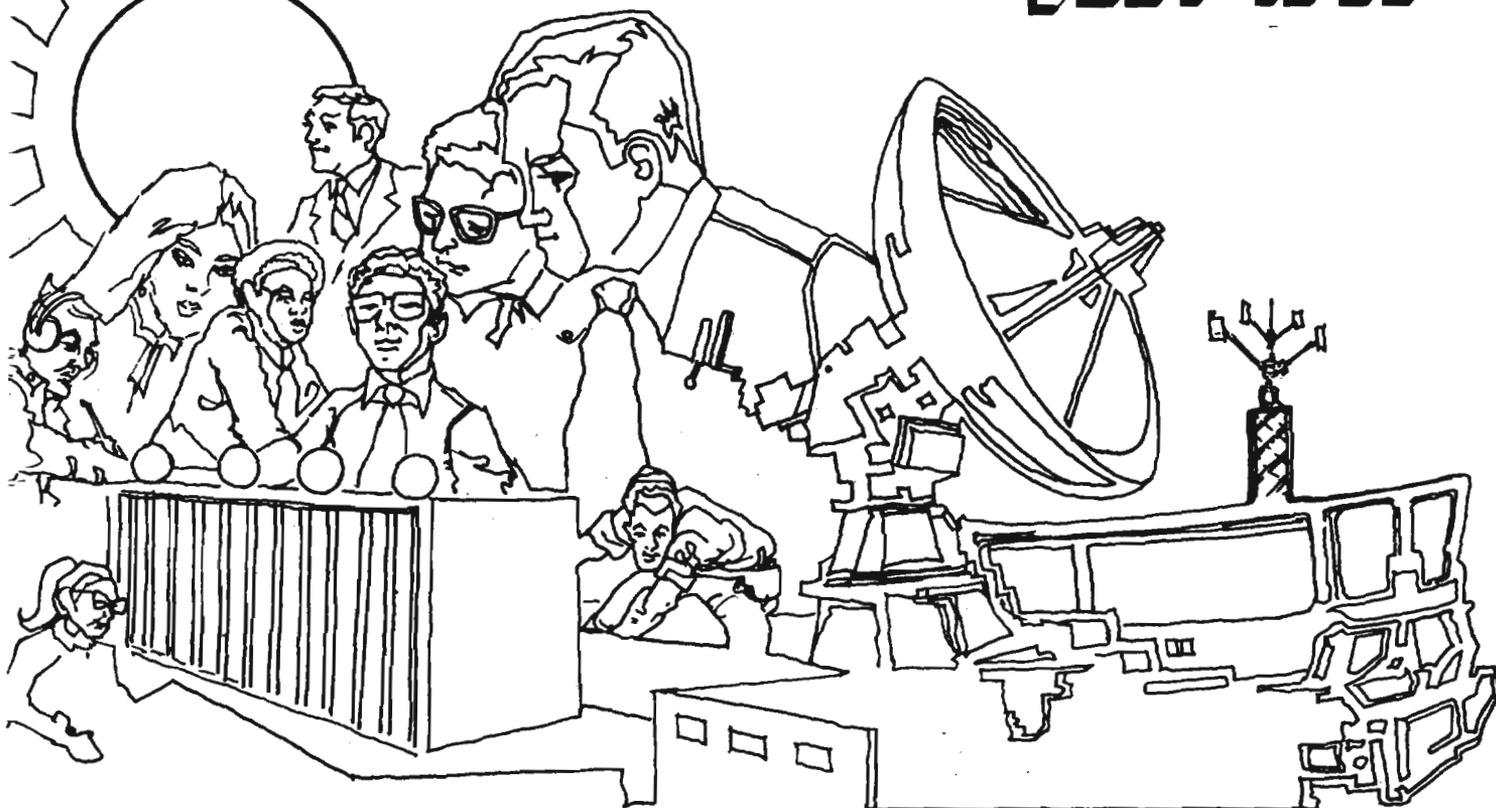


~~SECRET~~

NATIONAL SECURITY AGENCY
FORT GEORGE G. MEADE, MARYLAND

CRYPTOLOG

JULY 1979



SOURCE PROTECTION: OUR AGENCY'S INSURANCE POLICY (U)...	[REDACTED]	1
NAVAL READINESS: A BASIS FOR COMPARISON (U).....	[REDACTED]	4
NSA-CROSTIC NO. 27 (U).....	D.H.W.	8
WILT THOU, ANGELINA? (U).....	Sydney Fairbanks	10
GEARS OF THE MOUTH (U).....	Donald Lasley	11
LETTERS TO THE EDITOR (U).....		14
EXPERT (U).....	[REDACTED]	16
SHOOTOUT AT THE SIGINT CORRAL (U).....	[REDACTED]	18

P.L. 86-36

~~THIS DOCUMENT CONTAINS CODEWORD MATERIAL~~

~~SECRET~~

~~CLASSIFIED BY NSA/CSSM 123-2~~
~~REVIEW ON 1 July 2009~~

CRYPTOLOG

Published Monthly by PI, Techniques and Standards,
for the Personnel of Operations

VOL. VI, No. 7

July 1979

PUBLISHER

WILLIAM LUTWINIAK

BOARD OF EDITORS

Editor-in-Chief.....David H. Williams (3957s)

Collection..... [] (8555s)

Cryptanalysis..... [] (4902s)

Cryptolinguistics..... [] (5981s)

Information Science..... [] (3034s)

Language..... [] (8161s)

Machine Support..... [] (5084s)

Mathematics..... [] (8518s)

Special Research.....Vera R. Filby (7119s)

Traffic Analysis.....Don Taurone (3573s)

Production Manager.....Harry Goff (5236s)

P.L. 86-36

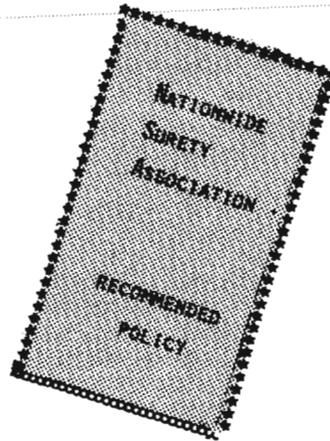
For individual subscriptions
send
name and organizational designator
to: CRYPTOLOG, P1

~~SECRET~~

[Redacted]

V12

SOURCE PROTECTION: Our Agency's Insurance Policy ^(U)



^(U) What kind of SIGINT baby was born to us in the 70s? What kind of delicate critter will cry for attention in the 80s? How shall we care for it? Viewed historically, it's a sure thing that tomorrow's SIGINT baby will be increasingly delicate, will require increasing attention to ensure its well-being, will both benefit and suffer from modern technology, and will face environmental challenges unimagined in years gone by. A thoroughly modern baby indeed! You can bet that this child of destiny will challenge our ingenuity to provide it security and continuity in the face of a changing world.

^(U) SIGINT has become fragile. Contributing to this fragility are such factors as the development of new concepts for providing SIGINT support to military commanders, the sophistication of SIGINT technology, and a seemingly ever-increasing SIGINT audience.

~~(S-SEO)~~ SIGINT direct support units are now organic to the units they support. This brings new players into the game. In the past, only the Service Cryptologic Agencies had to worry about monitoring cryptologic skills; now, the supported command is involved. Whether Johnny and Joanie learn Mandarin and maintain proficiency in it are now the concerns of new members of the SIGINT world. These developments impact on the way NSA provides SIGINT support.

~~(S-SEO)~~ Thus, the SIGINT audience grows, as it has always done. This probably means that we SIGINTers are doing something right. The more people become aware of SIGINT, the greater is the demand for it. The greater the demand, the wider the distribution. The wider the distribution, the more people become aware of it ... and so on. The process continues even now.

[Redacted]

One wonders where it will end. And while SIGINT producers might find in this some cause for feeling gratified, SIGINT security people cringe.

~~(S-SEO)~~ And as the audience grows, so does the number of players.

