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S.I. COURSE

VOL. II

FIGURES AND CIPHER TEXTS

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VOL. II

FIGURES AND CIPHER TEXTS

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VOL. II

FIGURES AND CIPHER TEXTS

SECTION I—SUBSTITUTION (Figures).

SECTION II—TRANSPOSITION (Figures).

SUPPLEMENTARY EXERCISES (Cipher Texts).

SECTION I.—SUBSTITUTION (Figures)

Figure 1.

THE OCCURRENCE OF VERTICAL CURRENTS IN THE ATMOSPHERE IS A MATTER OF PROFOUND SIGNIFICANCE IN METEOROLOGICAL THEORY AS WELL AS OF DIRECT BEARING ON PRACTICAL FLYING STOP TO THE POWER DRIVEN AIRCRAFT VERTICAL CURRENTS OF CERTAIN TYPES ARE MADE EVIDENT AS BUMPINESS COMMENCE WHILE PERSISTENT DOWN CURRENTS MAY SO AFFECT RATE OF CLIMB AS TO BECOME DANGEROUS IN HILLY COUNTRY EVEN TO THE HEAVIER THAN AIR AIRCRAFT

Figure 2.

A XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 B XXXX
 C XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 D XXXXXXXX
 E XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 F XXXXXXXXXXXXXXX
 G XXXXX
 H XXXXXXXXXXX
 I XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 J
 K
 L XXXXXXXXXXXXXXX
 M XXXXXXXXXXXXXXX
 N XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 O XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 P XXXXXXXX
 Q
 R XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 S XXXXXXXXXXXXXXXXXXXXXXX
 T XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 U XXXXXXXX
 V XXXXXXX
 W XXXX
 X
 Y XXXXXXX
 Z

Figure 3. Figure 4. Figure 5.

A 29	A 9	E 42
B 4	B 1	R 32
C 22	C 7	T 31
D 7	D 2	A 29
E 42	E 12	I 26
F 12	F 4	O 25
G 5	G 1	N 23
H 10	H 3	C 22
I 26	I 8	S 18
J	J	F } 12
K	K	L } 10
L 12	L 4	H } 8
M 10	M 3	M } 7
N 23	N 7	P } 8
O 25	O 8	U } 7
P 8	P 2	D } 6
Q	Q	V } 5
R 32	R 9	Y } 4
S 18	S 6	G } 4
T 31	T 9	B } 4
U 8	U 2	W } 4
V 6	V 2	J } 4
W 4	W 1	K } 4
X	X	Q } Nil
Y 6	Y 1	X } Nil
Z	Z	Z } Nil

Figure 6.

A E I O U 39 per cent. of total.

Figure 7.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A		1	1	3	1	4			4	1	3		2	4	3	1	1	1								
B	1			2																						
C	5	1	3						1		3		2	3	4											
D	1		2		1						1		1	1												
E	3	3	1	1		1	2		1	1	8	5	2	9	2	1		2								
F		2	1	1	1			1		1	1				2		1									
G				1		1					1	1														
H	1			7			2																			
I		5	1	1	1	1				2	1	7		4	2		1									
J																										
K																										
L	1	2	1	1		1			2		1			1								2				
M	4	1		2					1	1	1															
N	2	3	1	1	3	1	1		1		1			9												
O	1	1	1		6	1			1	2	1	1	2	1	2	3		2								
P				2		1	1				1		2	1												
Q																										
R	5	2	1	7			2				4		4	1	4								2			
S	2	1	1				4		1	3	1		1	3						1						
T	2	1	1	4	6	3			1	4		2	3	1		1					1		1			
U									1	2			4	1												
V				4		2																				
W				2		1				1																
X																										
Y	1	1	1			1									1		1									
Z																										

Figure 8.

	A		R		N
C5	I4	E9	E7	E8	T9
R5	L4	I4	A5	I7	C3
M4	S4	R4	O4	A3	G3
E3	F3	U4	R4	U2	A2
N2	N3	A2	T4	G1	D1
S2	T3	C2	C2	O1	E1
T2	R2	O2	I2	W1	H1
B1	C1	P2	Y2		I1
D1	D1	T2	D1		M1
H1	M1	D1	S1		P1
L1	V1				
O1	W1				
Y1	Y1				

Figure 9.

W K H R F F X U U H Q F H R I Y H U W L F D O F X U U H Q W V L Q W K H D W P R V S K H U H L V
 D P D W W H U R I S U R I R X Q G V L J Q L I L F D Q F H L Q P H W H R U R O R J L F D O W K H
 R U B D V Z H O O D V R I G L U H F W E H D U L Q J R Q S U D F W L F D O I O B L Q J V W R S W R
W K H S R Z H U G U L Y H Q D L U F U D I W Y H U W L F D O F X U U H Q W V R I F H U W D L Q W B
 S H V D U H P D G H H Y L G H Q W D V E X P S L Q H V V F R P P D Z K L O H S H U V L V W H Q W
 G R Z Q **F X U U H Q W V P D V B R D I I H F W U D W H R I F O L P E D V W R E H F R P H G D Q J H**
 U R X V L Q K L O O B F R X Q W U B H Y H Q **W R W K H K H D Y L H U W K D Q D L U D L U F U**
D I W

Figure 10.

A		N	
B	6	O	12
C		P	10
D	29	Q	23
E	4	R	25
F	22	S	8
G	7	T	
H	42	U	32
I	12	V	18
J	5	W	31
K	10	X	8
L	26	Y	6
M		Z	4

Figure 11.

93 35 80 11 66 **66** 57 85 85 80 44 66 80 11 39 15 80 85 93 07 66 51 25 66 57 85 85 80 44
93 30 07 44 93 35 80 51 93 79 11 30 60 35 80 85 80 07 30 51 79 51 93 93 80 85 11 39 60
 85 11 39 11 57 44 22 30 07 77 44 07 39 07 66 51 44 66 80 07 44 79 80 93 80 11 85 11 25
 11 77 07 66 51 25 93 35 80 11 85 48 51 30 74 80 25 25 51 30 11 39 22 07 85 80 66 93 33
 80 51 85 07 44 77 11 44 60 85 51 66 93 07 66 51 25 39 25 48 07 44 77 30 93 11 60 **93 11**
93 35 80 60 11 74 80 85 22 85 07 15 80 44 **51 07 85 66 85 51 39 93 15 80 85 93 07 66 51**
25 66 57 85 85 80 44 93 30 11 39 66 80 85 93 51 07 44 93 48 60 80 30 51 85 80 79 51 22
 80 80 15 07 22 80 44 93 51 30 33 57 79 60 07 44 80 30 30 66 11 79 79 51 74 35 07 25 80
 60 80 85 30 07 30 93 80 44 93 22 11 74 44 **66 57 85 85 80 44 93 30** 79 51 48 30 11 51 39
 39 80 66 93 85 51 93 80 11 39 66 25 07 79 33 51 30 93 11 33 80 66 11 79 80 22 51 44 77
 80 85 11 57 30 07 44 35 07 25 25 48 66 11 57 44 93 85 48 80 15 80 44 **93 11 93 35 80 35**
 80 51 15 07 80 85 93 35 51 44 51 07 85 **51 07 85 66 85 51 39 93**

Figure 12.

07	26	I
11	25	O
15	6	V
22	7	D
25	12	L
30	18	S
33	4	B
35	10	H
39	12	F
44	23	N
48	6	Y
51	29	A
57	8	U
60	8	P
66	22	C
74	4	W
77	5	G
79	10	M
80	42	E
85	32	R
93	31	T

Figure 13.

A	51
B	33
C	66
D	22
E	80
F	39
G	77
H	35
I	07
J	
K	
L	25
M	79
N	44
O	11
P	60
Q	
R	85
S	30
T	93
U	57
V	15
W	74
X	
Y	48
Z	

Figure 14.

U J F Q D E V T S G O E F Q G X F T U K D C M E V T S G O V T K O V I G B V N Q T R I G S G J U B O B V
 U G S Q G R S Q G Q V P E U J I O K G K D C O K F K O O F V F Q S Q M Q H K D C M V I G P T Z C T Y F
 N M C T Q G F J T F E U D F C S K O I P P Q T B E U K D C M H M A J P H U U Q Q V P V I G Q Q X G S
 F S K W G O C J T D T B H U X F T U K D C M E V T S G O V T Q G E F T U C J P U A Q G T C S G N C E
 G F X J F F P U C T D V O O K O G T U D Q N O B Y I K M G Q G S U J U G O V E Q X P D N S T F
 P U U N C Z U P C G H F E U T B V F Q G E M K N D B U U Q C G D Q N G E C O I F T P W T K O J J N M
 A D Q V P U T Z G W G O V P V I G I G B X J G S V I C O C J T B K S E S C G V

Figure 15.

A	XXX	3
B	XXXXXXXXXX	10
C	XXXXXXXXXXXXXXXXXXXX	20
D	XXXXXXXXXXXXXX	14
E	XXXXXXXXXXXXXX	14
F	XXXXXXXXXXXXXXXXXXXX	20
G	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	34
H	XXXXX	5
I	XXXXXXXXXXXX	11
J	XXXXXXXXXXXXXX	13
K	XXXXXXXXXXXXXXXXXXXX	16
L		
M	XXXXXXXXXXXX	10
N	XXXXXXX	8
O	XXXXXXXXXXXXXXXXXXXX	20
P	XXXXXXXXXXXXXX	14
Q	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	25
R	XX	2
S	XXXXXXXXXXXXXXXXXXXX	16
T	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	25
U	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	25
V	XXXXXXXXXXXXXXXXXXXX	21
W	XXX	3
X	XXXXXX	6
Y	XX	2
Z	XXX	3

Figure 16.

	I	II
A		3
B	10	
C	1	19
D	11	3
E	4	10
F	17	3
G	9	25
H	2	3
I	8	3
J	11	2
K		16
L		
M	10	
N	5	3
O	16	4
P	6	8
Q	6	19
R		2
S	16	
T	9	16
U	16	9
V	6	15
W	2	1
X	2	4
Y		2
Z	3	

Figure 17.

22282 33811 26191 82536 34063 71107 23193 10919 04163 93834 15212 61029 37391 22617 09263 33701 19210 72544 24013
 10717 28262 42318 22033 43926 12421 60334 19330 41904 16244 32020 37110 73132 24053 60416 24382 70525 04113 83827
 01371 82425 36270 93622 10353 93104 22212 13819 33231 82220 25222 01924 15174 12124 19370 82023 26240 53608

Figure 18.

