

Annex 1. David Sissons to Alan Stripp, 9 November 1988



The Australian National University

The Research School of Pacific Studies
Department of International Relations
reference

GPO Box 4, Canberra ACT 2601
Telegrams & cables NATUNIV Canberra
Telex AA62694 SOPAC FAX No. (062) 571893
Telephone 062 495111

9 November 1988

Mr Alan Stripp

Dear Alan,

Many thanks for your letter (October 13th).

Congratulations on your success with the publisher. I very much enjoyed your *Intelligence and National Security* article and greatly look forward to your book.

Let me deal, in sequence, with the two points that you raise in your letter.

Mornington's Traffic Record, March 1943

I, too, assumed that the Jap OUT figure equalled the sum of the other countries' IN figures; but lacking your thoroughness I neglected to put it to the test. Your interpretation, that we were also eavesdropping on neutrals and our allies, is exciting and, if established, would confirm the existence of activities that the British Government has endeavoured, so far with considerable success, to keep under cover.

Apart from the Denniston memorandum, the best evidence I have seen that Britain read her Allies' traffic is Churchill's letter to Roosevelt of 25 February 1942 unearthed by Christopher Thorne in the Roosevelt Papers (*Enclosure A*). Similarly, an academic colleague recently volunteered to me information that indicates very clearly that GC&CS or one of its out-stations was reading Nationalist Chinese traffic in 1940 (*Enclosure B*).

The first instance judgment in the *Spycatcher* case in the N.S.W. Supreme Court cites the following as indicating that Britain was still intercepting Soviet diplomatic traffic in the later stages of World War II - *A Matter of Trust*, p.28, *Their Trade is Treachery*, p.47, *Too Secret Too Long*, p.39, and *The Spy Who Never Was*, pp.22-3. If my recollection is correct, one or more

of these authors (and perhaps Wright himself) states that Australian interception stations were on occasion assisting in the latter activity. I think the place mentioned was Darwin. I see no problem in Darwin, Mornington (i.e. 52 Section) or any of the RAAF 'Wireless Units' on request watching particular Soviet stations for limited periods. Similarly, it would not surprise me if this was treated as a matter of the utmost secrecy and if strict instructions were given that it must not be referred to in the Traffic Record and War Diary. (I have heard that in early 1941 the interception of Japanese diplomatic traffic was approved by the Minister for the Army (Spender) in the Menzies Administration with some reluctance and only after he had consulted the Attorney-General about its legality. I wonder whether in 1944 the D.M.I. (or the C.G.S.) were prepared to risk referring to Ministers in the Labor Administration its extension to Soviet traffic).

Despite the above, Mornington's War Diary confirms my impression that their function was to intercept *Japanese* diplomatic traffic. With a War Establishment of 2 officers and 89 other ranks (of whom only 53 were wireless operators) they lacked the resources in personnel to do much more.

How, then, can we explain the figures in the March 1943 Traffic Record? In the table that follows I have done a few calculations for every tenth day:

1	2	3	4	5	6	7	8	9
Date	Total Messages	Sum of OUTs	Japan OUTs	Sum of Other INs (5)-(4)	Japan INs	Sum of Other OUTs (8)-(7)		
1/3/43	58	58	14	21	7	37	44	7
10/3/43	62	62	31	31	0	31	31	0
20/3/43	90	90	44	46	2	44	46	2
30/3/43	74	74	33	35	2	39	41	2

Columns 6 and 9 tally in every case. Would it not be a sufficient explanation if the figures in these two columns represent messages sent from one overseas Japanese post *direct to another*?

If it is important for you to know whether or not all these overseas stations were Japanese, then the May 1944 figures may be of more use to you; for accompanying the Traffic Record table is a break-down according to the call-sign of the sending station of the 3348 messages intercepted during that month (*Enclosure C*). Some of these call-signs, no doubt, date from the pre-war period. If so, their owners may perhaps be identifiable in the lists of call-signs published by the international body that allocated frequencies.

One of the inadequacies of my explanation is that it doesn't tell us how messages with multiple addressees were dealt with in the Traffic Record. I should imagine that Tokyo was sending quite a number of these. Perhaps

Mornington entered them only under the name of the first of the addressees listed in the message.