[Redacted]

~~(S-SEO)~~ SIGINT product was once mostly hard-copy and was sent to a small, selected readership. Now, distribution is largely electrical, and secondary distribution is just about anybody's guess. The trend for the future is toward cathode ray tube display — SOLIS, COINS, and FRITTER, for example. It is now very easy to access great volumes of SIGINT. CRT displays are open, generally, speaking, to all who can see. The systems, while secure, sort of stretch the conventional need-to-know principle. Thus, technologic sophistication has made it much more difficult to control what we disseminate and to monitor its security.

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

^(U) As might be expected, security responses grew to match these developments. But these reactions were almost an unconscious development. No one dictated, for example, an increased emphasis on sanitization, but while, in the past, you seldom even heard the term, now it seems a daily topic of conversation. People who once thought sanitization had something to do with cleaning the restrooms are now requesting help in sanitizing COMINT.

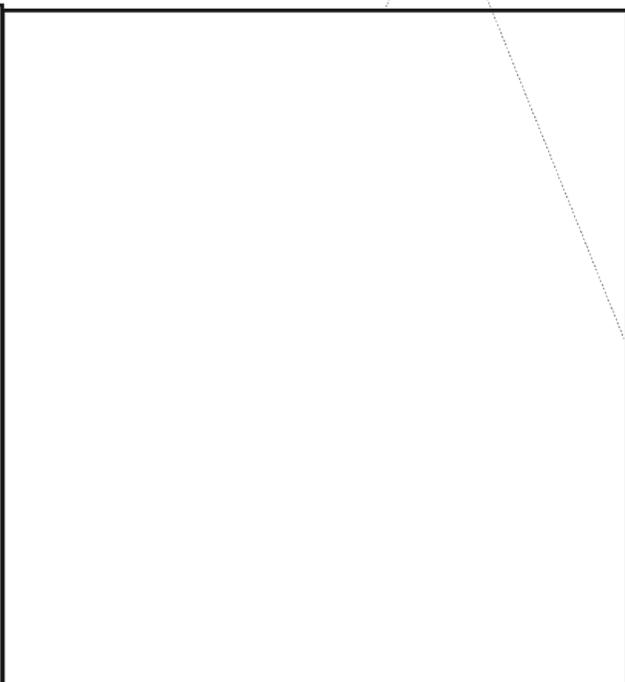
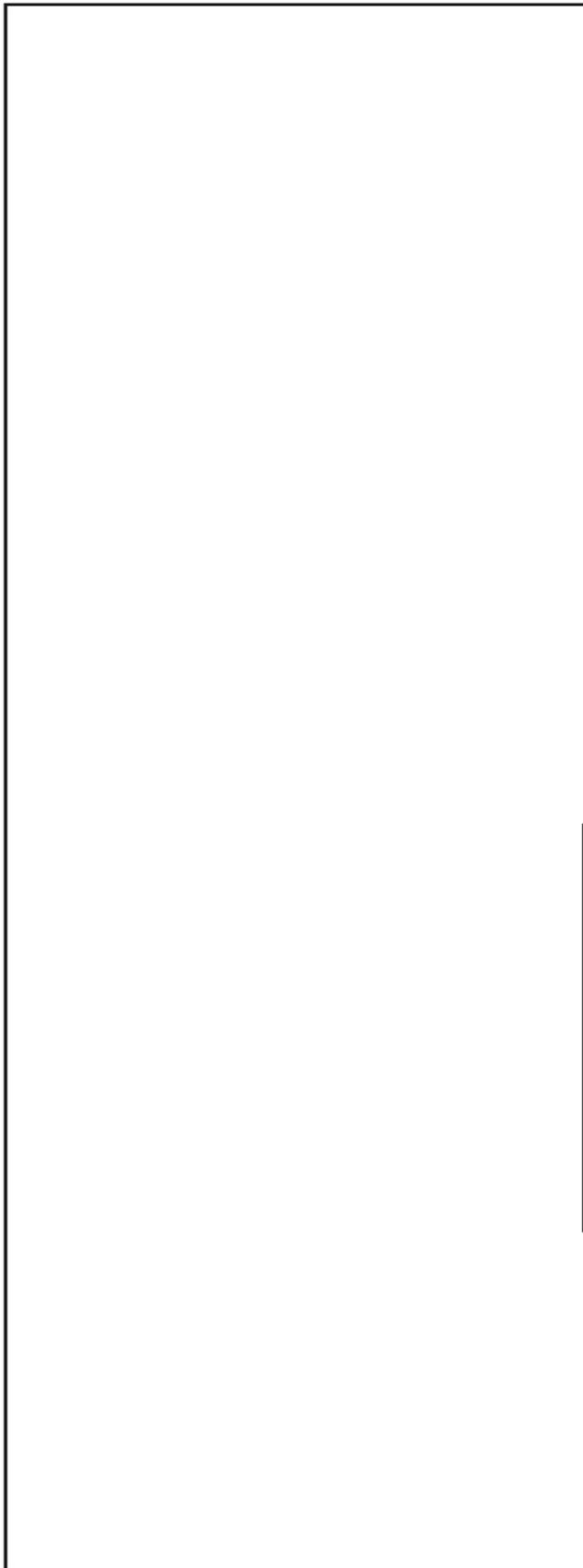
^(U) Well, it's high time we develop a conscious reaction to the security challenges of the day. But how do we increase the security of our product, even while providing it to an expanding readership? One obvious way is to reduce attribution to sources and methods as much as possible. Source attribution is not a buzz-phrase being forced on SIGINT reporters; rather, it is a sensible way of coping with some of today's problems.

[Redacted]

~~SECRET~~

~~HANDLE VIA COMINT CHANNELS ONLY~~





(U) This brings us to the point where all discussions of reporting lead: the requirements themselves. We must constantly be aware of current reporting policy, to ensure that we accept only those requirements which are consistent with our policy, and that those requirements are stated in a way that allows them to be met without violating our policy.



(U) Finally, a word of caution for us all. Even while rushing to eliminate excesses in source attribution we must be sure that adequate emphasis is given to retaining it when required. We must be careful not to throw out the baby with the bath water. That our product is SIGINT is evident; in fact, we want it known. The SIGINT connection is revealed in the address and the special intelligence caveat. The ultimate consideration is not concealing the connection with SIGINT; it is the protection of sources and methods.

UNCLASSIFIED

EO 1.4.(c)
P.L. 86-36

A05



NAVAL READINESS: A Basis for Comparison

Any study of contemporary naval readiness should be based on a historical naval readiness condition about which we already know. This provides a kind of analog in real time-and-space dimension, and is thus valuable for purposes of comparison, contrast and characterization.

There are several corners into which we might look for our lifelike model, such as the navies of the Soviet Union, North Korea, the People's Republic of China, or Israel. We have, in this country, a high regard for all of these navies—or so it would seem from the amount of intelligence, war-gaming, assessment, and propaganda devotion which we lavish upon them. But we often know less than we might about the readiness of these navies inasmuch as we are in their contemporary midst.

History is not only a good source for taking an example of naval readiness (or any other amorphous quality of the present), but it is also the *only* such source. We can only know with certainty that which has already past.

Accordingly, we shall examine briefly the readiness and reliability of the navy of Nazi Germany as it was at the outset of the Second World War, starting on September 1, 1939. We have excellent historical records about this, much analysis has already been done, and there are several late and living witnesses from the German Navy, among them Dönitz, Bekker, Werner, Ruge, Rohwer, and others. We shall examine a naval condition which a German might term *das Kriegsbereitschaft der Deutsches Marine*—the war readiness condition of the German Navy, or, more simply, serviceability. Through this, we shall be looking for specific places where parallels may be drawn with navies today, but without, however, the impossible necessity of finding equivalency.

Between 1933 and 1939, Nazi Germany devoted increasing proportions of its GNP to military production and to the creation of a great war machine, in anticipation of what is now known to have been an early intention of

waging offensive warfare. German defense expenditures as a percentage of GNP rose from 3% in 1933 (the same as that of Great Britain) to 18% in 1939. (At the beginning of 1938, it was 8%; the allies, therefore, benefitted from over a year of indications and warning, foreknowledge of the Germans' intention.)