01	1921 40 3107 47 3718 96	03	3439 57 3419 64	04	1639 21 1904 68 1624 70 1624 84 1138 91 2221 110	05	3604 82 2504 87 3608 138	06	3711 12
07	2319 15 2544 43 1728 49 3132 78	08	2023 133 — 140	09	1904 19 2633 36 3622 103	10	2937 29 3539 106	11	2619 5 0723 14 0731 77 3838 92
12	2617 33 4216 61	15	2126 26 1741 126	16	3938 22 0334 63 2443 71 2438 85	17	0926 35 2826 50 4121 127	18	2536 8 2203 55 2425 98 2220 118
19	1825 7 0416 20 2107 41 3304 66 0416 69 3323 115 2415 124 3708 131	20	2037 74 3711 75 2522 120 1924 123 2326 134	21	2610 27 0725 42 2138 112 3819 113 2419 129	22	2823 1 0334 56 1035 105 2121 111 2025 119 2019 122	23	3811 3 1822 54 1822 117 2624 135
24	0131 46 2318 53 4320 72 0536 81 3827 86 2536 99 1517 125 1937 130 0536 137	25	3634 9 4424 44 0411 90 3627 100 2220 121	26	1918 6 1029 28 1709 34 3337 37 2423 52 1242 60 2405 136	27	0525 88 0137 95 0936 102	28	2338 2 2624 51

Figure 18—(contd.)

31	0919 18 0717 48 3224 79 0422 109	32	2405 80	33	3701 38 0419 67 2318 116	34	0637 11 1521 25 3926 58 1933 65	35	3931 107		
36	3406 10 0416 83 2709 101 2210 104 08— 139	37	1107 13 3912 31 0119 39 1107 76 1824 97 0820 132	38	1126 4 3415 24 2705 87 2701 94 1933 114	39	1126 4 1226 32 2612 59 3104 108	40		41	2124 127
42	1603 62	43	2020 73	44	2401 45						

Figure 19.

3-pair recurrences :—

041624 at 70 and 84	Interval 14 = 2 × 7
190416 „ 20 „ 69	„ 49 = 7 × 7
231822 „ 54 „ 117	„ 63 = 9 × 7
240536 „ 81 „ 137	„ 56 = 8 × 7
371107 „ 13 „ 76	„ 63 = 9 × 7

Figure 20.

1	2	3	4	5	6	7
22	28	23	38	11	26	19
18	25	36	34	06	37	11
07	23	19	31	09	19	04
16	39	38	34	15	21	26
10	29	37	39	12	26	17
09	26	33	37	01	19	21
07	25	44	24	01	31	07
17	28	26	24	23	18	22
03	34	39	26	12	42	16
03	34	19	33	04	19	04
16	24	43	20	20	37	11
07	31	32	24	05	36	04
16	24	38	27	05	25	04
11	38	38	27	01	37	18
24	25	36	27	09	36	22
10	35	39	31	04	22	21
21	38	19	33	23	18	22
20	25	22	20	19	24	15
17	41	21	24	19	37	08
20	23	26	24	05	36	08

Figure 21.

	1	2	3	4	5	6	7		1	2	3	4	5	6	7
01					3			23		2	1		2		
02								24	1	2		5		1	
03	2							25		4				1	
04					2		4	26		1	2	1		2	1
05					3			27				3			
06					1			28		2					
07	3						1	29	1						
08							2	30							
09	1				2			31		1		2		1	
10	2							32			1				
11	1				1		2	33			1	2			
12					2			34		2		2			
13								35		1					
14								36			2			3	
15					1		1	37			1	1		4	
16	3						1	38		2	3	1			
17	2						1	39		1	2	1			
18	1					2	1	40							
19			3		2	3	1	41		1					
20	2			2	1			42						1	
21	1		1			1	2	43			1				
22	1		1			1	3	44			1				

Figure 22.

	1	2	3	4	5	6	7	Total Count.
1	03(2)		19(3)	20(2)	01(3)	18(2)	04(4)	16
2						19(3)		3
3		23(2)	21(1)					3
4		24(2)	22(1)		04(2)	21(1)	07(1)	7
5	07(3)	25(4)	23(1)	24(5)	05(3)	22(1)	08(2)	19
6		26(1)			06(1)			2
7	09(1)			26(1)		24(1)		3
8	10(2)	28(2)	26(2)	27(3)		25(1)	11(2)	12
9	11(1)	29(1)			09(2)	26(2)		6
10								
11		31(1)			11(1)			2
12				31(2)	12(2)		15(1)	5
13							16(1)	1
14	16(3)	34(2)	32(1)	33(2)		31(1)	17(1)	10
15	17(2)	35(1)	33(1)	34(2)	15(1)		18(1)	8
16	18(1)						19(1)	2
17								
18	20(2)	38(2)	36(2)	37(1)			21(2)	9
19	21(1)	39(1)	37(1)	38(1)	19(2)	36(3)	22(3)	13
20	22(1)		38(3)	39(1)	20(1)	37(4)		10
21		41(1)	39(2)					3
22	24(1)							1
23					23(2)		26(1)	3
24								
25			43(1)			42(1)		2
26			44(1)					1

Figure 25.

99	06	38	42	73	81	95	96	68	72	18	85
63	23	37	09	56	91	84	37	52	79	67	92
92	91	93	01	68	55	08	07	85	97	18	18
39	58	65	84	45	56	71	15	74	84	58	75
59	97	37	73	99	63	53	86	46	63	02	13
56	91	71	96	24	01	82	40	67	23	41	19
20	11	44	10	62	23	99	28	80	51	90	42
94	06	41	07	20	92	18	19	63	23	75	13
57	56	75	18	28	56	87	31	91	97	18	18
73	14	87	99	27	06	44	66	74	84	58	75
18	92	14	07	77	81	73	73	46	63	15	78
28	04	82	88	70	06	43	96	70	22	78	88
21	01	31	73	64	01	11	49	21	46	18	88
95	91	71	84	59	63	53	86	21	97	67	22
83	96	86	15	24	17	81	18	97	79	04	57
39	61	40	73	99	59	90	99	22	92	02	96
56	81	60	13	59	23	56	72	94	11	96	40
01	32	99	73	02	79	48	92	67	07	87	70
56	81	49	05	25	82	43	06	45	91	39	18
30	23	44	22	72	10	99	76	74	41	71	80
48	83	00	04	77	23	86	25	56	97	58	56
70	73	66	73	48	06	01	14	87	04	88	03
56	91	37	24	99	91	93	01	17	44	71	00
81	92	22	49	39	58	65	80	90	53	96	34
99	96	18	21	89	80	64	73	62	91	18	34
37	55	96	63	52	98	64	36	18	41	65	96
99	56	14	18	97	42	92	84	85	30	82	69
52	67	17	67	17	96	17	98	67	08	79	80
01	81	25	44	57	72	87	96	24	70	58	00
39	40	64	36	94	51	31	76	27	91	50	78
77	63	53	86	58	63	43	96	61	98	96	18
24	49	82	18	64	59	14	24	47	17	81	18

Figure 26.

TABLE I

	0	1	2	3	4	5	6	7	8	9
0		3281	79							
1								9644	9241	
2	1192	014697	92		49011770	82		0691	0456	
3	23							55		58614058
4						5691	63	17	8306	
5			679879				91819197	5672	63	976323
6		98	2391	23	0159			230708	5572	
7	730622		10	1481	8441			638123		
8	51	92		96		9730		04		80
9	53	97	91		065111	91		4279		{069656} 635991}

TABLE II

	0	1	2	3	4	5	6	7	8	9
0		318211			8288		38414443	87	79	
1	99	4496			87			81		
2			78	{37449956} 864175}						
3	82		99							
4	64	7165	92		71		18			82
5		3190		96		9608	75147187		65	9014
6		40		53430215				17		
7	58		8718	66						486704
8	64	{60492595} 73}	43	00	58					
9		{93713784} 395018}	14221802				1817	37186758	866496	

Figure 26—(contd.)

TABLE III

	0	1	2	3	4	5	6	7	8	9
0	04	14	1396		57				07	
1		49			071824	78		6798	{ 21198518 }	
2			49			44			{ 8834 }	
3		7376						097324	42	18
4	73	0719		9606	102266				92	05
5	78			86			72		755600	
6	13				3673	848096	73	9222		
7		9684158000		73		1813			88	80
8		18	88184069		37		1525	99319670	03	
9	9942		84	01			63403418			73962876

TABLE IV

	0	1	2	3	4	5	6	7	8	9
0	9027	39		17	70	30	72	572845		92
1	94			016791	99	3999			7352997447	2880
2		37	4897		8168	48			20	
3		27			6218		7797	68		
4	6267		63		39					9959
5							87	22		
6				99			77	01		67
7	45		02	56957052		46	7758		7061	
8	895624				598317	52	24		21	
9			2585				2056649485		57	1859

Figure 27.

VIGENERE TABLE (In Letters)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A
C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E
G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F
H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G
I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I
K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J
L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N
P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y

Figure 28.

VIGENERE TABLE (In Figures)

0	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	0
2	3	4	5	6	7	8	9	0	1
3	4	5	6	7	8	9	0	1	2
4	5	6	7	8	9	0	1	2	3
5	6	7	8	9	0	1	2	3	4
6	7	8	9	0	1	2	3	4	5
7	8	9	0	1	2	3	4	5	6
8	9	0	1	2	3	4	5	6	7
9	0	1	2	3	4	5	6	7	8

Figure 29.

1	74270967	20	18606682	39	68792991	58	45543858	77	00515944
2	39786602	21	32906679	40	08647922	59	20542514	78	76824735
3	47677283	22	86287151	41	09506735	60	40867008	79	35230849
4	20497299	23	35019525	42	50853917	61	47895480	80	72299454
5	07044423	24	18049682	43	03257023	62	64121220	81	73969130
6	74207324	25	48698842	44	94057853	63	16967138	82	88945248
7	74950797	26	62012855	45	95624247	64	04230461	83	39504272
8	63503411	27	63110359	46	75543832	65	94075917	84	82568776
9	26681281	28	59241887	47	75421981	66	33285126	85	31173057
10	45883718	29	38674992	48	60746683	67	99974067	86	30409307
11	10127881	30	48239950	49	53569220	68	72895448	87	83192534
12	03075995	31	57863932	50	23130514	69	21604906	88	72482200
13	74904011	32	59421388	51	57385670	70	23385933	89	56505762
14	98051531	33	83109541	52	05139759	71	83728571	90	77992773
15	56736468	34	12642470	53	71832599	72	38744305	91	82789721
16	27202040	35	87017318	54	51959297	73	83974067	92	67728920
17	55513960	36	54178271	55	40677289	74	72896703	93	03210278
18	55595032	37	35483964	56	50320993	75	34696310	94	44074640
19	84420527	38	48221788	57	73180063	76	51244000	95	86299500

Figure 30.

