The complete list of the changes in 4-w stock is as follows. They run from F50 - F75 and were renumbered in various years after 1926, the year when F49 was delivered.

F. series No.	Old Nos.	New frames	Renumbered in F. series
50	B7/B8	1925	1927
51	B3/B5	1912	
52	A2/C2	1911	1928
53	A5/B21	1919	"
54	A7/C10	1923	1926 **
55	B2/C6	1912	1928
56	A8/C8	1924	11
57	B16/B20	1919	11
58	B18/C3	1922	1930
59	A6/C4	1920	1931
60	B13/B24	1923	1930 *
61	A10/C12	1921	1931
62	A1/B1	1926	81
63	B6/B10	1920	15
64	B19/C1	1912	17
65	B22/C7	1910	
66	B11/B15	1920	1932
. 67	B23/C14	1922	

F. series No.	Old No.	New Frames	Renumbered F, series	<u>d in</u>
68 69	A9/C13 B4/B17	1909 1923	1932 1930	+
70 71	B9/B14 B12/C5	1922 1911	1932 1931	+
72	A3/D2	1926	1933	
73 74	A4/D1 A11/C11	1920 1921	1931 1934	
75	A12/C9	1926	1934	
Notes: ** pro *		rint for 1928 " " 1931		
+	11 II	" " 1932		

The above information was copied exactly from the original source but as it is scarcely likely that gaps should be left in the 'F' series and filled in at a later year, I suggest the emendations noted above. It was not, however, impossible that such gaps were left - very curious goings-on seemded to be the order of the day. For example there seems to be no reason why the 4-w bodies should be paired up as they were - the most likely explanation is that they were seized on in the rakes in which they happened to be running and paired off for life.

" 1933 or 1934

Comparison with Mr. Clayton's second diagram will also reveal that, as at present running, several coaches, including F73, were downgraded from 1st. to 3rd. For example, A9/Cl3, now F68, was downgraded on coupling, and Mr. Clayton's list shows many more examples of this - F61 and F62 among others.

There is also some doubt about the reliability of the figure of 115 coaches in all. Mr. Clayton says 49 bogies and 52 ex-4w coaches, plus 12, 6-w coaches, making 113, the other two being vans El and E5; but at the time of the amalgamation, there were 7 vans, the first, E6, not being withdrawn until 1909; so that makes 120 vehicles. Probably MacNab was

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taking the total at the time when he wrote his book - about 1943 - by which time five of the 'E' series had gone. And what happened to the last three 'N' coaches? MacNab says there were fifteen. It seems to me that the true total of the passenger stock is still very much in doubt.

The 'E' series vans were disposed of as follows, with the reservation that I am not sure that the two noted as being in service really were so in 1961.

- El. Renumbered E4. Still in service.
- E2. Withdrawn 1924. Frame broken up. Body placed at Santon station as goods shed. Still there in 1950.
- E3. Withdrawn 1921. Body broken up. Frame transferred to covered goods van G19.
- E4. Body placed at Peel Road as goods shed in 1910. Frame used for low-sided fish waggon No.3. This was derelict in the late 1940's and was probably broken up by 1950.
- E5. Still in service in 1958. (photographic evidence.)
- E6. Frame broken up in 1910. Body placed at Quarter Bridge as goods shed. Scrapped 1924.
- E7. Frame used for cattle wagon K5 in 1924. Body placed at Quarter Bridge as goods shed (presumably replacing E6.). ? now at Colby.

Now for the N. series. The statement that the first of these was N49 is clearly a typist's error (Ed's error - Ed.). It was, of course, N40, which for some odd reason followed F39. I do not know much about these coaches but if there really were fifteen of them, as MacNab seems to think, they should run from N40 - N54. Has anyone ever seen more than 12?

Finally I should like to thank Mr. Clayton for his interesting and informative article, and especially for the diagrams. I hope that this information will help to complete the records - although I do not vouch for its complete 100 per cent authenticity! And if anyone else can add to it, he is urgently requested to do so. We are fortunate in that the IMR is still with us, and it behoves us to record as much about it as we can, while we can.



