

Annex 5. Interview of Dr A. P. Treweek by David Sissons, 11 October 1990

INTERVIEW WITH DR.A.P.TREWEEK 11/10/90

Prewar

When compulsory training was abandoned in 1929 I decided to continue in the Militia. I was commissioned in the Field Artillery in 1932 and remained on the Active List throughout.

I considered it likely that Australia would be involved in hostilities with Japan and therefore taught myself some Japanese during the 1930s. I did not enrol in Prof Sadler's classes; but I received some help from one member of his staff, Miss Lake.

When war broke out with Germany I tried to join the A.I.F; but as a university lecturer I was 'reserved occupation' and the University would not release me. As time went on the University did release people. They let a fellow gunner officer join the 8th Division (He survived imprisonment); I was next in the queue.

The Cryptography Group at Sydney University

The group (Room, Lyons and Trendall) was already in operation when I joined them, at Trendall's request.

Sessions at the Barracks were less frequent in my time than, I understand, they were previously; but when we did meet there, the officer from M.I. who participated with us was a Maj Wilkins. I knew Mander (the Ia); but he was in a completely different part of M.I. -- a rather childish, 'dirty tricks' crowd who tried their hands at entering premises and pinching things. We had occasion to vet some of the ciphers that Mander and his team used; they were terribly unsophisticated.

Among the things we were given to practise on were consular telegrams in LA (provided to us through the good offices of A.W.A.). These were often news reports. LA is a simple substitution cipher. I solved it fairly readily -- largely by observing common patterns in different messages. Take for example the following:

	U	F	B	I	U	K	G	E	O	V	G	E	O	T	U	K	I	K	U	K	G	E	O	V	G	E	O	T	
Plain		i		o		gatzu		nichi		o	ro		o		gatzu		nichi				gatzu		nichi						
Trans		(i)		o		manku		day		o	(ii)		o		manku		day				manku		day						

I could not have done this if I did not know Japanese. Cryptanalysis is impossible without some knowledge of the language. Trendall is a gifted linguist. He absorbed the language naturally.

In the Australian Archives file those LA messages with the similarity in opening groups that you have just shown me read as follows:

Message 1	M X P D G	L A I B K	I I J I G	I F F U T
Message 2	M X D D K	L A I B K	I I J I G	I F C U T
Message 3	M K I D C	L A I B K	I I J I G	I F F U T
Message 4	A S D D S	L A I B K	I I J I G	I F F U T
Plain	<i>Group</i>	<i>Address</i>	<i>Discontin-</i> <i>incent</i>	<i>o ri no no</i>
Transl				← textiles →

For practice they sometimes sent us letters that Postal Censorship suspected contained coded messages. I remember one that superimposed a dot code between the lines of ordinary handwriting, transforming it into a torrid and most explicit love letter. We toyed with the idea of adding in the same code: 'Careful! --The Censor'

It was as one of these practice exercises that I solved the TRENCODE.

I've no recollection of our using any cryptography text-books (either commercially published or in-house).

At the Navy Office

I was the first of the Sydney University group to assume full-time duties.

When I arrived, Eric Nave, Jim Jamieson, Ian Longfield Lloyd (from Fiji) and Keith Miller (R.A.N. Emergency Reserve) were already there. Room, Lyons and Trendfall came later.

Nave's best years as a cryptanalyst were already behind him. He was in his forties (which is a bit old for such work), and Japanese codes had become much more sophisticated than in the days of his great successes. He had also become rather secretive, and this held up our work. One would wait for his rest-day, open the safe, and find much that speeded us on our way. We had another R.N. linguist with us, Alan Merry, who also was obsessed with security. On one occasion he destroyed the ciphertext, the plaintext and the translation!

Room and Lyons were not a great deal of use. A purely mathematical mind can be rather restricting in cryptographic work. Room could spend days devising some theoretical solution to a problem that a linguist would solve intuitively in a few minutes. A garbled text will bring the mathematicians to a standstill; and most texts are garbled. Room was a remote person rather out of touch in coping with the world. He had little conversation -- Jamieson found him pretty heavy going at Singapore. At the University, Room was known for his tantrums and childish bickering (e.g. with the Professor of Applied Maths over precedence).

It was while we were at the Navy Office some time before Japan entered the war (perhaps in about October 1941) that Customs brought us a deciphering table they had found on a Japanese merchantman. Naturally, the Japanese

ceased using it immediately afterwards. Nevertheless, it was of help to us in showing us how the system worked.