Your enquiry has confirmed me in my feeling that I and the general reader need to know much more about the basic techniques of interception (as well, of course, as of decryption). How did Tokyo go about transmitting an enciphered diplomatic message to, say, Kabul (or for that matter how did Cable and Wireless Ltd go about transmitting an enciphered diplomatic message from London to Canberra)? Surely Kabul was not on listening watch for 24 hours each day just on the off-chance that Tokyo might have an occasional message for it. Was there a prearranged time each day? Did the sender 'Offer' the message and then transmit it only when the addressee replied 'Send your message'? Did the recipient 'Acknowledge' when he had received it? How did Mornington and the like find and identify senders and addressees? Did they just have to go to a book-store and buy an annual wireless directory which would list JUQ5 as one of the call-signs of the Japanese Post-Office and YAK as the address group of the Japanese Embassy, Kabul and would also list their authorised frequencies? I imagine that this type of know-how is merely esoteric and not highly secret. Such, however, is the aura of secrecy that necessarily surrounded 'Special Wireless', that I doubt whether there is a relevant pamphlet in that estimable series, *Signals Training (All Arms)*. Were you kept at arms length from the Signals people or did they tell you about this sort of thing as background to your training? Could any Boy Scout with a short-wave set pick up the call-sign and the addressee, or were these sent at machine speed? Maybe it's just that I'm not well-read in the public literature of cryptography. Does Kahn or one of the other standard authors devote a couple of pages to such 'basics'?

Citation of Traffic Records

The Traffic Records along with the rest of the War Diaries are available to the public at the Australian War Memorial where they have, after individual examination, been declassified and given 'OPEN ACCESS' status. The xerox copies were furnished to me by the War Memorial quite officially in the exercise of their statutory duties. They may be freely cited, quoting the AWM Series and Item numbers; but in the case of reproduction or extensive quotation the normal formalities for Crown copyright material apply.

Colossus Machine

Neither my colleague, Prof Desmond Ball, nor I can remember Christopher Andrew telling us that this machine eventually came to rest in Australia. This is news to us - although we have no reason to doubt it.

Yours sincerely,

D.C.S. Sissons

Encl: 3

AUSTRALIAN SPECIAL WIRELESS GROUP.
52 SECTION TRAFFIC RECORD FOR **MARCH**

1943

Appendix 26.