1.	19232	17941	93521	64976	80542	19475	07985	46834	55115	56108
	14656	09607	91962	33675	58917	63867	79772	82674	13328	90777
	58833	47270	23942	80335	89716	14492	00025	85615	84912	88633
	30886	81437	33654	57251	12395	43785	61724	92559	18174	56353
	78256	46887	55075	21814	09075	36037	15560	24991	10066	62049
	44665	55500	00050	17973	71772	17941	93978	30850	00858	98561
	86618	58417	55803	07754	69801	45727	35141	75516	40705	97042
	60660	79282	01992	31617	54933	47098	18521	57425	00075	14628
	52272	11745	66854	68663	19670	31790	86385	47273	54864	21643
	89105	13365	03729	74687	81169	70387	79250	19232		

(Figure 30 continued overleaf)

(C41687)

B**

Figure 30—(contd.)

2.	26046	98317	33850	75958	74379	89698	11646	61385	06662	51436	
	73336	02461	67040	62155	37543	75212	78834	98737	74862	62000	
	26046										
3.	03050	51646	86330	30472	72020	19863	33088	68143	73365	45728	
	21935	72164	30075	81764	00611	79197	87849	55075	42574	93097	
	28554	03050									
4.	15290	52157	22419	35635	55256	96840	05254	79850	78678	04679	
	57546	89779	48424	03802	11990	70178	12831	06179	42178	49460	
	66814	20749	38258	88194	17888	32409	00025	35119	47207	22058	
	41758	12456	84490	02315	17730	07181	51324	05125	74100	67220	
	07326	36755	03844	98668	06117	32541	78558	59105	37465	90684	
	12544	15749	00050	55076	38498	56068	89749	78758	29077	75460	
	01009	84796	76278	28550	00542	91381	88894	54866	32567	74843	
	71952	18173	31641	75288	25214	49865	90626	97545	00075	04216	
	67748	48428	61180	99154	71782	55589	05938	62945	79854	68345	
	51153	71779	33269	41720	28412	16767	56107	93729	48091	55462	
	45345	58935	84280	80684	00100	12544	17216	97037	54600	44121	
	18507	86421	66774	84843	01036	11274	96533	51678	27584	28013	
	69685	15290									
	5.	03029	51646	86384	12474	80594	19803	32897	95759	09856	42209
		71983	27168	20300	03029						
6.	04052	73385	01192	78344	22812	02983	46559	53627	15488	84212	
	46089	04226	49233	74054	37289	21677	04338	17922	79257	40302	
	86679	21640	04052								

SECTION II.—TRANSPOSITION (Figures)

Figure 1.

Part.	5	10	15	20	25	30	35	40	45	50	55	
1.	NNCOL	EAREIE	FMDI	ARAE	IFHT	TNTRO	BONHY	STO	TPGSE	RERT	TFOT	IUUNI
2.	RSNEG	CRENTE	TTCS	INND	CTSO	EGZA	IFEN	CEOH	TPMNI	NOOS	SREE	FAOS
3.	YYNTO	RTEAIP	ARTH	ISAE	ARUE	ACPO	OSAP	SMHD	TLBER	TWL	IO	TANGO
4.	LRATS	IHYIE	AEIEE	IULT	AEECF	SHNTV	CSCAR	ZEIFU	S	STRE	ENBL	RCHST
5.	UYPFE	TINLAD	RORL	POLIS	VSNAM	CGTGL	ONDTE	YDNMO	EHN	ITGN	OTAA	ARRTT
6.	TLDUN	COLCYB	NPLI	CREEC	OASST	IIPEN	TRVCN	HSYIL	DEWA	NEAS	SOLRA	UYU
7.	LOLO	TOESMIA	NRATO	ISIS	HTTAC	SEEH	HFTSA	ISET	OSUQ	TAS	IYTF	INRPRE
8.	TIUHD	RNTED	HW									

Figure 2.

A 30	N 32
B 4	O 30
C 17	P 11
D 10	Q 1
E 42	R 29
F 10	S 30
G 7	T 43
H 16	U 11
I 32	V 3
J	W 3
K	X
L 17	Y 10
M 7	Z 2

Figure 3.

	15	30	44	43	29	14	50	3	19	33	18	2	49	13	28	42	41
1.	I	N	T	R	O	D	U	C	E	S	A	N	U	M	B	E	R
2.	S	E	S	O	F	C	O	N	D	E	N	S	A	T	I	O	N
3.	H	A	I	L	S	T	O	N	E	M	A	Y	G	R	O	W	T
4.	E	V	E	R	T	I	C	A	L	C	U	R	R	E	N	T	S
5.	L	L	I	N	G	R	A	P	I	D	L	Y	T	O	T	H	E
6.	I	N	A	W	E	L	L	D	E	V	E	L	O	P	P	E	D
7.	T	H	A	T	H	A	I	L	I	S	S	O	F	R	E	Q	U

Figure 8.

3	2	5	8	6	4	1	7		5	3	8	2	7	1	4	6		5	3	8	2	7	1	4	6
A	D	D	R	E	S	S	E		A	D	D	R	E	S	S	E		A	D	D	R	E	S	S	E
D	S	M	I	T	H	R	E		D	S	M	I	T	H	R	E		D	S	M	I	T	H	R	E
P	E	A	T	E	D	B	R		P	E	A	T	E	D	B	R		P	E	A	T	E	D	B	R
O	W	N	S	T	O	P	R		O	W	N	S	T	O	P	R		O	W	N	S	T	O	P	R
O	R	I	N	S	O	N	A		O	R	I	N	S	O	N	A		O	R	I	N	S	O	N	A
R	R	I	V	E	D	Y	E		R	R	I	V	E	D	Y	E		R	R	I	V	E	D	Y	E
S	T	E	R	D	A	Y	E		S	T	E	R	D	A	Y	E		S	T	E	R	D	A	Y	E
V	E	N	I	N	G				V	E	N	I	N	G				M	O	R	N	I	N	G	

Figure 9.

1. SRBPYY|DSEWBRT|ADPOORSV|SHDOODAG|DMANIEN|ETETSEDN|EERRAEE|RITSNVRI
2. SHDOODAG|RITSNVRI|DSEWBRT|SRBPYY|ADPOORSV|EERRAEE|ETETSEDN|DMANIEN
3. SHDOCOERN|RITSRSTON|DSEWSN00O|SRBPTRROG|ADPONOPTM|EERIJE EW|ETETUTHRI|DMANTERM R

Figure 10.

S	R	B	P	N	Y	Y		1	4
D	S	E	W	B	R	T	E	2	3
A	D	P	O	O	R	S	V	3	5
S	H	D	O	O	D	A	G	4	1
D	M	A	N	I	I	E	N	5	8
E	T	E	T	S	E	D	N	6	7
E	E	R	R	A	E	E		7	6
R	I	T	S	N	V	R	I	8	2

Figure 11.

1. NRASREINRGTSTMRNGCRSISCATREIAILTALHANEETYAIGEUEMUBYEDNERNLNIEROELT
2. NRASAIGEUGTSTMROELTRSISEDNERIAILTCATREEETYSRNGCEMUBYREINRNLNIEALHAN

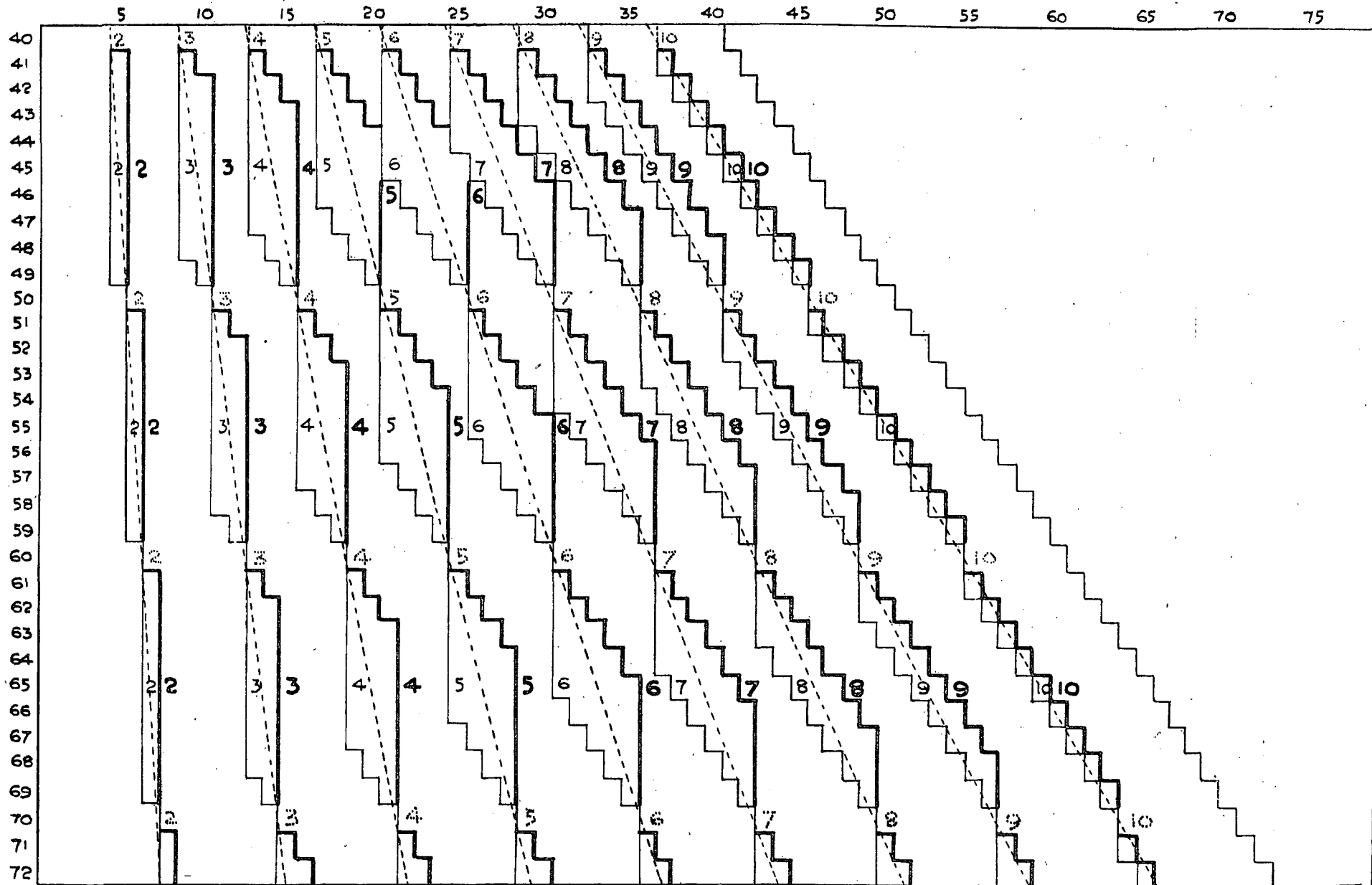
Figure 12. *See following page.*

FIGURE 12

5 10 15 20 25 30 35 40 45 50 55 60 65 70

45	PART 5	T E E R N H L E A H Y A O S F E U T A W T U C O C N R B R O U S E I T E M I S R M N O A C
46		
47		
48		
49		
50		
51		
52	PART 2	T N M O N E F H T A E O L P O D I T A U R L E O T F I F C N A A R O O H E I F N T S I T T W N I G O I
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65	PART 1	I H E T A L L W O A I R A D T C H I E H T N T U H E F N G A V N O C H P Y W C I I E Y E W W H A T N H E E E L E S T M T E I D H P A
66		
67		
68	PART 3	T D H O Y T H X O E E F A M T R L S O F V T O O Y U A R U R A T R R T T C N O S S L O E F E R R I E N N H I L W P O E N O E E U U
69		
70		
71	PART 4	T T H A O M N S O I M F A F T S T O O W A T E M T U O U E S R T N E R H N E C N H S V O L O N E F O C U I D S L E G L I E W B P F N I V E T I H

Figure 14.