In 1933, the German naval inventory contained two major and twelve minor surface combatants (destroyers and greater). In 1939, submarine production amounted to 19% of the total naval inventory.

Given that a "non-creeping" buildup followed by war was contemplated, the Nazis' long-term naval production plan, the famed "Z-Plan," is of interest. This plan forecast naval production from the outset of hostilities (1939) to the final victory of the Fatherland (1947) and provided for both new classes and for replacements to war losses. Table 1 (next page) is extracted from the Z-Plan.

Thus, the Nazi naval planners conceived a grand plan for quintupling the number of ships in their navy in seven to eight years, while under arms—not to mention achieving a sixfold increase in overall tonnage. On February 2, 1943, Grand-Admiral Karl Dönitz issued a directive, on Hitler's order, to radically alter the Z-Plan production, to cease repairs and maintenance on battleships and cruisers (but not on destroyers and light forces), and to place the thus freed-up resources into land-based coastal defense and into the submarine service. Clearly, during the course of an extended conflict, a considerable distinction can develop between availability and intent at the outset and sustainability at mid-course. In a distinct sense, this is the internal rationale for continuing a war: to cripple the enemy's capability to continue. One is then running down his war machine with consequent effect on his posture and degree of readiness.

The overall availability of the German Navy on September 1, 1939, is interesting. Generally, except for battleships, it was high, as shown in Table 2.

UNCLASSIFIED

UNCLASSIFIED

	<u>On Hand, 1939</u>	<u>Planned, by 1947</u>
Great-Sized Battleships (Type H)	0	6
Battleships (Type GNEISENAU/BISMARCK)	2	4
Small Battleships (Type DEUTSCHLAND)	3	3
Battle Cruisers (Type P)	0	12
Heavy Cruisers	2	5
Light Cruisers (Type M)	0	24
Scout Cruisers	0	36
Destroyers	22	70
Corvettes	8	78
Aircraft Carriers	0	8
Submarines	66	249
Ocean	34	162
Coastal	32	60
Special	0	27
TOTAL	103	495

Table 1

<u>Type</u>	<u>Number</u>	<u>Number Available</u>	<u>Percent Available</u>	<u>Remarks</u>
Battleships	9	3	33.3	Two of the three available were old, WW I 13,200-ton ships.
Cruisers	11	6	54.5	BLUCHER was commissioned three weeks after September 1st; had she been available, she would have changed the availability factor to 63.6%
Destroyers	21	17	77.3	
Submarines	57	45	78.9	
Corvettes	12	10	83.3	
Coastal Light Forces	20	19	95.0	
Aircraft Carriers	1	0	0	
OVERALL (MEAN) AVAILABILITY			60.3	
Note: Availability information of 73 minesweepers and several auxiliary ships was not obtainable at this writing.				

Table 2

UNCLASSIFIED

The mean availability, if not high, is quite respectable. A navy knowing that it will soon be involved in war ought to consider sixty percent availability to be a decent minimum. If, in this case, however, the one 23,200-ton aircraft carrier (GRAF ZEPPELIN), which had been launched but not commissioned, is omitted from calculation, the overall German naval availability factor rises to 70.3%, a figure of some interest with which to compare the short-term notice availability of certain navies today.

The percentage of availability-by-type demonstrates a principle of naval readiness well known among naval specialists: that the smaller a combatant (therefore the less equipment and fewer sub-systems which comprise it), the more likely it is to be serviceable on short notice—given, of course, adequate facilities and professional attention. This principle appears to prevail irrespective of the ranges of classes and sizes, that is, whatever the size of the larger types, generally their availability will be less than that of the smaller sizes. Also, this principle appears to hold without being directly borne on by the numbers of units in a class; thus, 17 of 21 destroyers is a higher percentage of availability than three of nine battleships, or six of eleven cruisers. Even among the largest unit-class, the battleships, it is the smaller ones which were available, that is, those of 12-14,000 tons, rather

than those of 23-32,000 tons (this group also includes the one aircraft carrier). The availability of the corvettes (83.3%) and the coastal defense light forces (95.0%) is very high.

Submarines present a modification to the basic principle inasmuch as certain extra or specialized care is required for their maintenance and operation; on the other hand, they can be gotten up to full readiness more quickly than can most surface combatants. On September 1, 1939, 16 submarines were in their standby positions in the North Atlantic and the North Sea. By the end of the first week of the war on the continent, the number of operating submarines had doubled. No other type of German naval combatant ever matched this record in the course of the war in Europe. Operating battleships and cruisers never doubled in number. While the number of destroyers and corvettes in operational service more than doubled eventually, it was only after much longer periods, ranging from several weeks to several months.

As to the sustainability aspect of readiness, it has been noted above that wholly different values from those for availability may accrue. Specifically, the needs for modifications and the consequences of battle damage alter the overall readiness condition markedly. In the German case, in less than one year, that is, by the summer of 1940, the status of units out of action was as follows.

Type	Number In a Yard	Refit or Repair	Reason	Battle Damage	Percent of Total In Type Laid Up
Battleships	3	3		0	33.3
Cruisers	3	3		0	27.2
Destroyers	5	5		0	21.7
Corvettes	3	3		0	13.0
Coastal Light Boats	17	12		5	42.5
Submarines	3	3		0	5.0
Aircraft carrier (Launched on August 12, 1938, but never commissioned)					
MEAN PERCENTAGE OF ALL SHIPS OUT OF ACTION					23.8

Table 3

Thus, without the U.S. Navy having yet come into the war, and without the Battle of the Atlantic having yet begun, almost one-fourth of the German combatants were out of action

after about ten months of warfare. (In addition to the above, eleven auxiliaries were also undergoing yard work for either refit or battle damage.)

An effectiveness assessment of the German Navy throughout World War II yields quite a different story—one which highlights the extreme usefulness of naval policies, programs, and strategies which are centered on submarines. Capital warships either could not be completed building or suffered early, decisive losses. These ships (battleships and cruisers) subsequently were sharply under-employed, owing to very high cost per unit, as well as to consequent changes in strategies. Destroyers and corvettes were variously over- and under-utilized. By early 1943, submarines had become the principal German naval combatant and were used with

considerable effectiveness.

According to Rohwer, by September 1944 the twenty most successful submarines had sunk 573 Allied non-naval (mostly merchant) ships totalling 3,297,685 tons. In addition, eight naval ships—two destroyers, one battleship, one cruiser, one submarine, one corvette, and two auxiliaries—were destroyed. This accomplishment was attained with an investment of 166 submarine missions amounting to a total of 6,028 ship-days. Although the effectiveness of individual submarines varied greatly, the overall *average* effectiveness of the German submarine service was as shown below in Table 4.

Average number of non-naval ships sunk per submarine	28.69
Average number of all ships sunk per submarine	29.05
Number of ships sunk per submarine mission	3.50
Non-combatant tonnage sunk per ship-day	570.06
Average number of ships sunk per ton (surfaced) of all 20 leading submarines	.021
Average tonnage sunk per ton (surfaced) of all 20 leading submarines (Or, expressed otherwise, a 121:1 return on investment!)	121.23
Average submarine utilization, over a five-year period	8.3 missions per submarine, or 301.4 ship-days per submarine

Table 4

This amounts to an average of 16.5% of the five-year period spent at sea, with a yield of 570 tons per ship-day over that period.

This submarine effectiveness was achieved in spite of serious technical and design deficiencies in torpedoes during the first two years, in spite of late (1942) policy and program changes in strong favor of submarine production, and against the increasing odds thrown up by Allied convoy and anti-submarine warfare practices.

The Z-Plan called for the delivery of 249 submarines by 1947. Instead total production ran to 1,170 submarines by 1945. Of these, between 1939 and 1945, 630 were lost to enemy action at sea: 81 were destroyed in home waters; 42 were lost by accident; 215 were scuttled; 38 were retired; 11 were interned; and 153 were surrendered. Overall, 91.7% of the German submarines were lost as a result of various Allied military actions. Direct combat losses amounted to 60.7% of the final total production, but this required nearly six years of warfare. In the end, a lack of sustainability rather than initial (or even mid-term) availability resulted in the total collapse of German naval readiness.