NUMBER OF MESSAGES RECEIVED

DATE	JAP		S. AMER		FR. IN		AFGH		SWITZ		RUSSIA		ITALY		SWEDEN		CHINA		THAI		FRANCE		GERM		PORT		UGAL		Groups						
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out					
1	17	37	14	1	5	10	1	6	2	6	1	8	7	5							4	5	4						58	3811	65	5	53	318	3493
2	17	32	18	1	1	12	1		5	4	1		1	1							6	4							51	4837	94	13	38	107	3820
3	22	30	57	3	8	9	2	4	1	6	3		6	14							31								90	5624	62	24	66	189	3815
4	19	53	33	2	9	27	1		1	4	4	4		7	1						6								86	7938	92	36	50	294	4990
5	18	32	20		14	10		4		6	3			6	1						6								59	6005	102	16	43	1284	4721
6	20	56	36	3	5	24		4	1	1	5	5	3	7							14								92	7810	80	23	69	149	5909
7	15	29	34	4	10	7			2	3		8	6	8							12								63	4521	72	9	54	730	3797
8	11	8	17		7				3	2	2	2	2	1	5						3	5							30	2047	68	30			2047
9	20	27	32	7	3	8	1	2	1	9	5	2	1	11							10	9	1	2	6				62	5366	86	16	46	1275	4091
10	21	31	31	1	6	7			1	3	2	5	4	8	1	10	2				3								53	4119	78	12	41	850	3269
11	17	32	18		7	9		4	1	4	1		14	12															90	5324	59	16	74	1219	4105
12	17	35	25	1	6	16				4	3	1		14	2	5	1												75	5157	69	20	55	1598	3559
13	21	51	23		6	16			1		1	2	2	15	2	5	1				8	12							78	5212	67	19	59	1645	5367
14	21	44	34	2	3	10	1	2	2	1	2	5	3	6	7	2					1	11							54	5214	102	14	40	1125	4089
15	12	42	11		7				1		1		2	3	3	1					1								136	8567	63	14	122	809	7758
16	24	58	75	8	7	24		3	2	6	11	14	9	1	1	5	3				7	5	5	3	2	5			89	6354	71	35	54	329	3063
17	15	41	48		4	15				8	11	7	7	6															52	3913	75	12	40	1242	2671
18	16	31	21	3		10				3	4	4	5	4							6	9							42	4444	606	16	26	1508	2937
19	15	22	19	1		9				3	7	1	6	4							4								90	475	105	26	64	2173	7302
20	19	44	44	5	3	20	1	3		3	9	4	7	2	1						3	14	4						123	9364	76	21	102	1605	7759
21	24	48	71	6	11	11	2		8	2	13	5	7	12	2						1	9	16						28	2095	75	4	24	429	2634
22	12	12	16		3	1			1	2	2	2	2	5							1	4							45	3276	73	11	34	842	2434
23	15	24	15	1	5	12		2		4	4	4	6								3								76	5469	72	12	64	773	4496
24	21	27	32	9	2	9		1	2	3	4	4	8	6							4								98	8032	82	16	82	1368	6664
25	10	38	57	5	1	12	1		7	1	13	5	9	7	1	3					8	12							68	5026	74	8	60	795	4231
26	17	19	45	1		10			2	5	1	24	5	7							1								86	5287	67	19	67	1470	3817
27	17	28	58		2	6	2		1	1	4	15	2	1	3						9	13	1	3	21				94	7156	76	26	62	217	4477
28	17	29	18	6	4	8		2	1	9	15	8	2	16							5	6							48	3358	70	17	37	7152	645
29	17	34	33		5	3	1		4	2	3	9	1	8							3								74	5327	72	22	52	1806	3556
30	23	31	42	3	4	18			3	1	14	4	5	4	2						2								77	5050	71	21	56	1870	3131
31	23	31	42	3	1	136	337	15	41	52	96	163	114	185	222	28	47	21	2	137	228	20	35	36					2239	1688	530	80	508	1721	41089
32	23	31	42	3	1	136	337	15	41	52	96	163	114	185	222	28	47	21	2	137	228	20	35	36					2239	1688	530	80	508	1721	41089

WAR DIARY of INTELLIGENCE SUMMARY.

52 Aust Wireless Section

AUST SPECIAL WIRELESS GROUP

Unit

52 Aust Wireless Section

Date and Time.—From

1-5-44

To

31-5-44

Army Form C. 2118.

(adapted)

Place.	Date.	Hour.	Summary of Events and Information.	Remarks and references to Appendices, Diaries, &c.
Mornington			<div>SUMMARY</div> <div>(a) Traffic totals - Countries.</div> <div>Traffic was received from the following stations for the month :-</div> <div>JAPAN - EOA2 EOA4 JAI JAJ JAM JAR ENE JNF JNL JNO JNP JNJ JNS2 JNS4 JUI JUM JUV JUQ5 JUS2 JNU JYZ JFS3 JYD JNR JNA JIG4 JEK.</div> <div>CHINA (occupied) - XMA XNA XON IOS XUG3</div> <div>FRENCH INDO-CHINA - FZS FZQ3 FZS3</div> <div>RUSSIA - RTZ</div> <div>AFGHANISTAN - YAK</div> <div>PHILIPPINES - Xoa5 Xoa1</div> <div>SWEDEN - SDM6 SDM4 SDM3</div> <div>GERMANY - DFC DFN DFP DFT DGH DGO DGR DGM2 DOH DGD DEJ</div> <div>NETHERLAND EAST INDIES -, FLK1 FLK2 FMA FMD PLV</div> <div>THAILAND - HSP6 HSE3</div> <div>SPAIN - RAY</div>	1108 messages 466 ✓ 29 " 466 ✓ 173 " 466 ✓ 623 " 466 ✓ 53 " 466 ✓ 9 " 466 ✓ 27 " 466 ✓ 817 " 466 ✓ 424 " 466 ✓ 84 " 466 ✓ 1 " 466 ✓

By Authority: L. F. JOHNSON, Commonwealth Government Printer, Canberra.

WAR DIARY OF INTELLIGENCE SUMMARY.

Army Form 6-20 (Adapted)

52 Aust Wireless Section

Unit: AUST SPECIAL WIRELESS GROUP

(Erase heading not required.)