(C41687)

B***

Figure 15.

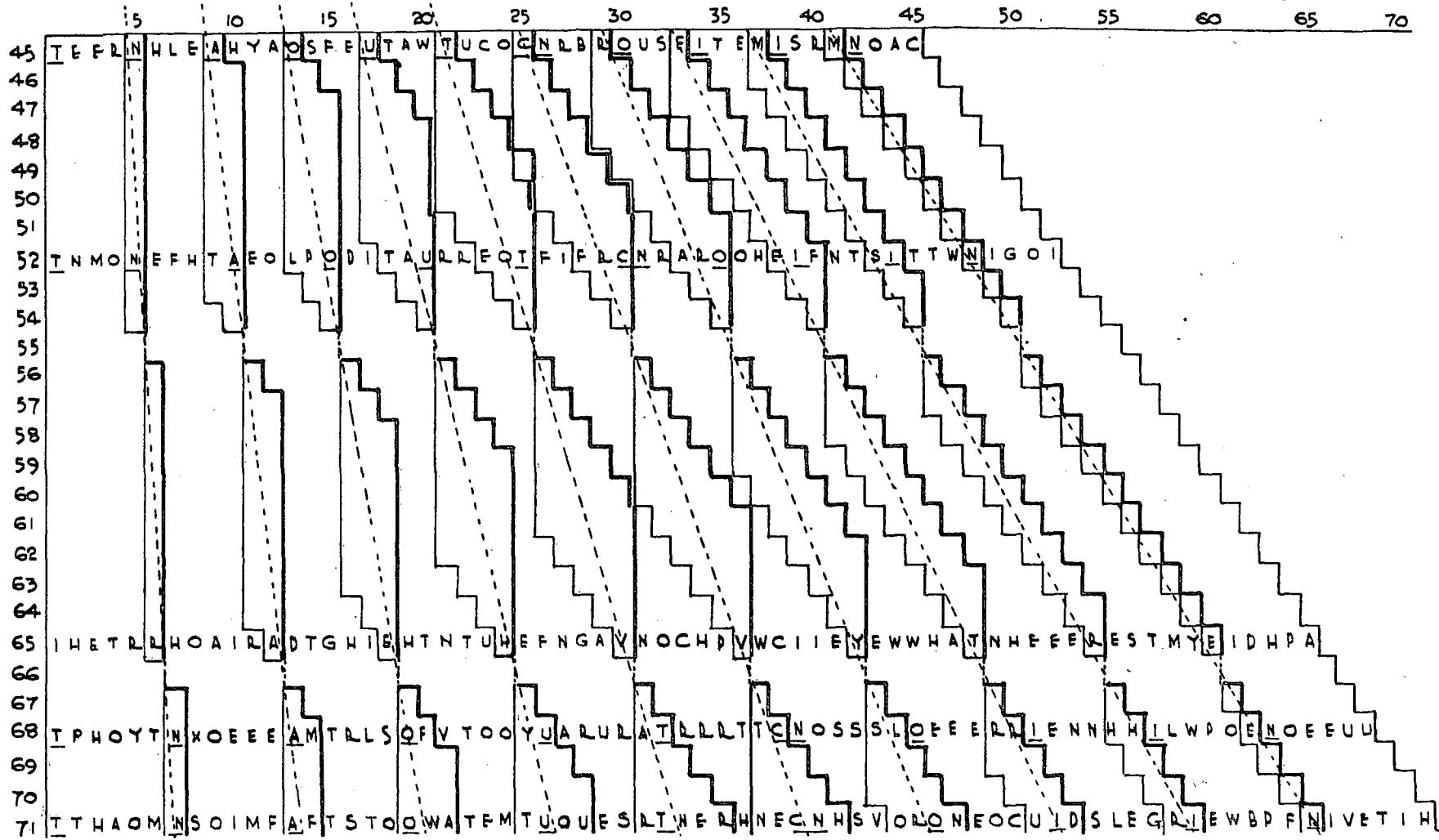


Figure 16.

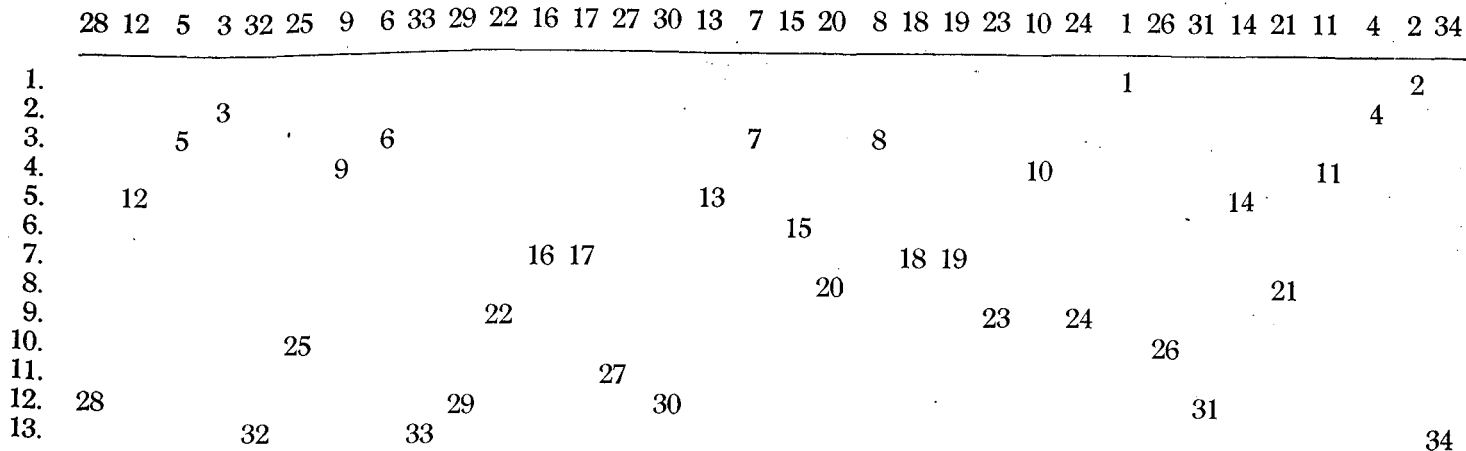


Figure 17.

1. 23 10 6 1 17 27 22 24 18 19 4 20 14 25 11 7 2 26 21 15 12 16 9 5 8 3 13
2. 25 12 8 5 1 20 26 2 14 17 23 3 18 6 27 13 9 16 15 19 11 24 7 10 21 4 22 28
3. 53 16 6 39 7 46 17 8 54 1 24 25 33 55 20 28 15 26 34 29 41 47 9 40 42 38 35 51 48 10 5 18 21 43 13 36 2 27 14 37
52 30 49 3 22 31 44 23 32 50 19 11 45 12 4
4. 9 1 24 5 36 6 14 15 32 12 18 35 2 25 33 34 19 20 4 7 3 26 10 21 27 16 37 23 22 28 29 8 30 31 13 17 11
5. 1 19 8 14 11 21 17 13 2 18 15 12 25 24 9 22 6 23 7 10 16 3 4 26 5 20
6. 31 6 29 20 17 3 7 15 21 25 8 22 32 9 13 1 30 26 10 14 28 2 18 5 23 19 4 11 16 24 27 12
7. 28 11 5 3 16 1 27 29 17 9 12 6 24 2 14 4 25 32 30 13 7 21 18 15 22 19 10 23 20 31 8 26
8. 5 1 23 28 9 10 2 26 16 19 29 3 17 33 30 11 13 18 8 31 20 27 12 21 32 15 22 24 6 7 4 14 25
9. 1 11 18 15 5 2 16 4 20 3 12 6 13 23 14 19 9 22 7 21 10 17 8
10. 11 1 17 19 23 2 7 13 15 9 3 20 12 4 18 21 24 5 8 14 16 10 6 22

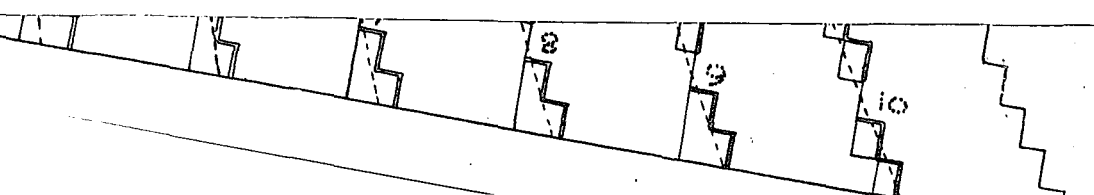


Figure 18A.

E N T T W H O C T R E D T A E L O I M Y M C H A R S D S A M
 E E P L O N A O E M S O I O N S E R T E X S W O H I R S A D T E I
 A L O E A A U U P H W O R B E A H A A O H S A E I R E N R U N R E
 E E R S W U V P H W O R B E A H A A O H S A E I R E N R U N R E
 T L N S O T T I A S I I R A I E N R U N R E
 A E A F E P W I A S I I R A I E N R U N R E
 T W E N T P E O F A S O L T F S E N
 T D N N T V A E O L T F S E N
 T T G U I T C R I O F S E N
 F S U R E R T C R I O F S E N
 A N C R E R T C R I O F S E N

Figure 18B.

R H T
 O I W
 M M E
 P A N
 P A O
 T A O
 T L F
L O A
 R E A
 H A S
 E A D
Q U I
Q U E
 P E N
 T H I
 O R E
 D B E
 R E S
 R A R
 T H A
 T A B
 G A T
 E S E
 V E T
 A T H
 E X A
 O S E
 A S I
 O W N
 F E R
S I W
 T R D
 M S N
 I D N

Figure 19.