In the preface to his *Hitler's Naval War*,¹ Cajus Bekker states

The momentum of the German war effort was in fact only enough to last two, or at most, three, years after the reserves ran out, and though the arms industry continued production, this lagged increasingly behind the enemy and his sources of supply.

1. Kensington Publishing Corp, New York, 1974.

AUTHOR'S NOTE: The analysis in this article is that of the author and any faults are his. The intention is to provide a brief basis for comparative naval studies with respect to readiness. Extensive data and more complete analyses upon which this material is based is contained, *inter alia*, in the works of Mr. Cajus Bekker, Dr. Jurgen Rohwer, and Congressman Les Aspin of Wisconsin.

NSA-Croctic No. 27

By D.H.W.

DEFINITIONS

WORDS

- A. Sousa composition (3 wds)

145	234	66	55	45	195	21	6	170	216	131	229							
<table style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; width: 40px;">51</td> <td style="border-bottom: 1px solid black; width: 40px;">180</td> <td style="border-bottom: 1px solid black; width: 40px;">164</td> <td style="border-bottom: 1px solid black; width: 40px;">93</td> <td style="border-bottom: 1px solid black; width: 40px;">81</td> <td style="border-bottom: 1px solid black; width: 40px;">188</td> <td style="border-bottom: 1px solid black; width: 40px;">201</td> </tr> </table>												51	180	164	93	81	188	201
51	180	164	93	81	188	201												
- B. American humorist and actor ("Steamboat Round the Bend"), 1876-1944 (full name)

15	224	84	7	136	108	237	52	165	70
----	-----	----	---	-----	-----	-----	----	-----	----
- C. Perpetual dummy of the bridge columns

209	8	235	60	111
-----	---	-----	----	-----
- D. Right at sea

220	42	123	4	73	39	98	20	134
-----	----	-----	---	----	----	----	----	-----
- E. "Strange such high dispute should be - 'Twixt _____," *On the Feuds Between Handel and Bononcini*, John Byrom, 1725 (3 wds)

238	13	219	174	152	47	179	77	140	154	115	23											
<table style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; width: 40px;">101</td> <td style="border-bottom: 1px solid black; width: 40px;">208</td> <td style="border-bottom: 1px solid black; width: 40px;">117</td> <td style="border-bottom: 1px solid black; width: 40px;">3</td> <td style="border-bottom: 1px solid black; width: 40px;">199</td> <td style="border-bottom: 1px solid black; width: 40px;">128</td> <td style="border-bottom: 1px solid black; width: 40px;">228</td> <td style="border-bottom: 1px solid black; width: 40px;">41</td> <td style="border-bottom: 1px solid black; width: 40px;">64</td> <td style="border-bottom: 1px solid black; width: 40px;">185</td> <td style="border-bottom: 1px solid black; width: 40px;">22</td> </tr> </table>												101	208	117	3	199	128	228	41	64	185	22
101	208	117	3	199	128	228	41	64	185	22												
- F. For pushing the foul-mouthed laboratory duplicate off the rooftop, the police charged him with making an _____ (3 wds)

204	148	29	232	100	9	107	198	38	80	133	161				
<table style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; width: 40px;">223</td> <td style="border-bottom: 1px solid black; width: 40px;">217</td> <td style="border-bottom: 1px solid black; width: 40px;">173</td> <td style="border-bottom: 1px solid black; width: 40px;">166</td> </tr> </table>												223	217	173	166
223	217	173	166												
- G. Amerind (var.)

34	236	106	158	192	227
----	-----	-----	-----	-----	-----
- H. Virginia _____

95	160	129	50	181	153	169
----	-----	-----	----	-----	-----	-----
- I. Author of *A Message to Garcia*

207	96	214	62	5	28	196
-----	----	-----	----	---	----	-----
- J. _____ Darby

171	113	2	149	68
-----	-----	---	-----	----
- K. Characterizing a perfectly ordinary mussel entree (3 wds, foll. by Word Y)

125	24	12	221	31	59	142	65
-----	----	----	-----	----	----	-----	----
- L. Palindromic Honda

67	151	226	197	75
----	-----	-----	-----	----
- M. Bullied, intimidated

17	112	87	200	61	46	78	177
----	-----	----	-----	----	----	----	-----
- N. Where Dorothy's dog's most recent meal is (2 wds)

69	190	211	126	186	103
----	-----	-----	-----	-----	-----
- O. Miss Ullmann

114	104	49
-----	-----	----
- P. Lascivious

97	202	16	120	44	240	213	230	83
----	-----	----	-----	----	-----	-----	-----	----
- Q. Formed an incorrect opinion

25	225	157	162	194	72	206	239	82
----	-----	-----	-----	-----	----	-----	-----	----
- R. One with an exaggerated sense of self-importance

71	54	132	11	40	183
----	----	-----	----	----	-----

S. Cambridge's *other* institution of higher learning (2 wds, foll. by Word T)

32 182 130 144 193 92 233 163 156 27 168 110
10 86 57 139 150 176 119 205 109 91

T. See Word S (2 wds)

146 222 56 215 137 85 116 1 18 76 178 37

U. The best-dressed people in Mecca (2 wds, foll. by Word V)

212 43 167 141 88 187 159

V. See Word U (2 wds)

210 175 19 90 121 26 138

W. In the same place (Lat.)

124 172 48 191 63 218

X. European capital

231 58 127 118 143

Y. See Word K

35 30 53 94 147

Z. Avon lady (2 wds)

36 122 105 33 14 189 102 184 155 79 89 74

a. Still

203 135 99

1 T	2 J	3 E	4 D	5 I	6 A	7 B	8 C	9 F	10 S		11 R	12 K		13 E	14 Z	15 B	16 P
17 M		18 T	19 V	20 D	21 A	22 E		23 E	24 K	25 Q	26 V	27 S	28 I	29 F		30 Y	31 K
	32 S	33 Z	34 G		35 Y	36 Z	37 T		38 F	39 D	40 R	41 E		42 D	43 U	44 P	45 A
46 M		47 E	48 W	49 O	50 H	51 A		52 B	53 Y	54 R	55 A	56 T		57 S	58 X	59 K	
60 C	61 M		62 I	63 W		64 E	65 K	66 A	67 L	68 J	69 N	70 B	71 R	72 Q		73 D	74 Z
	75 L	76 T	77 E	78 M	79 Z	80 F	81 A	82 Q	83 P		84 B	85 T	86 S	87 M	88 U		89 Z
90 V	91 S		92 S	93 A	94 Y	95 H	96 I	97 P	98 D	99 a	100 F	101 E		102 Z	103 N		104 O
105 Z	106 G	107 F	108 B	109 S		110 S	111 C	112 M		113 J	114 O	115 E	116 T		117 E	118 X	119 S
120 P		121 V	122 Z		123 D	124 W	125 K		126 N	127 X		128 E	129 H	130 S	131 A	132 R	133 F
134 D	135 a	136 B	137 T	138 V		139 S	140 E	141 U	142 K		143 X	144 S		145 A	146 T	147 Y	148 F
149 J	150 S	151 L	152 E	153 H		154 E	155 Z	156 S	157 Q	158 G	159 U	160 H	161 F		162 Q	163 S	164 A
165 B	166 F	167 U		168 S	169 H	170 A	171 J	172 W	173 F	174 E		175 V	176 S	177 M	178 T	179 E	180 A
	181 H	182 S	183 R	184 Z	185 E	186 N	187 U	188 A		189 Z	190 N	191 W		192 G	193 S	194 Q	195 A
196 I	197 L	198 F	199 E		200 M	201 A	202 P	203 a		204 F	205 S	206 Q	207 I	208 E		209 C	210 V
211 N		212 U	213 P		214 I	215 T		216 A	217 F	218 W	219 E	220 D		221 K	222 T		223 F
224 B	225 Q	226 L	227 G	228 E	229 A	230 P	231 X		232 F	233 S	234 A	235 C	236 G	237 B	238 E	239 Q	240 P

"Whom are you?" said Cyril, for he had been to night-school.