Arthur Cooper arrived in about December 1941 by steamer from Singapore along with a number of R.N. wives, who were taken on to our payroll. I don't think Cooper was ever at the Navy Office. He went off with Trendall and his show before the rest of us moved to Monterey. He remained with Trendall's show throughout.

I well remember the excitement as everyone waited for the 'Winds'-execute message. Jamieson and others were given receivers to take home so that they could extend the watch. I'm not sure that Nave was reading diplomatic traffic at that time. He may have received the 'Winds'-setup message in translation from Singapore.

As regards naval traffic, I should be very surprised if we received anything that in any way suggested an attack on Pearl Harbor.

We exchanged information directly with the Dutch, the New Zealanders, the Canadians and with Kilindini (Mombasa). Initially the New Zealand outfit had its own cryptographer, King. He joined us in Melbourne after we had moved to Albert Park Barracks. Kilindini's cable address was AMBITION. There was a famous occasion when Trendall replied as follows to one of their signals: 'Ambition should be made of sterner stuff. Your solution shows marked absence of serendipity.'

I think it was at Melbourne that we were given your Maj Mason. He was a 'red-tape-worm'. He expended great effort in trying to organise useless information. Trendall got rid of him.

It may have been before we moved to Monterey that Trendall left us. I think he was in a different building from us before he settled in 'A' Block.

After the Americans Joined Us

The Americans worked on JN-25 themselves, leaving the other codes, like JN-40, to the Australians.

Intercepted Navy messages gave us foreknowledge of the Japanese landings at Buna and at Milne Bay. Unfortunately MacArthur didn't believe the first; but timely action was taken regarding the second.

The following are a few codes that I remember us breaking.

There was a weather code. It used a 50 x 50 block. We had a message of 20 or 30 groups -- just enough to solve it. Here again the restricted vocabulary and the common pattern in different messages were a great help: 'Tenki jōhō. Unryō Shikai..... etc. ('Weather Report. Cloudy Calm sea.....'. etc).

There was a code in which diplomatic messages were sent from Dili over Navy circuits. We had about eight messages in this at Monterey in 1942/43. Here again it was the stereotyped pattern of the messages that helped: e.g. enumerations beginning (i), (ii), (iii).

There was a Navy machine cipher (JADE, I think). We solved it without coincidences. IBM books were a help. Eventually Keith Miller (who was very good on transposition ciphers) made a mock-up of a JADE machine. Unfortunately the Japanese quickly abandoned this particular cipher.

There was a transposition device consisting of a large peg-board and sticks recovered from a Japanese submarine off the Phillipines. It never came into use.

You mentioned the enciphered account of the Kormoran-H.M.A.S.Sydney engagement in Detmers' diary. It was Keith Miller who solved this. He did it over a weekend when I was on leave. The key-word was GEFECHSBERICHT ('battle-report').

You mentioned the story told to you by Eric Barnes in 1945 (The Japanese included in a message the itinerary of a German U-boat bound for the Far East. The Allies read the message and, after duly despatching the mandatory reconnaissance aircraft to the appropriate spot, sank the U-boat. The Allies also read the ensuing exchange of messages in which the Germans queried the Japanese about their signals security and the Japanese assured them that it was impregnable!) This story rings a bell; but I've no recollection of FRUMEL being involved.

My visits to other establishments were not encouraged by the U.S Navy. To see Sandford and Central Bureau at Brisbane I went on leave. Similarly, my calls at 'A' Block were under the lap. In this way I was sometimes able to pass on usefull bits of information to Trendall. The Foreign Ministry emergency cipher UMIYUKABA is a case in point. Among the material that Washington sent us at FRUMEL was the message from Tokyo to overseas posts explaining the UMIYUKABA cipher and giving a worked example: NICHI DOKU I HISSHO ('Japan, Germany and Italy will win the war'). I passed this on to Trendall thus enabling him to turn the tables on London -- informing them rather than being informed by them

Although you are right in remembering that Kingston at the CSIR was a friend of mine, I don't think that it was he who overheard the loose talk that breached our security. I think it was John Merewether at APM (who was a clubman) rather than Kingston (who was not). I remember a much worse example. I was travelling down St Kilda Rd in the tram. As we passed Monterey the conductress pointed to it and said 'That's where they break Japanese codes!'

Room and Lyons left us long before Nave. I think Nave was still at Monterey for part of 1943. The Admiralty were trying hard to get him back; but he was resisting this. I think he went straight from Monterey to Central Bureau.

D.C.S.S.