- A. 35 107 17 89 125 36 18 1 106 71 90 72 53 108 16 88 124 37 19 2 105 70 91 54 52 34 15 87 123 38 20 3 104 69 73 55
51 33 109 86 122 39 21 4 103 92 74 56 50 32 110 14 121 40 22 5 68 93 75 57 49 31 111 13 85 41 23 102 67 94 76 58
48 30 112 12 84 120 6 101 66 95 77 59 47 29 113 11 83 119 7 100 65 96 78 60 46 28 114 10 82 42 24 99 64 97 79 61
45 27 115 9 118 43 25 8 63 98 80 62 44 26 116 81 117
- B. 65 114 51 108 101 14 87 48 7 94 21 60 35 74 25 73 33 57 17 89 1 41 81 9 97 105 49 113 66 50 106 98 10 82 42 2 90
18 58 34 26 27 75 59 19 91 3 43 83 11 99 107 115 67 68 116 52 100 12 84 44 4 92 20 36 76 28 29 77 37 61 93 5 45
85 13 109 53 117 69 70 118 54 110 102 86 46 6 22 62 38 78 30 31 79 39 63 23 95 47 15 103 111 55 119 71 72 120 56
112 104 16 88 8 96 24 64 40 80 32
- C. 49 19 1 13 43 25 7 50 20 2 31 26 8 37 32 14 44 27 9 38 21 3 33 15 51 39 4 16 45 28 10 40 22 5 34 46 52 23 6 17 47
29 11 53 41 35 48 30 12 54 42 24 36 18
- D. 29 71 22 49 1 101 63 81 53 39 91 72 6 23 2 102 64 14 82 54 92 30 73 50 3 65 15 83 55 40 93 74 7 24 114 126 120 16
56 41 94 31 8 25 115 121 66 17 84 42 32 75 105 109 127 122 112 85 57 43 95 33 106 110 116 128 107 86 58 44 96 34
76 111 117 129 123 113 108 87 97 35 77 9 118 124 67 18 59 45 78 10 26 119 130 125 68 88 60 46 98 36 79 11 51 103
19 89 61 47 99 37 12 27 52 4 104 69 20 48 100 38 80 13 28 5 70 21 90 62
- E. 11 74 38 2 56 29 65 20 47 18 81 45 9 63 36 72 27 54 14 77 41 5 59 32 68 23 50 10 73 37 1 55 28 64 19 46 16 79 43
7 61 34 70 25 52 13 76 40 4 58 31 67 22 49 17 80 44 8 62 35 71 26 53 12 75 39 3 57 30 66 21 48 15 78 42 6 60 33
69 24 51

Figure 20.

(a) *First transposition.*

5 9 2 7 4 1 3 6 8

DRINKTOME
ONLYWITH
HINEEYES

Second transposition.

5 9 2 7 4 1 3 6 8

TIYILNOTE
KWEDOHHMS
NYEETRNI

Cipher Text :—N H R Y E E O M N L O T T K N T H I I D E E S I W Y

(b) *First transposition.*

5 9 2 7 4 1 3 6 8

DRINKTOME
ONLYWITH
HINEEYES

Second transposition.

6 8 3 1 5 4 2 7

TIYILNOT
EKWEDOHH
HSNYEETR
NI

Cipher Text :—I E Y O H T Y W H N O E L D E T E H N T M R I K S I

Figure 21.

5 10 15 20 25 30
17 31 30 3 6 5 13 20 7 4 23 22 32 27 26 21 8 28 33 11 10 24 15 14 9 29 16 25 19 18 12 2 1

Second stage.

2 7 4 1 8 6 3 5

5	26	14	1	30	22	10	18
6	27	15	2	31	23	11	19
7	28	16	3	32	24	12	20
8	29	17	4	33	25	13	21
9							

First stage.

8 4 2 6 3 1 9 7 5

17	31	30	3	6	5	13	20	7
4	23	22	32	27	26	21	8	28
33	11	10	24	15	14	9	29	16
25	19	18	12	2	1			

Figure 23 A.

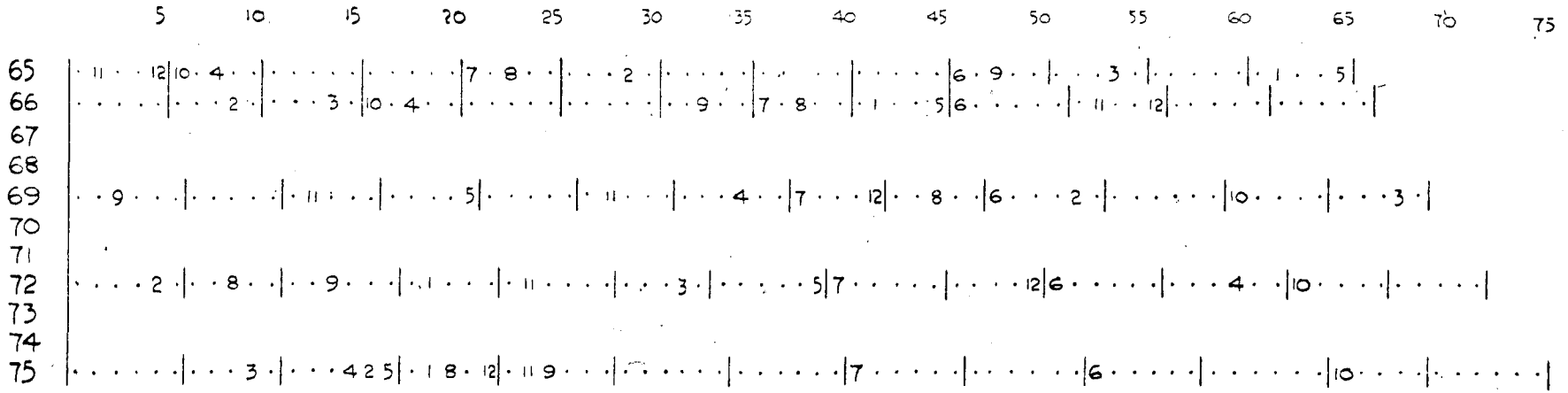


Figure 23 B.

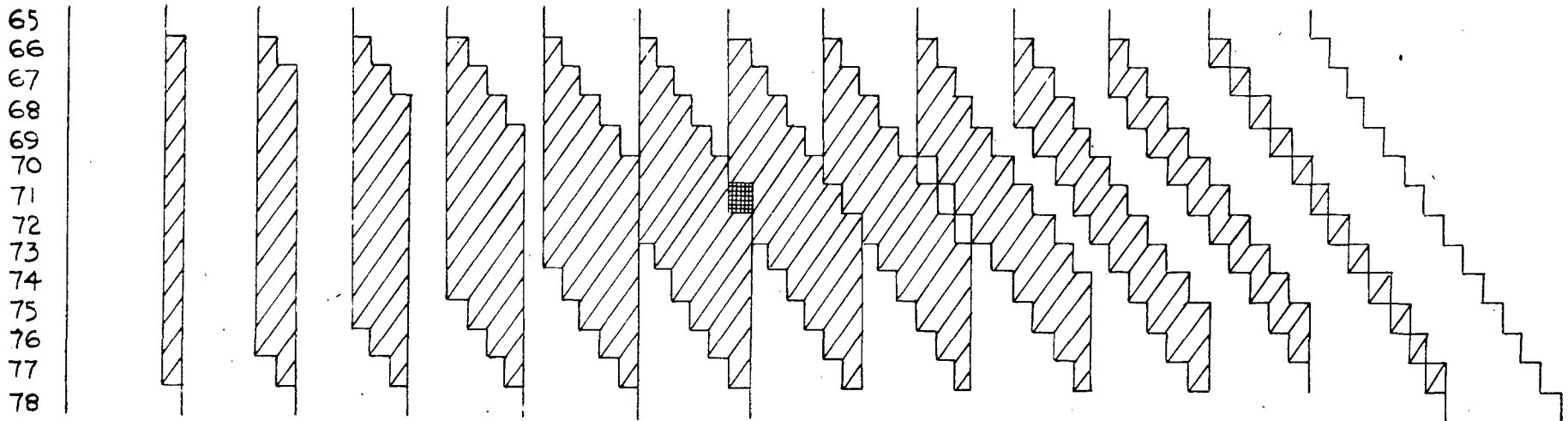


Figure 24.

42	|	.10	6	...	3	...	8	5	...	9	...	1	...	2	...	4	...	7	...										
45	|	...	9	...	410	8	...	7	...	3	2	...	1	...	6	...	5	...						
46	10	8	...	9	...	7	...	6	...	3	...	4	1	...	5	...	2			
48	|	...	4	1	...	8	3	...	7	...	6	...	5	...	2	...	910	...		
50		8	...	610	...	3	...	2	...	7	...	5	4	...	1	...	9	...

Figure 25.

42	|	.10	6	...	|3	...	|8	5	...	9	...	1	...	2	...	4	...	|7	...											
45	|	...	9	...	410	|8	...	|7	...	|3	2	...	1	...	6	...	5	...	|						
46	10	|8	...	|9	...	|7	...	6	...	3	...	4	1	...	5	...	2	|			
48	|	...	4	1	...	|8	3	...	|7	...	6	...	5	...	2	...	910	...	|		
50		8	...	610	...	|3	...	2	...	|7	...	5	4	...	1	...	9	...	|

Figure 26.

42	|	.10	6	...	|3	...	|8	5	...	9	...	1	...	2	...	4	...	|7	...											
45	|	...	9	...	4	...	.10	|8	...	|7	...	|3	...	...	...	2	...	1	...	6	...	5	...	|						
46	|	...	...	...	...	...	.10	|8	...	|9	...	|7	...	6	...	3	...	4	...	...	...	1	...	5	...	2	|			
48	|	...	4	...	...	...	...	1	...	|8	...	...	...	|3	...	|7	...	6	...	5	...	2	...	9	...	.10	...	|		
50		8	...	610	...	|3	...	2	...	|7	...	5	4	...	1	...	9	...	|
		1		2		3		4		5		6		7		8		9		10		11		12		13		|		

Figure 27.

First cage.

9	4	13	2	11	6	8	1	7	10	12	5	3
1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60					

57

4	12	10	2	8	7	3	1	6	9	11	5
8	21	34	47	4	17	30	43	56	13	26	39
52	2	15	28	41	54	12	25	38	51	6	19
32	45	9	22	35	48	7	20	33	46	1	14
27	40	53	10	23	36	49	5	18	31	44	57
11	24	37	50	3	16	29	42	55			

59

4	12	10	2	8	7	3	1	6	9	11	5
8	21	34	47	4	17	30	43	56	13	26	39
52	2	15	28	41	54	12	25	38	51	6	19
32	45	58	9	22	35	48	7	20	33	46	59
1	14	27	40	53	10	23	36	49	5	18	31
44	57	11	24	37	50	3	16	29	42	55	

Second cages.