Date and Time: From 1-5-44 To 31-5-44

Place.	Date.	Hour.	Summary of Events and Information.						Remarks and references to Appendices, Diaries, &c.
Mornington			SUMMARY (contd)						
			Comparison of traffic to and from all countries for April and May.						
			COUNTRY	APRIL		MAY			
				in	out	in	out		
			JAPAN	1901	1128	1621	1108		
			FRENCH INDO-CHINA	311	211	288	173		
			AFGHANISTAN	27	29	25	53		
			SWITZERLAND	62	nil	45	nil		
			RUSSIA	197	508	266	623		
			ITALY	nil	nil	3	nil		
			SWEDEN	43	7	49	27		
			CHINA	15	1	10	29		
			THAILAND	63	136	50	84		
			FRANCE	30	nil	26	nil		
			GERMANY	280	1010	315	817		
			PORTUGAL	6	2	9	nil		
			NETHERLAND-EAST INDIES	744	668	608	484		
			PHILIPPINES	10	8	2	9		
			VATICAN CITY	nil	nil	9	nil		
			SPAIN	8	nil	9	1		
			BURMA	1	nil	16	nil		
			HUNGARY	nil	nil	3	nil		
				3698	3698	3348	3348		
			Comparison with previous month:-						
			Totals for the months of April and May compare as follows:-						
			April 3698 messages, 319541 groups. May 3348 messages, 288219 groups.						

By Authority: L. F. JOHNSON, Commonwealth Government Printer, Canberra.

WAR DIARY of INTELLIGENCE SUMMARY.

52 Aust Wireless Section

(Erase heading not required.)

AUST SPECIAL WIRELESS GROUP

Date and Time.—*From.*

1-5-44

To

31-5-44

[illegible]

By Authority: L. F. JOHNSON, Commonwealth Government Printer, Canberra.

AUSTRALIAN SPECIAL WIRELESS GROUP
SECTION TRAFFIC RECORD FOR MAY 1944

Page 7

NUMBER OF MESSAGES RECEIVED

DATE	JAP	S. AMER		FR IN AFCH		SWITZ		RUSSIA		ITALY		SWEDEN		CHINA		THAI		FRANCE		GERM		PORT		TOTAL MSGS	TOTAL GROUPS		FORWARDED		GROUPS
		TR	CH	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT		IN	OUT	IN	OUT	
1	16	24	10	1	2			2	9		2																		
2	18	35	35	5	13	1	2	4	7																				
3	22	41	32	6	5	5	1	14	15																				
4	19	37	36	4	6	2		13	21																				
5	23	30	34	17		2		5	5																				
6	23	60	44	11	10			7	28																				
7	34	37	46	22	10	3		5	29																				
8	25	41	55	7	2			18	14																				
9	16	54	16	6	1			40																					
10	18	52	32	10	16	1		3	18	1																			
11	18	35	20	5	8			9	8																				
12	23	44	44	25				7	3																				
13	23	69	31	8	11			4	9																				
14	30	67	32	7	3	1		4	16																				
15	27	68	41	12	14			13	21																				
16	23	92	37	17	9			9	2																				
17	24	60	46	19	5	3		5	61																				
18	21	26	50	4	5	1		9	21																				
19	21	46	54	16	4			13	5																				
20	17	50	54	16	4			6	6																				
21	20	108	33	16	6			10	47																				
22	19	57	20	5	6			13	23																				
23	21	50	62	4				21	30																				
24	15	32	16	5	1			6	3																				
25	20	77	34	10	9	1		8	18																				
26	27	33	33	12	6			8	26																				
27	20	37	24	5				6	18																				
28	16	54	46	13	8			10	23																				
29	17	80	50	8	5			15	47																				
30	14	58	39	3	3			3	21																				
31	11	30	35	4				23	6																				
32	11	37	8	3	5			25																					
Average	19	1621	1108	288	173	25	53	45	266	623	3	49	27	10	24	50	84	26	315	817	9								

SECRET

AUSTRALIAN SPECIAL WIRELESS GROUP
SECTION 10A TRAFFIC RECORD FOR MAY

1944

PAGE 11

NUMBER OF MESSAGES RECEIVED

DATE	TIME	NUMBER OF MESSAGES RECEIVED												TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL</	
------	------	-----------------------------	--	--	--	--	--	--	--	--	--	--	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	-------	--	---------	--