—George Ade.

One of the more charming frailties of actual speech goes by the rather stuffy name of hyper-urbanism, signifying that the speaker is trying too hard to sound like a "city feller." There are plenty of familiar instances. Tell a Cockney not to say "'orse" for "horse" and he will presently call an outrage "a houtrage." Reprove his sister, who works in a Tea Shoppe, for calling a plate a "plite" and she will want to be "nace and refaned." Persuade a Brooklynite not to say "poil" for "pearl" and he will practice hard at saying "pernt" for "point"—or alternatively he will develop an extraordinary diphthong, something like that of the French *feuille*, which makes it impossible to convict him of error, and equally impossible to tell whether he means "curl" or "coil."

Similarly in matters of syntax, if you train little Johnnie not to say he seen a Good Humor man, he will tell you that he wants to saw another; and apparently if you teach fifty million children not to say "him and me are going fishing," forty-nine million will grow up saying, "between you and I." We heard the other day of an unfortunate secretary, within the confines of this institution, who after one or two angry snubs no longer dares correct this idiom in her tyrant's correspondence. Our heart bleeds at the thought.

Secretaries themselves, however, have one form of hyper-urbanity to which they tend to succumb in large numbers. Ask a victim to do something for you, and she answers in tones of conscious rectitude, "Yes, I shall."

It would be a brave man who would tackle the little matter of "shall" and "will"—representing, in the first person, futurity and volition, respectively—within the limitations of two pages of print. Suffice it to say that a question uses the form of the expected, or rather the invited answer:

"Shall you (fut.) be in town tomorrow, and if so will you (vol.) send him a telegram."

"Of course I will (vol.), I shall be glad to. Shall I (vol.) send it collect?"

"Yes. Will you (vol.)?"

"Shall I" seems to reverse the rule, but this is because it invites an answer in the *second* person, and for the second and third persons "will" stands for futurity and "shall" for volition (of the speaker). Thus "Shall I compare thee to a summer's day?" *invites* the answering command "Thou shalt..." although what is probably *expected* is an ecstatic "Oh, William, *would* you?" But this is a digression.

Colloquial usage, of course, is "I will" for everything, even an undesired futurity: "If I do that I will be fired." Only "shall I" survives, like a fragment of an ancient ruin protruding through the level turf. Thus, reverting to our original theses, when a lady is asked to do a favor she should answer, whether colloquially or formally, "I will."—excluding, of course, the more frequent case where the proper answer is "No."

One wonders, by the way, whether when the secretary marries her boss, and "Wilt thou, Angelina...?" is intoned amid orange blossoms, she answers crisply "Yes, I shall."

It may be said that we are not concerned, as an editor, with spoken language, but only with what is printed. In fact we said as much ourselves about six months ago when someone asked us to voice a protest about a growing tendency to say "I could care less." But last week, sure as death, we saw it in print. Unfortunately, ours is, we like to think, a mild and mannered pen, incapable of excoriating the perpetrators. However: the English sentence (gentle non-reader) which says in five neat syllables precisely what it means, is "I couldn't care less." It is hard to improve on it. Evidently it would be unfair to expect you to *understand* what you hear, but could you, perhaps, *listen* a little more closely?

Aw, gee, mom, what's the use?

(Reprinted from *The NSA Technical Journal*, April 1959)

Wilt Thou,

Angelina...?

SYDNEY FAIRBANKS

Gears of the Mouth ^(u)

Donald Lasley, A41

This article was originally delivered as an address at the Language Quality Control Symposium of March 1970. It is just as pertinent today as it was then. dhw

(u) When I was asked to speak on the subject of language quality control, I accepted, confident that I knew enough about it to speak extemporaneously. Since then I have given considerable thought to the subject and have reached the conclusion that language quality control is extremely complex and that I really have much to learn about it. I am somewhat knowledgeable, however, on the subject of the lack of language quality control.



~~CONFIDENTIAL~~EO 1.4.(c)
P.L. 86-36

(u) What is language quality control? Quality control has been defined as

an aggregate of functions designed to insure adequate quality in manufactured products by initial critical study of engineering design, materials, processes, equipment and workmanship followed by periodic inspection and analysis of the results of inspection to determine causes for defects and by removal of such causes.

I suggest that language quality control is an aggregate of functions designed to insure adequate quality in product based on language through management of linguistic resources followed by periodic inspection and analysis of the results of inspection to determine causes for defects and by removal of such causes.

The key to language quality control is the management of linguistic resources. This includes the recruitment, the training, the organization, the utilization, and the support of such resources.

(u) Some of the questions we ought to ask ourselves are

- Are we recruiting the most talented people?
- Are we measuring talent by a reliable yardstick?
- Do we use the measurement once we have it?
- Is training, whether formal or OJT, adequate? Do we effectively plan and utilize training?
- Are we properly organized for efficient operation?
- Do we provide adequate supervision and checking?
- Do we utilize linguists efficiently?
- Is linguistic support adequate? Do we have the research aids, working aids, machine aids, files and books that are needed?

(u) To conclude, while I have probably not contributed much to your overall knowledge in this discussion, I hope I may have brought out some aspects of language quality control in a new light, and that I may have stimulated some thought and even further discussion of this very important and very real problem.

UNCLASSIFIEDRUSSIAN HANDBOOK OF SPOKEN USAGE, VOL. 3

Volume 3 of the *Russian Handbook of Spoken Usage* is scheduled to be distributed at about the end of July. It covers the Russian letters T through Ф. Copies will be issued through organizational channels, but analysts who fail to receive a copy may request one directly by contacting the P16 Publications Officer, Harry Goff, ext. 5642s or 5236s.

The *Russian Handbook* is a reference aid containing items which are not found, or are very incompletely treated, in standard dictionaries, but which occur in the spoken language, such as

- Detailed explanations of words that express speakers' emotions and attitudes—surprise, annoyance, approval, disagreement, uncertainty, and the like
- Characteristically colloquial constructions
- Points of syntax and usage
- Uneducated, regional, or otherwise nonstandard forms and constructions and vocabulary items.

When complete, the *Handbook* will consist of five volumes. Vols. 1 through 4 will contain Russian words, arranged in Russian alphabetical order, while Vol. 5 will contain articles under grammatical headings, such as Infinitive, Perfective, and so on, listed in English alphabetical order. The *Handbook* is UNCLASSIFIED.

Copies of earlier volumes are also available, including a ring binder which will hold all three of the published volumes.

UNCLASSIFIED~~CONFIDENTIAL~~~~HANDLE VIA COMINT CHANNELS ONLY~~

~~CONFIDENTIAL~~

Letters To the Editor

Last month CRYPTOLOG printed a letter from Kathy Bjorklund in which she wondered why the view of traffic analysts as a vanishing breed, which has been expressed in CRYPTOLOG by various people, is at such variance with the M3 view of TA personnel as an overstrength category.

To the Editor, CRYPTOLOG:

(w) Since you were kind enough to ask me for a comment on Kathy Bjorklund's letter, I felt obligated to break out [redacted] article, to which she referred. There are several hot spots in those two items and one that rises from them.

(w) First, CRYPTOLOG has traditionally been an open forum, and I would not change that. But we who write for it from time to time are obligated to do some homework before we present opinions that aren't defensible. Or, maybe it's time to label fact and opinion so that readers can sort them out.

(w) For Kathy, here are a couple of facts. While your briefing on reassimilation and career field overages were probably conducted by personnel or administrative people, they are not the ones who made the decision that TA is an overage field. As your Chief of Personnel Services, [redacted] could have told you, M3 is part of Management Services (DDM), and it is a support or service organization that attempts to meet requirements established by other Key Components. In this case, it was Operations (DDO) telling M3 that there were overages in the TA field and shortages in the language field; it was DDO telling M3 to initiate the needed personnel actions, e.g., reassignments and hiring. Can you imagine the confusion if M3 went about willy-nilly hiring and reassigning people against no known requirements?