56

4	12	10	2	8	7	3	1	6	9	11	5
8	21	34	47	4	17	30	43	56	13	26	39
52	2	15	28	41	54	12	25	38	51	6	19
32	45	9	22	35	48	7	20	33	46	1	14
27	40	53	10	23	36	49	5	18	31	44	11
24	37	50	3	16	29	42	55				

58

4	12	10	2	8	7	3	1	6	9	11	5
8	21	34	47	4	17	30	43	56	13	26	39
52	2	15	28	41	54	12	25	38	51	6	19
32	45	58	9	22	35	48	7	20	33	46	1
14	27	40	53	10	23	36	49	5	18	31	44
57	11	24	37	50	3	16	29	42	55		

60

4	12	10	2	8	7	3	1	6	9	11	5
8	21	34	47	60	4	17	30	43	56	13	26
39	52	2	15	28	41	54	12	25	38	51	6
19	32	45	58	9	22	35	48	7	20	33	46
59	1	14	27	40	53	10	23	36	49	5	18
31	44	57	11	24	37	50	3	16	29	42	55

Figure 28.

Encipher Keys

56	43 25 20 5 55 47 28 22 10 3 30 12 7 49 42 8 52 32 27 24 39 19 14 11 56 38 33 18 17 54
57	43 25 20 5 47 28 22 10 30 12 7 49 8 52 32 27 39 19 14 56 38 33 18 17 42 50 29 11 57 55
58	43 25 47 28 30 12 8 52 32 39 19 56 38 17 7 49 29 9 53 37 48 36 16 14 57 1 44 20 5 42
59	43 25 7 47 28 9 30 12 48 8 52 32 39 19 56 38 20 17 36 16 40 24 23 3 1 44 59 31 49 29
60	30 12 48 23 3 47 15 58 27 11 17 54 35 10 50 8 39 19 59 31 26 6 46 18 55 43 25 7 36 16

Continued below.

56	48 36 29 4 41 35 23 16 13 51 46 31 34 15 9 53 50 26 6 1 44 21 2 45 40 37
57	54 48 36 4 41 35 23 13 51 46 31 34 15 9 53 26 6 1 44 21 2 45 40 16 3 37 24
58	54 4 41 13 51 34 15 26 6 21 2 45 35 23 3 22 10 50 33 18 55 58 40 24 46 31 27 11
59	54 35 4 41 22 13 51 33 34 15 58 26 6 46 21 2 45 10 50 53 37 5 42 27 11 18 55 14 57
60	4 41 22 53 37 60 28 9 40 24 56 38 20 49 29 34 2 45 14 57 13 51 33 5 42 21 52 32 1 44

Figure 29.

Anagram Keys

	5	10	15	20	25	30
56	50 53 10 34	4 49 13 16 45	9 24 12 39 23 44 38 29 28 22	3 52 8 37 20	2 48 19	7 33 11
57	51 54 39	35 4 50 13 16 46 20	9 12 40 23 45 34	30 28 22 3 53 8 38 57	2 49 19	7 11 15
58	55 23	35 51 16 34 28 3	16 12 40 46 30 22 54 8 38 58 19 15 43 27	2 50 7 11 37 33 49 57 5		
59	56 19	35 51 3 16 8 15 43	12 40 46 30 22 27 55 37 33 49 58 5 53	2 50 7 11 14 10 48 29		
60	16		56			
	59 47 5 31 54 22 28	38 14 10	2 51 49 7 30 11 24 18 43	33 4 40 27 21	9 37 45	1

Continued below.

	35	40	45	50	55	60
56	42 18 27 43 36 32 56 26 21 55 35 15	1 51 54 41	6 31 14 47 40 17 46 30	5 25		
57	43 18 27 44 37 33 48	26 21 56 36 5	1 52 55 42 6 32 14 10	41 17 47 31 25 29 24		
58	18 45 53 42 32 14 10	26 21 36 8 29	1 56 6 24 52	41 17 31 25 13 4 39 9 44 20 47		
59	18 42 45 32 24	26 21 36 4 39	1 57 52 6 13 9 44 20	41 17 31 25 47 28 34 38 54 59 23		
60	46		6			
	20 58 53	13 29 35 42 17 39 32 55 26 60 48 23	3 44 15 52 57 34 12 25 41 50 8 19 36			

Figure 30.

56

9	4	13	2	11	6	8	1	7	10	12	5	3
50	53	10	34	4	49	13	16	45	9	24	12	39
23	44	38	29	28	22	3	52	8	37	20	2	48
19	7	33	11	42	18	27	43	36	32	56	26	21
55	35	15	1	51	54	41	6	31	14	47	40	17
46	30	5	25									

56

4	12	10	2	8	7	3	1	6	9	11	5
16	52	43	6	34	29	11	1	25	39	48	21
17	53	44	7	35	30	12	2	26	40	49	22
18	54	45	8	36	31	13	3	27	41	50	23
19	55	46	9	37	32	14	4	28	42	51	24
20	56	47	10	38	33	15	5				

First Cages.

57

9	4	13	2	11	6	8	1	7	10	12	5	3
51	54	39	35	4	50	13	16	46	9	20	12	40
23	45	34	30	28	22	3	53	8	38	57	2	49
19	7	15	11	43	18	27	44	37	33	48	26	21
56	36	5	1	52	55	42	6	32	14	10	41	17
47	31	29	25	24								

Second Cages.

57

4	12	10	2	8	7	3	1	6	9	11	5
16	53	44	6	35	30	11	1	25	40	49	21
17	54	45	7	36	31	12	2	26	41	50	22
18	55	46	8	37	32	13	3	27	42	51	23
19	56	47	9	38	33	14	4	28	43	52	24
20	57	48	10	39	34	15	5	29			

SUPPLEMENTARY EXERCISES (Cipher texts)

- L. 1. 07315 49022 46438 15616 52295 31708 13165 38642 93851 69636 52272 03020 67644 41300 82950 88671
13786 98604 98348 86821 98348 86845 67437 19620 21062 80156 24700
2. 073154 279354 138109 760227 607298 131653 264386 951717 971227 728417 676444 325411 150014 631372
434568 983488 607212 348033 009748 827227 210628 886344
3. 05633 12426 78389 61500 91497 05787 63911 81515 31492 41500 96993 65796 57877 02657 87633 12431
89187 82618 18246 31818 78314 92498 91263 17826 18639 99126 31782 61863 00637 87826 57872 13818
18783 14924
4. 05662 42678 44169 14970 57876 39118 15153 32416 96993 65796 57877 03087 63312 43190 81181 82465
18824 92498 92352 86399 92352 86300 63788 15787 21401 88249 24000
5. 07315 67793 56438 10536 02295 07295 03165 85643 83851 71057 12272 28419 57644 87254 12950 01803
13786 34565 48348 03072 18348 03300 97437 27223 21062 37863 44000
6. 44975 38297 68270 44590 60565 55095 64139 18017 37529 61317 17327 40322 97126 86353 34102 74037
20343 51509 09724 40630 09716 40643 68732 62270 50642 78735 86000
7. 43489 27957 64842 57900 65055 06955 61481 03197 36715 32197 14703 32272 98761 32563 37441 00327
25013 54039 04907 62340 04907 61463 66827 23720 57086 74325 86000
8. 17631 38619 58106 19912 77823 21174 69141 94467 53981 92732 97826 22046 11335 40177 50180 59402
10810 04404 37354 53384 37354 34393 52745 50769 41426 53254 86000
9. 05618 50179 13291 05929 76531 60715 20356 88298 84730 95642 99764 67653 16476 19282 63718 90368
76589 71109 91264 40796 88133 19494 57250 65330 51910 98120 44000
10. 44185 72482 92876 65716 30183 56349 26639 96365 63814 93387 81986 31878 91363 11899 57911 55790
24284 02487 96872 42878 24161 59631 49352 10570 24701 89200 82

11.	49716 38593	57942 61164	82844 58173	54014 41232	50288 67421	29082 65976	61716 06468	90384 80087	53329 12671	79933 18990	73118 78	93582	68596	81292	57126	43398
12.	05667 44368	08376 28216	71730 13965	87957 72861	42518 78420	80998 28328	04957 95573	27133 62049	09292 25326	84970 10859	44811 09000	84161	79481	81271	08289	00365
13.	05618 73902	04094 16312	12500 80275	73019 38152	27344 81275	05409 38163	23204 63315	85730 93834	02852 08615	58343 89021	43345 63000	70017	40945	55521	71992	63289
14.	17907 53495	09791 15844	89730 63586	37326 32001	28000 26819	85820 98645	49610 20801	44751 50358	53016 44857	00367 59473	70223 70000	74211	19024	77657	93426	49588
15.	01563 12443 24924	62452 19086	67874 11818	41699 28465	14970 18821	50787 43925	63912 49879	14816 23593	51583 86390	32411 99235	69693 22863	93657 00634	95657 76888	87707 15718	39080 72134	76323 01885
16.	50511 79586 94579	57359 34425	78044 96896	27102 24065	49070 29193	57087 50135	41879 98092	29126 46139	26144 07433	24016 92035	18211 28063	36057 11174	07168 34647	43636 02532	30087 21040	63031 30204
17.	75262 88842	06469 98924	41468 92632	49190 93853	65873 98259	77315 62350	85131 86701	13491 83880	92966 71714	75776 22428	68593 49	06387	37012	04118	93186	12154
18.	70833 83228	74758 53807	57867 48485	21878 48187	08445 75385	83872 75283	72723 71479	80747 -79187	21671 75385	47979 75283	17646 18385	45847 85754	54583 57378	37438 22853	62857 80740	52274
19.	01440 02203 15420 12330	03251 32420	33142 15468	80608 98115	18121 42551	72221 23236	25181 18590	54306 07124	00123 15250	26688 51824	28052 13335	71128 91544	45211 31254	72411 25324	21251 45210	33200 71430
		02946 44413	36490 53241	01619 53056	72150 33082	34568 80000	20295	30425	13425	93023	26718	84136	07551	61914	81391	10315
(N.B.—Here there is a passage of text additional to that of the other cipher versions.)																
20.	01250 02204 20428	03224 25930 38746	33142 50326	80608 96270	18121 53675	71121 24636	44601 18247	54366 37151	13294 81896	60631 16059	41052 79842	72228 49195	45342 57259	65174 33351	47634 77650	06455 73515

N. A1. AOSOR WDIIS ASVGD TADAO SYLEI YLSDL BORUE TIPED ATYKL
 RISWA TIZIS DRVBL TNAEP OAOXQ EMTQI LCLED TFYQY ADKLS
 POOPK XLIIA IHCGL ILDAE BYOTQ SXKSU QUNBF UCGEM EDZBP
 OTEIM YEBEP GOTQS ILSQI TILOU YG

P1. HWOCU WZWVI KSFYY VPDIX BZVYM FZQZK SYHQM OLKFY VNRTV
 OKOVZ HXZCN KWTPW WAGPD HZE

P2. HWOCU WZWVI KSFYY VZKSY NVYVH GNGFV OCVGM ONZWH ZVNTF
 VVNIO LVYLK OWHYT VFTNM NMFZQ HQZSZ TVOLV NTNBV YZLTE
 QVYVN DHWRM RM

A2. AOSOR WDIIS HWUIO CWQOT QSPWN AWQRF TICPU IBOIP NBXQO
 AWPET XQYQT PDMIL AYSAU GISTO HQDIL YLSIH SU

A3. AOSOR WDIIS FINHM QHTDA WOOTQ SYOTB LSIYT OAORL QKNYL
 DAOOM NBACH OUIHO TFLPX KATQC TPSMI LTGAE LOLIB AMDOT
 TEAIP GSIVD ZEDS

A4. HORNH OITYH OWIRL IEDYC TOPLO TUMYE EOTED TGXAI OTETL
 AQLYP APGCS IVDZE DSOTQ SMLNG DCIEO ZEIM SWNAQ FLBDI
 TFYPT KIABS BNCGL IDROE QOABD R

P3. HWOCU WZWOW ZVHKP WLXHM ZQLZL KPCHG MFTNZ ONVGV RBFWG
 PLZST HWWKN CAXCV ZVFML HFLMN CTVFM FXLFH HVXQY FVZTU
 TXIKH AVHET FVLHL TDVKL DTLTH GFTHW XYZFL VPWLX UXDHW
 KBDNA CETYO PDHXE DHVOF VYZUF KIHVY LUVFS TKVOL VQVZH
 KRBAM FATTL AYLZN BMFZQ ZKSYP DCLXG GVMFX LFHHV VM

A5. HWUII CFEDR LSAOO KNBOM NBACH OUIAS MUKTX KETCM IGLPT
 OWERV BRESR ASDYU XCCPE YSIDA UOXYE OEYMD SIVDG ILSYD
 CDOGL IHLYN APGCO TQSBQ LPBLY UCZEB HRLIA EDLYD UFABL
 IPLQP

A6. AOSOR WDIIS OTQSQ KZBHW XYPYB ZLAIS MDOHH ORVBO WEPGI
 VIAPL PSTQD LTDEY LPDLX KITML VGASB OPORW DIISC GASEN
 QFEDD NXYIT LISTN HKTDI VGOKT NOWIL DUALI YPLQP ASMUK
 TQPEM IVSML DYQYF NBAII DFELS LIZBI PKYVG BTALB APLQP
 ASMUK TLEKM CGIPK YVGBT RIAPD YDMNH KTDIV GFCAB LPAWQ
 YEYIT EBBLB TASMU KTPLV DDRIS CGASE NQTIT EBBLB T

P4. HWOCU WZWVI KSFYY VMFZO PDLXT IKSMF ZQOVF TYVFL WPPWC
 EBQSH XOYXG HTNXQ TIVFK LTLNT VFIKW ASFMO HQMWA VSFVT
 HWVIK SFYYV KOHQV QINYL OTCLW ALVME MFZQZ XCNXX UVFVY
 ZOPZV HGYFU ZFTLV SYFNS GTNZX MFZQT LKMFY VUGSN THVZO
 YLOTC LWALV ITVLY KVCVZ ZMVYY ZVNHG TVCYH WFCVL TAYSF
 VAKVG VYFYY VKOKT BNLVY NSGTN ZXINZ VAVFD BWQVT XDHVA
 MFZKH GHMAT CQVZF LRVHW TNFGB AMFZO FNRUK OGVRY MOXAA
 ZHNTR BSYVF MDHKO VFMFG VYKHV XYQOX ZMXHM DBCSL NITXD
 MFZQF YMOZK VWDHV LRFVA RBVVF LTAKR BAVLQ ZWAFV HWZKS
 YTYWO PWZAL TRLVM ZXLCX HMFYF MONIH WVIKS FYYVK OHQVQ
 ITWAA TTYKA VLGVP WEUFV TNMKU KZVVI YZHML VQCTI FWZXK
 OMFZO VGMON ZWHZV NTFVV NSGTN ZXLTD VXLWZ LXFVH WFCTY
 YIGVR PZVRK AQYZM EINZV AYFDH WQZQY PIKOL VPVWV YKHVV
 MDVRY VAVFM OGNNG VNQMZ XYLVL TWMKZ KMOTK EUZLW OVNNG
 TNZXO CRKIK TXYLV OGVVY FYYVK OUYNF NBEQZ VVIOC YKTZN
 FVMVF ZQGWV VHKPW LXSHC ETEYV OPCTA ECVZV HWXQL ZLKPQ
 HGMFZ LNVAK VYMKZ TAT

A7. AOSOR WDIIS OTQSH WUIOK OWTUA OOCBT YQANI CAEQY RVBEV
 ONBKT AIQPS OSUPL RBEDO TQOTI ISGAH QBFYQ LPDAA WOYNZ
 BOTDA IQPOQ OIPIT OOHPI SIDII SCGOY ELMBR FNBSO OTQSC
 VOHIL IMILS YQXTE DTGXA IOTQL OAOKE IHORT BSMVH IMDTU
 TIAES IALPO KCOAA KEDIL AORLF TQSSSE YNEDB TOWSI VDEED
 SOTQS CGBDQ KZBIP OTIUT AAWPO AOASV GDTAC OWYQD LHOIT
 CAFED REDGO TEHNM OHOIT YHOWE TNYIP ASPII VTAAW QUIAM
 EHOIT CAFED REZEB BOBFY QLWLS KCOAA KBSKY RVRGI PFUIP
 PISID IISCG OYELM BRFNBS SOTEE DOTQS IPCGL PASSV SITAA
 WNIES NBADA OSYBC PYQSI SIPFP HOINE ZAKIS TOMLS UQTMBS
 ISFUO TQSIL SEDAL DOMNB ACHOU IYQDL HOITC AFEDR DR

A8. NEGRU TROFT ORBEH HREHT FODOO RTEHT YTINI STOPX HCDOK
 NLFFM DHPYX VQRWK EVNHY HLMST ROIBL MLIKE IBHCB RDHLZ
 PCHLG YFCIF VOHCD BSNFR DCISF IEVIF YHIBV OLIZH RZZSC
 YZQFM HDFKI KDMZL IVIGD HGYCX VLYHB VHCAL XVIHV ITIFK
 CZISF ISNYE VIMFV YILHI SFVMV MWKMF FKYKF GCHXV FMBIW
 OZGEV LDXVL RFCIF FVDWY RTXFL PYVXB VIBFM RSFKC UEKRW
 VMSIZ GLFFK SIMBX VHGHG BADHP YVQUA YGPRC QVM

<i>Time of Inter- ception</i>	<i>Station</i>	<i>Station</i>	<i>Message</i>												
O. 1/1 0900	to Y	from X	78901	60730	74769	85760	97799	11228	73928	65464	05744	50524	78007	09597	84359
			22385	12393	78565	33092	75017	64581	71764	40992	33739	75938	69713	19298	08276
			89338												
0930	„ X	„ Y	34567	60730	74769	84260	03391	18187	52608	65464	17243	64171	07778	09597	48828
			00755	53504	79786	97224	06828	90818	47758	84147	31012	75938	79319	69898	42330
1100	„ X	„ Y	23456	51747	33040	45035	92588	93926	02329	56912	57146	73077	56769	67046	94811
			51690	43998	25359	04198	80160	09597	19716	38488	39968	26233	15224	21026	14932
			04830	92822	18809										
1200	„ O	„ N	00000	21388	75980	09987	18562	54198	11084	46613	11533	42010	73917	31834	77584
			25231	53285	88416	00894	34207	09962	55107	00510	94490	43118	28374	10746	36417
			62180	44245	55171	39375	98051	90702	26242	84663	85047	90709	26240	44842	55135
			42507	93162	61012	08101	22712	33316	71296	65938	22762	33338	47937	75972	22900
			56030	84258	50890	09751	47309	53375	30951	59811	50244	96899	07317	72856	36254
			50495	35184	40023	48499	99003	74415	11805						
1200	„ CQ	„ X	67890	85486	47842	72346	65464	70505	29830	87014	09597	71500	04932	97336	86649
			90441	39903	49020	71683	52245	95650	75938	06160	08357	23453	48538	81390	02576
			99476	53296	65187	01785	36730	27130	81966	40334	41596	62200	13486	20413	54299
			46827	27509	08884	34096	68026	35763	51971	17318	14421	65417	12223	47187	15415
			47831	74294	63677	07102	37759	33428	58806	74165	00369	77177	75296	56788	59874
			21793	72055	51552	40147	10058	24017	93636	26300	34722	08346	28735	36404	04985
			64758	39284	96522										
1700	„ Y	„ X	12345	79790	06707	10217	63743	40357	60398	11887	47678	55827	51709	95294	75938
			26264	42279	05420	42644	76095	54808	08066	43865	38400	68997	36730	41301	30513
			40235	79296	23341	95497	41487	60109	56671	75931					

<i>Time of Inter- ception</i>		<i>Station</i>	<i>Station</i>	<i>Message</i>												
3/1 (contd.)	1300 to	Y from	X	56789	77418	56912	55901	23130	05042	22899	08618	97104	09620	49527	95207	50656
				08547	09597	81528	74553	53504	92227	65071	32860	99663	90656	15734		
	1600	„ Q	„ X	67890	82825	75938	03447	14724	18774	59512	55925	78320	76911	41828	89803	65060
				70915	36730	31382	03546	40424	43631	73327	81828	20387	68171	69152	31762	08884
				86724	06233	88907	72116	45883	19701	50827	27298	16468	59362	47831	45300	12829
				92523	02090	82206	45042	26325	04697	05236	92941	56788	13846	79249	58757	16784
				41738	31940	17632	78394	94186	49689	08346	52660	18029	98855	08999	14665	99640
				46021	10956	60770	17815	72296	05306	95232	07828	53760	91315	49149	05595	45609
				73039	30726	78968	90194	07645	69919	21177	60802	32317	20881			
	1730	„ X	„ Q	12345	93205	29567	49097	61498	79034	57357	57180	20323	23570	81265	59019	08884
				34951	55339	11080	39132	97787	91140	04594	39477	99025	85071	47831	22198	55249
				15117	43616	26038	31023	82412	00853	89695	17876	56788	32008	20530	35625	01877
				90742	49854	49894	38560	43563	52956	28816	08346	96517				
4/1	0630	„ X	„ Q	23456	71390	30934	45914	31563	01839	26488	36266	48201	02260	76842	33636	78968
				74472	23223	12621	87995	19234	20686	45136	74412	24455	86493	56912	74309	91669
				69083	79291	73568	28854	75700	22645	05583	90584	64880				
	1200	„ CQ	„ X	45678	06788	67332	09839	20013	09597	92628	58839	43662	22897	17048	60039	01655
				84734	74917	69126	75938	25178	96522	43051	15871	31467	17429	93788	14997	65187
				19066	36730	19431	89180	02514	26776	14358	22459	35357	34441	09782	34989	08884
				52103	39614	39270	08245	94260	10431	48702	12214	83552	52147	47831	67610	63497
				14594	75579	89892	12916	97446	04794	72325	25204	56788	07385	83892	75765	45195
				72085	49728	24022	50062	27248	95594	08340	04073	68877	30482	96447	52566	86992
				41511	99871	29548	17648	72296	57638	93647	68574	08687	17014	39374	56639	22602
				40914	70213	78968	32423	90932	75623							