(w) Another fact is that George's article is mostly opinion. Now he has as much right as anyone else to have and express those opinions, but he knows he will get some arguments. For example, we not only lost good analysts when some TAs moved into management—we also gained some bad managers, although that's not a problem peculiar to the field of TA.

(w) But by and large, I doubt that you could find anyone who has to pick up the tab in billets or skills balances who would say we have any current or near future shortage of traffic analysts, or of TA Technicians

to fill the vacancies that will some day exist in the analyst ranks.

(w) Comparing real and present shortages in the language and computer arenas to "maybe" shortages ten years down the pike may not be a fair analogy. The computer and language shortfalls are there because we have added jobs or lived with vacant positions. In the field of TA that has not been, and is not now, the case.

(w) Since most of our TA overages are at the technician level, I'm not sure I understand George's suggestion that we hire more technicians. But my not understanding is irrelevant—we aren't going to hire against a non-requirement, at least not if I understand the way things work.

(w) Back to Kathy's letter for a final comment on her last statement: "...talent returning from overseas should not be regarded as a magic ingredient for such a brew." Given our selection processes, increased promotion points, and preferential treatment in assignments upon return for field people, I am a bit surprised that you believe there is an intentional negative attitude toward returning field people. And my opinion is that DDO, DDM, DDR, DDT and DDF would be equally surprised.

(w) Regards to you, Kathy. Congratulations to you, George. And, Dave, whenever you want an opposing view on almost any subject, please give me a call.

Dan Buckley, M03

P.L. 86-36

To the Editor, CRYPTOLOG:

(w) I read Kathy Bjorklund's letter with a feeling of depression—because what she says is all too true. The bodies-and-slots, or bean-counting, approach to personnel assignments is not one which is conducive to the continued development of the technical work force of the Agency.

(w) During the skills requirement forecast of 1973, the career panels were asked various questions on personnel development covering the period FY74 through FY79. Questions such as the following were asked:

~~CONFIDENTIAL~~

- What effect will new or emerging technology and modernization of cryptologic operations have on the skills under the purview of your career panel?

- Do you anticipate a need for developing multi-skilled specialists, and if so, which skills or combinations of skills will be required?

- Will the need for specific skills (TA, CA, etc.) decline or increase?

(u) I don't know what happened to the results of this poll, since current personnel planning does not seem to reflect them, but rather continues to be based on projections of the current work force: How many people do we have in such-and-such COSC? Well, then, if we have that many, and if we are getting the work done, then that must be the right number. So let's just straightline that number for the next four fiscal years. Obvious, this approach is the basis for faulty TDs, since it makes no allowance for any shifts in requirements brought about by shifts in targets or other considerations.

Let's see how this works. At the moment Traffic Analysis is carried as an overstrength skill in A Group. The TACP has two interns due to graduate this month. On the basis of their backgrounds, experience, the panel's recommendations and their own preferences these interns should be assigned to A2. But the thought of placing them in an overstrength element is enough to give the bureaucrats heartburn.

The placement of overseas returnees is similar. P41 attempts to assign personnel holding A Group overage skills to B, G, V or W; only a few of this year's returnees have been assigned to A.

In short, P41 and M3 will almost always stand in the way of any assignment to an overstrength element. I have accused P41 of approving TA intern placements using the bean-counter approach. They deny this vehemently, yet state in writing, in a memo to Chief, M3:



A fair share—by the numbers!

(u) [redacted] quoted by Ms. Bjorklund in her letter, are correct: the number of traffic analysts is dwindling. Part of this is attributable to

the reasons cited above. Another rank-thinning factor is age. Almost twenty percent of the people in COSC 1411, Traffic Analyst, are over 50 years of age; less than two percent are under 30.

(u) What is the solution? As I see it, it is two-fold. An immediate measure would be some directed assignments. This would include the identification of personnel holding a given COSC in an overstrength area, but not performing that function, and making appropriate readjustments, such as transfer, retraining or reclassification. It would also include the placing of overseas returnees in areas where their skills are most needed, even where there might be a temporary overstrength condition.

(u) For the longer term we must nurture the TA intern hire, insuring that we have at least six to ten coming in each year, and placing them in the work force where they will produce for the Agency regardless of numbers or quotas.

Let me quote from an old-time member of the TA corps.

"How long does it take to build a professional traffic analyst from zero? If it takes, say, five years, then we are betting that whatever the situation is today, it will be the same five years from now. And what we are betting with is the Agency's reputation for adapting to fast-breaking changes in the world situation."

The TA intern program can and does build a professional traffic-analyst-reporter from zero with a very solid understanding of the interrelationships of the other cryptologic disciplines. The annual hiring of a few bright people—recent college graduates as well as former military analysts—should solve the problem of being able to find good traffic analytic talent in the future.

[redacted] H115
Executive, TACP

To the Editor, CRYPTOLOG:

Permit me to comment on [redacted] article "Fear of Testing" which appeared in your April 1979 issue. This piece is obviously aimed at the younger employee approaching professionalization testing with some trepidation. But what of the older, pre-Age of Professionalization employee, for whom it is not a question of *phobia*, but one of *principle*?

(Continued on Page 21)

~~CONFIDENTIAL~~

P.L. 86-36

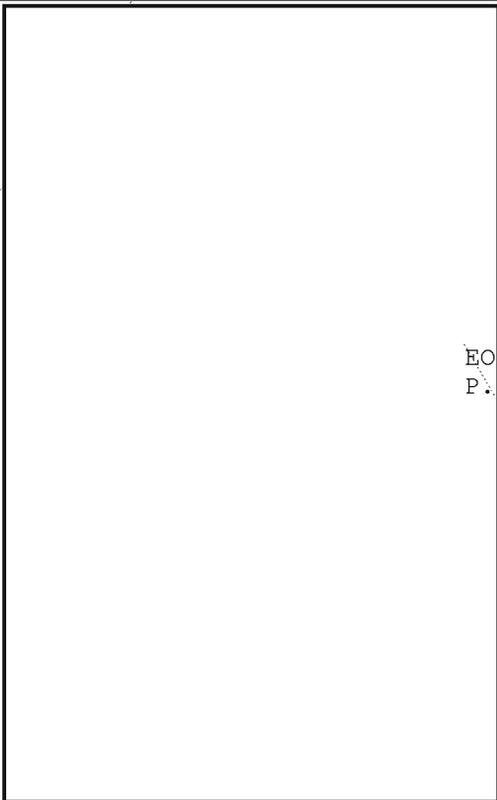
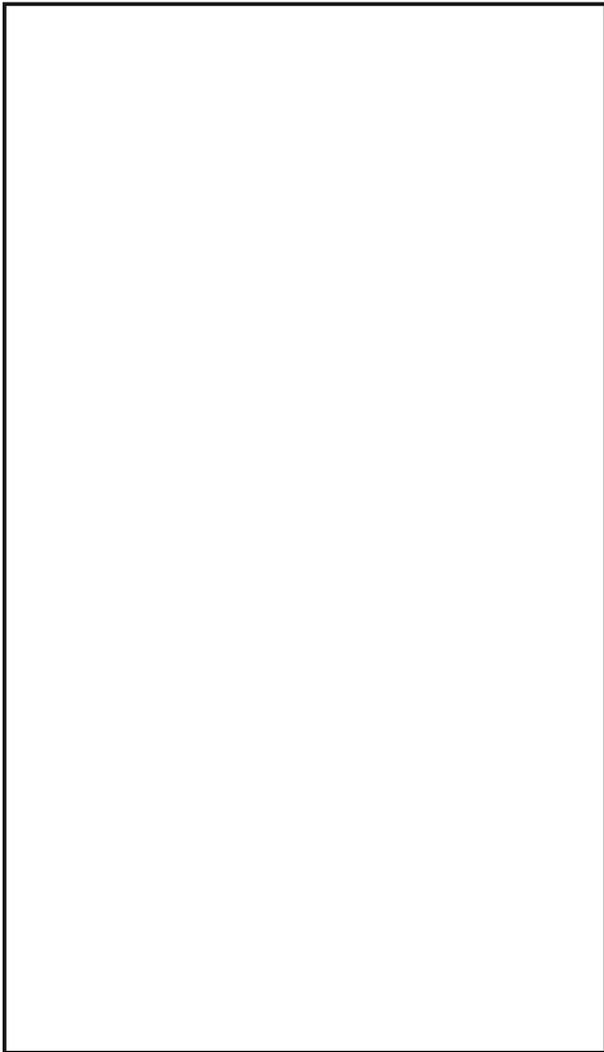
P.L. 86-36
EO 1.4.(c)