<i>Time of Inter- ception Station Station</i>	<i>Message</i>												
1200 to O from N	00000	21388	75980	74006	15426	64834	68902	31384	99398	08718	92949	94457	43192
	91850	90213	58594	30248	28807	49010	23147	97949	25972	53084	29734	16187	26103
	43776	54198	11084	03512	93107	98350	30353	31834	77584	98528	95389	33258	41785
	91152	67922	44018	88484	11148	10253	37201	66039	83763	89077	67272	69437	99373
	33908	44010	88488	78207	06423	82065	69523	37234	66155	10512	22133	79278	26590
	39940	43131	30481	05164	33922	22954	84315	44550	23308	67045	18168	55008	76528
	10566	49364	97937	40023	48499	99003	77415	11860					
1630 „ X „ Q	56789	06441	89418	91468	84355	75498	82206	07408	08577	57290	10435	52639	56788
	78449	53531	15104	39065	54446	18307	59348	74876	39324	00716	08346	62087	24802
	13109	01136	73214										
1700 „ X „ S	89012	13667	74422	09942	61114	58774	78168	02576	07551	43865	76924	61728	36730
	16028	66495	24853	84149	09689	22683	20323	21245	29739	47022	08884	82071	31613
	79059	43139	50007	07484	07101	27078	20218	92134	47831	18576	49284	58574	72333
	44305	02095	97571	99387	10260	25204	56788	63375	98430	19199	02646	56690	31931
	20409	72019	39243	82716	08346	49859	70204	83821	49780	44138	57924	22564	47562
	62651	91786	72296	10144	63305	60912	01910	26488	23020	67596	72691	69334	59050
	78968	34938											
1830 „ S „ X	78901	38482	97787	01247	54761	40195	91932	49674	73800	27054	16174	02063	08346
	30359	25401	57776	44284	33053	42160	55690	42953	60245	02579	72296	05225	92627
	10409	01091	92472	73877	77612	60934	56456	69146					
5/1 0700 „ X „ S	67890	60730	74769	08760	03391	18187	52608	65464	71543	87203	79225	09597	82140
	45666	02756	84284	31450	97241	90818	59426	32338	17817	75938	17283	97533	42961
	04438	25035	52867	10494	51954	17419	10857	36730	18954	03645	31439	84149	09689
	49017	20404	09860	31893	89332	08884	02142	95240	51771	46489	23198	70621	79538
	63421	27801	75656	47831	98887	63596	35519	25954	40257	53883	39073	75669	05236
	72911	56788	69119	99501	43804	90106	67638	65837	18061	52002	28044	73169	
0730 „ S „ X	12345	86714	66802	86317	82621	90981	52159	75938	48550	08438	45193	22732	56854
	02495	19769	78117	65961	41821	36730	56164	95398	49245	48749	34158	61477	07169
	91806	19054	58938	08884	06809	80402	50763	38802	13359	87186	35420	86088	54569
	81059	47831	30457	39661	89113	96633	02599	82044	97857				

<i>Time of Inter- ception</i>	<i>Station</i>	<i>Station</i>	<i>Message</i>												
5/1 (contd.)	0830 to X from S		34567	09659	08346	24305	28735	36404	04985	39284	52566	11297	78420	30525	62677
			85249	72296	74621	06765	88821	89609	02095	21802	56639	03217	78968	59159	78968
			48188	28769	03719	00013	42813	09082	17410	35872	72943	12725	56912	22897	70210
			08694	52962	96934	67027	70558	16332	49097	12685	09597	19627	27004	22057	07152
			11901	11887	66802	82621	90981	52159	75938	64571	48550	42274			
1200	„ CQ	„ X	23456	83185	93757	33758	87550	50241	67713	14676	96743	83197	33083	09597	82140
			45666	02756	84284	31450	97241	47116	34579	89082	04543	75938	97686	56422	92853
			88908	78320	64675	22322	65604	56101	63601	36730	79543	73187	19968	44143	30747
			84730	00594	56608	19636	41108	08884	34906	80402	04960	51971	12755	59869	26246
			80022	97715	95764	47831	45435	40196	26419	80503	74878	26631	88157	90221	05317
			02642	56788	28262	48531	93195	08232	56546	14266	49894	39181	55307	79983	08346
			52561	08847	27561	07965	52485	42160	39425	58450	78896	02533	12276	72296	49371
1200	„ O	„ N	00000	21388	75980	06947	12540	22288	60115	55305	00685	16057	74530	22248	60115
			20361	17114	18904	54478	63949	63934	73249	91816	39490	43441	29972	54088	25552
			16240	77802	16435	23308	67045	47993	11631	91662	51608	12870	75061	44081	55657
			34207	09962	36417	62180	33141	99371	20610	51275	08772	40373	83995	24072	28041
			41271	83738	37015	02192	58153	02790	53311	20275	44907	10266	85569	42166	93566
			45574	11879	92841	69492	22751	35924	35543	52956	04503	59434	30453	91160	86733
			66301	44726	88317										
1210	„ X	„ S	For General GALLINA. I have given orders to cease resistance. General BERGINZOLI. 18.												
1215	„ CQ	„ X	56789	73602	53544	63046	13945	73843	65202	18406	72170	97750	09597	70158	18247
			53423	18805	92398	06089	90818	47758	85865	33971	75938	83991	18770	08258	89110
1230	„ X	„ Q	12345	52487	63198	61691	78601	86447	18244	72350	47851	09597	15600	43783	78345
			47196	49230	87871	00154	85903	90641	92132	51766					

Message

8.	9414	6588	8189	5327	1829	1427	4838	3030	9350	6708	6205	0066	2395	0475	1939	6037	7031	0692	4589
	3557	7076	2399	6024	2719	0292	2526	6854	6493	4901	9032	9301	1212	1297	3139	1468	2703	5333	6023
	6486	1134	5141	1310	2082	9060	5366	3854	0105	2306	7004	6243	1723	1032	2145	6417	0027	6006	4991
	8786	8513	1959	3620	7179	8903	6243	3117	5765	6523	1217	5210	1898	5926	5475	4856	7417	7754	1511
	1198	3890	4662	2963	0900	7189	4817	6040	2417	5154	2628	0915	6096	8917	6907	4722	3463	9069	8340
	5830	4121	6635	7970	9206	9740	1438	9636	5947	6170	9249	2078	1458	0409	1879	3330	5355	2999	9508
	2602	8655	1181	9451															

9.	6665	5571	2016	3632	1696	4071	0603	2622	6133	5871	2731	1391	3288	1975	9230	2883	3111	8870	0989
	9613	6789	9618	5102	6740	0870	6368	5510	1517	7930	2529	6208	4947	0366	5961	2057	6868	9926	2043
	4488	0971	6454	0139	4323	6902	1001	1885	5879	2747	2767	0617	8241	9642	5924	5836	9016	9189	3029
	7667	0416	6989	3310	6164	5534	9771	8113	0695	0880	0457	1491	0634	9414	4064	9296	6779	4866	3282
	4456	2760	5705	4615	2369	9896	7569	3296	6742	5555	2779	6925	9179	6801	0662	7978	3341	9752	7579
	2571	3984	1872	0529	1457	0571	2687	1721	5434	8549	4271	9530	5933	8511	7235	7064	2242	0335	1937
	5896	2885	7252	7155															

10.	7035	4312	3369	8165	4002	7250	4379	7135	2155	4458	4922	3583	5120	4701	3890	1329	9692	7637	3355
	1406	6367	9133	4267	0224	5312	9961	9918	6064	2593	1788	3258	8107	1019	5684	6689	7907	3016	0745
	5304	1554	8020	2999	5857	4757	0224	1262	5353	5818	2287	3735	3905	4181	3213	1872	1832	7324	1695
	0452	6522	7756	8662	1932	8325	3751	3098	0544	9583	3388	4264	3986	3776	2642	8335	7969	6137	3274
	8528	3449	9241	6928	0963	6387	2817	4207	5846	9344	9232	2505	5541	9227	7627	4618	5379	5838	

11.	7152	6846	3694	5713	5298	6144	0672	9702	6828	3904	1510	0066	1664	6018	5497	8393			
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12.	6535	8554	0042	1268	5997	5818	6401	5319	7147	4363	7053	8985	0365						
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13.	6227 1499 4268	6281 1416 9019	9127 1074 2779	5298 3960	3890 7875	4877 8250	9992 8962	8040 9912	1428 8606	7015 0483	2579 8305	0268 2886	5680 3472	5979 0980	0103 9527	6445 3388	0062 8828	2414 9102	4529 9374
14.	8501 3111	2517 6807	0620 8004	0367 0222	6135	8280	4593	2036	2706	5105	6431	2949	1014	1325	9656	7871	5755	9082	2745
15.	8627 1413 3151	6281 2505 4519	9329 0907 6030	6321 7940 4793	0569 5217 8725	4493 8836 6940	7532 6724 8354	0288 0061 1689	4557 6888 0944	5253 2443 8707	6535 4589 2101	0408 0828 5118	4133 9836 0071	9371 9635	9094 1561	4829 0057	2400 6064	4698 3940	4543 1552
16.	6629 3213 4040	9999 6701 2537	1943 7454 8438	5096 9368 8139	0783 5695 2121	0095 4874 5495	7318 6302 5283	1739 0405 3083	6951 0060 5217	7431 7990 5886	3202 2167 0985	2488 4846 3298	3446 0906	9359 5309	5252 3306	6489 4248	7157 9364	8412 3792	1452
17.	7399 1674	1943 9293	0303 4654	6449 5140	3775 4642	1147 5104	4725 5550	9095 2084	6783 9019	5430 2779	9520	6704	6096	8764	5972	3393	1356	2725	4284
18.	7117 9980	0921 2226	8250 4419	0989 1510	2324 0466	2327 4553	7036 6052	7364 5497	6124 8393	0652	8524	5956	6626	2401	2345	4064	3874	0726	5743
19.	4785 9102	7048 2041	7813 6486	0341 8935	5454 6218	7984 8371	5273 4921	4212 7017	4722 5423	7138 9467	8606 0944	1198 8729	8947 1238	4840 1188	1010 8007	1411 9446	9183 5882	9944 9982	6620
20.	0387 6332	4123 3571	6040	1876	2155	4884	8397	4658	8584	5181	4615	1416	9036	4430	2963	6126	9979	2779	0345
21.	4949 8626 6844	9293 6607 1705	4064 0080 6311	7618 8645	4357 9747	6080 9110	2553 2042	9745 6793	8384 1546	6498 1858	8297 2385	2949 1075	1014 1688	7189 1738	9696 1305	4940 5294	1911 0569	3640 4815	8947 5752