EXPERT

(u)



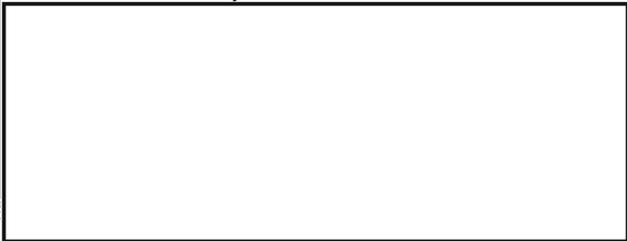
G65



EO 1.4.(c)
P.L. 86-36



Provisions have been made for inclusion of other information fields that may be required, or which are unique to an individual office.

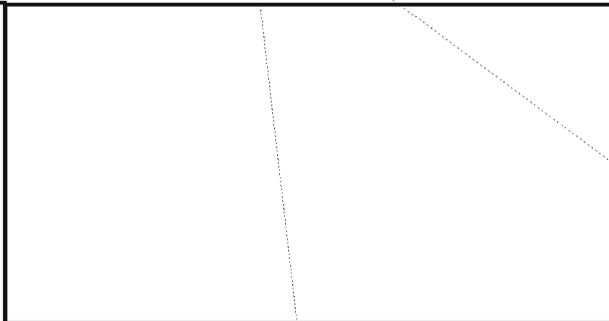
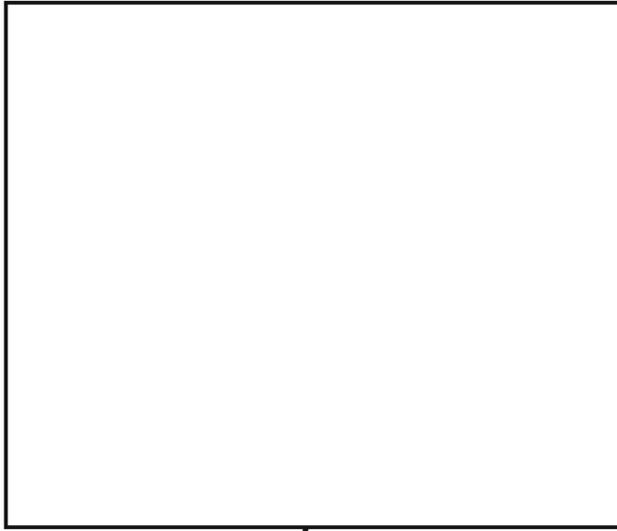


2. Defined in USSID 300 as information about foreign communications or signals, observed through signals collection or derived through analysis.

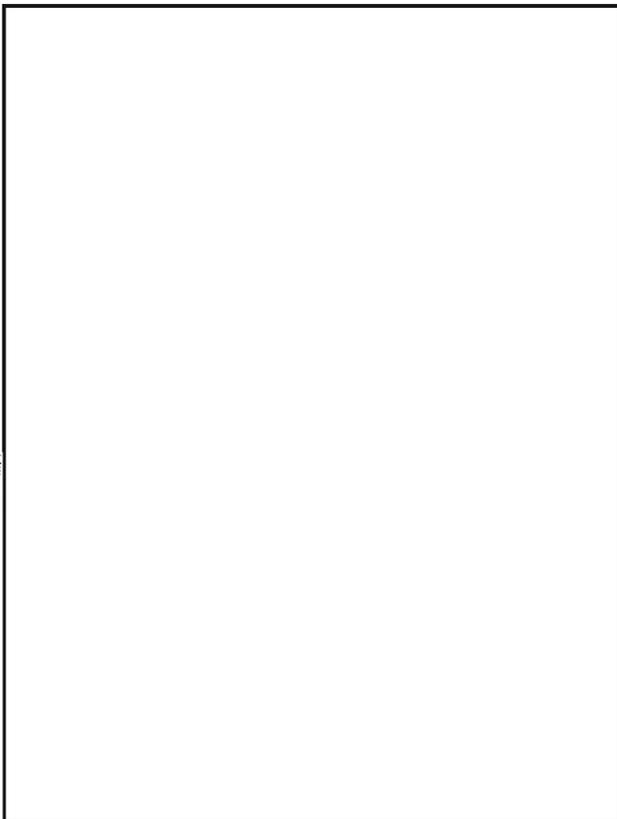
(U) In its early formative years, EXPERT's data and programs resided on the IBM 360/65

~~CONFIDENTIAL~~

~~HANDLE VIA COMINT CHANNELS ONLY~~



(u) The problem of automating NSA-originated product information into EXPERT has not yet been resolved. Automation of G product may become possible when a [redacted] system is fully implemented.



(u) Initially, in 1968, when EXPERT was only a theory, it was envisioned as an Agency-wide system. While that vision may never be attained, it is coming closer now that B and G are both using it. P.L. 86-36

~~(c)~~ Over the years, EXPERT has proven to be a useful system in meeting G's objectives. Today, to a greater degree than ever, it is being used to correlate SIGINT product information and corresponding target information, to assess productivity, and to help develop management policies. EO 1.4. (d)

~~(c)~~ EXPERT will be close to becoming an automated SIGINT end product information system when the match-merging of field product information is implemented. It can become fully automated with the advent of an Agency-wide [redacted] system. EXPERT might then be defined as an automated SIGINT product information system capable of answering the what, who, when, why, how, and where questions in full, and of providing this information on a timely basis to its users. P.L. 86-36

3. Defined in USSID 300 as the identification of the person, headquarters, or other target authority which has authorized or caused the transmission of the collected signal. It identifies, in effect the "drafter" or "releaser" of the message collected, or the organization which "sponsored" the transmission of the signal.

4. Writing on this subject two years ago, [redacted] quoted this remark from a translator: "I used to like to finish a translation so I could get a new one to start. Now I dread it, and put it off, because I'll have to make the EXPERT sheet." ("It's Got to Get Out Today," CRYPTOLOG, April 1977) P.L. 86-36

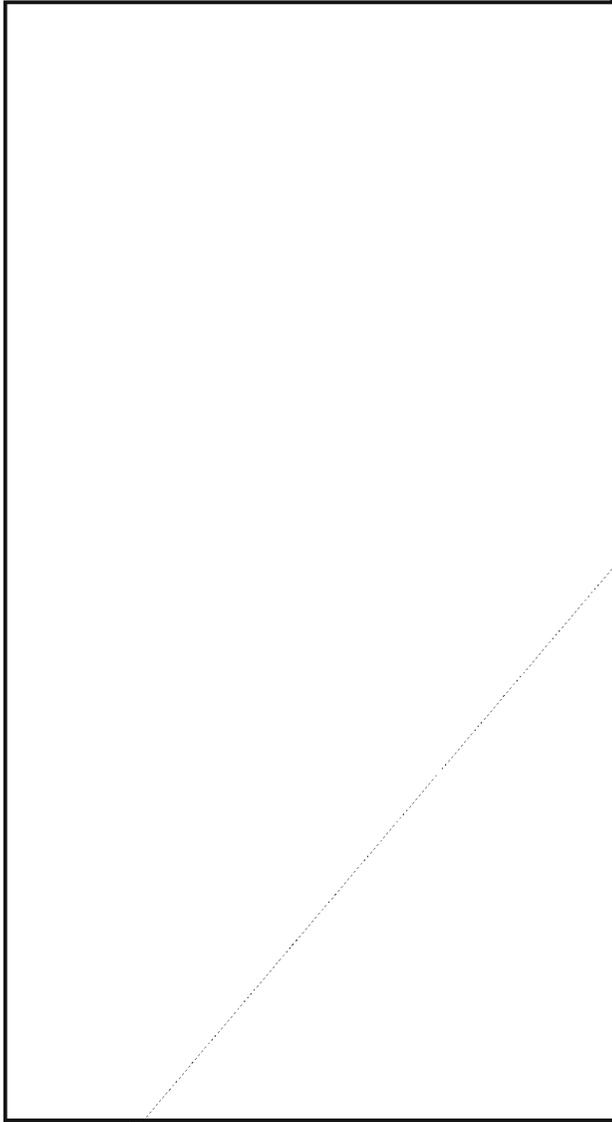
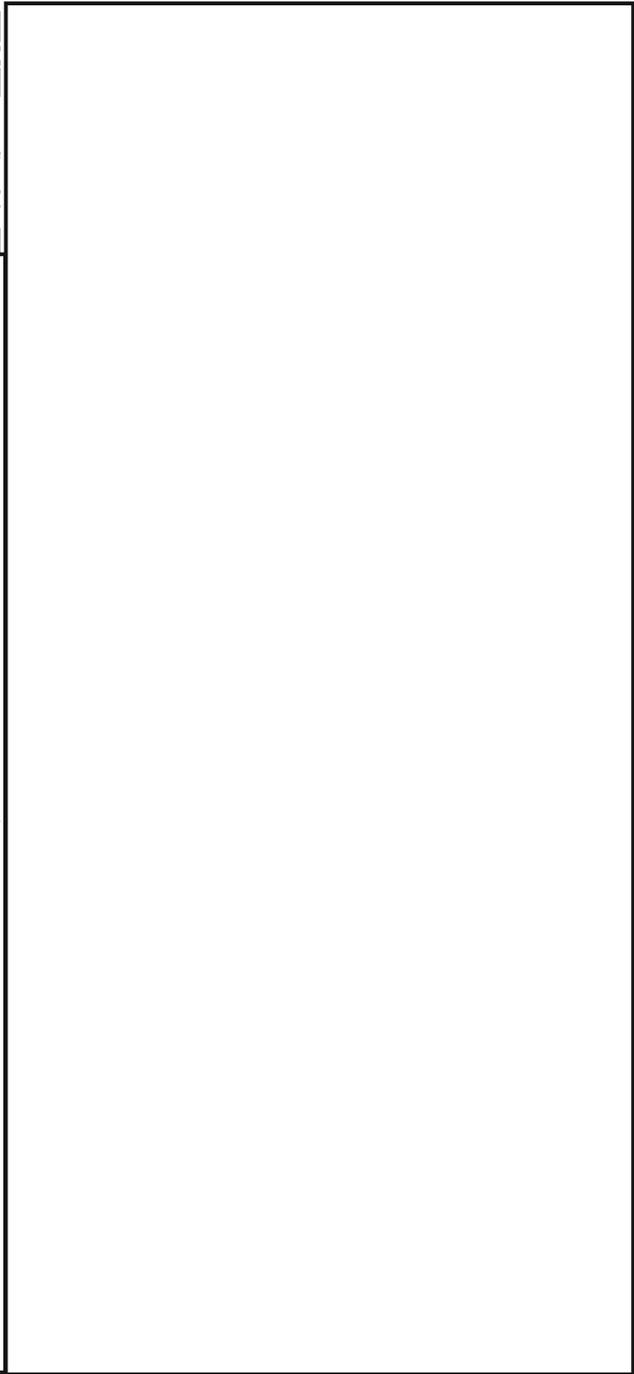


P.L. 86-36

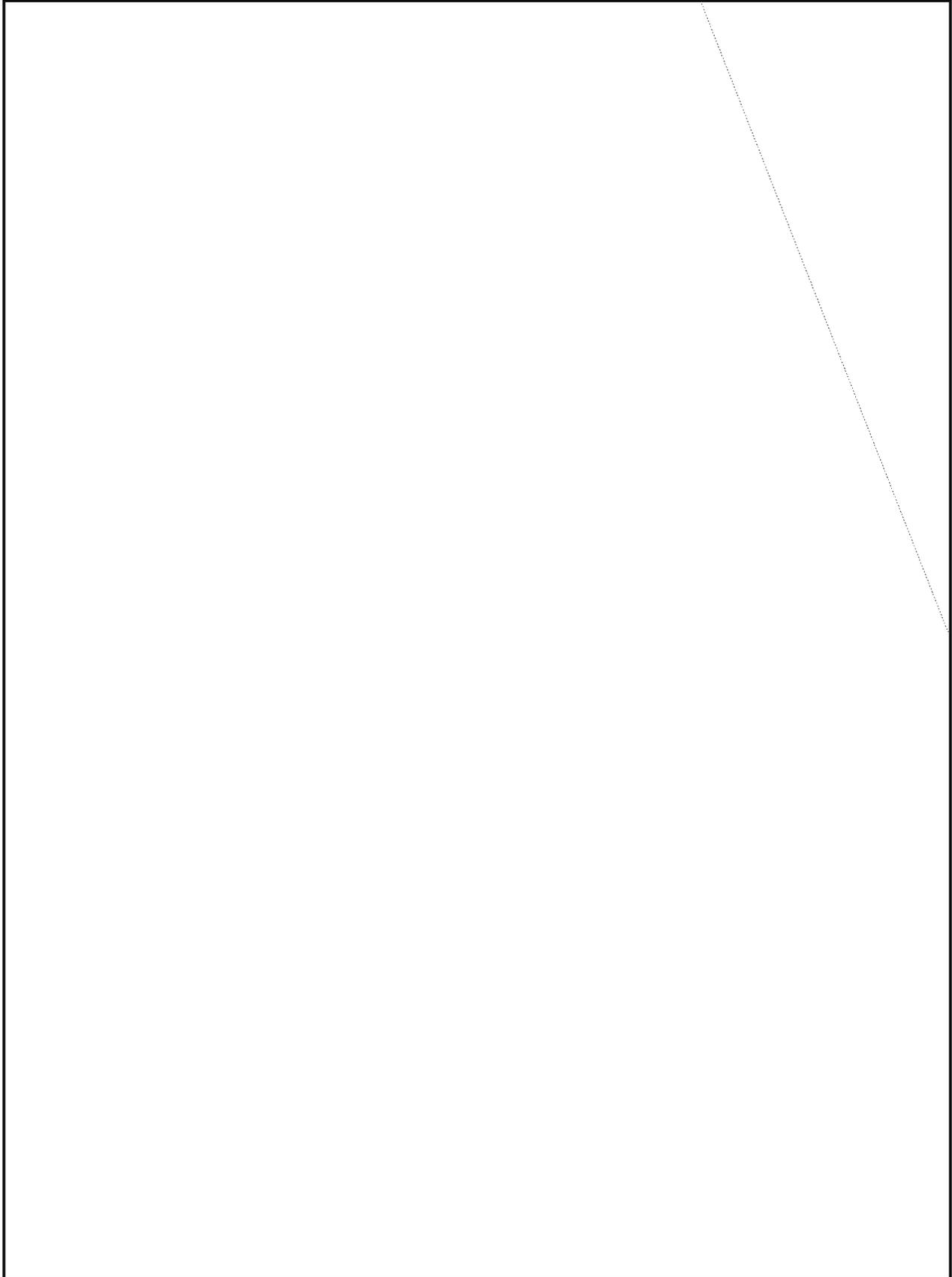
Shootout at the SIGINT Corral ^(u)

(Classified ~~SECRET-NOCCO~~ in entirety.)

In his article "I Remember SPELLMAN" in the July 1978 CRYPTOLOG Art Salenne pretty well dismissed the idea of on-line voice transcription as unworkable. Now here's [redacted] who, while not being exactly enthusiastic about the concept, does see some hope for its limited application.

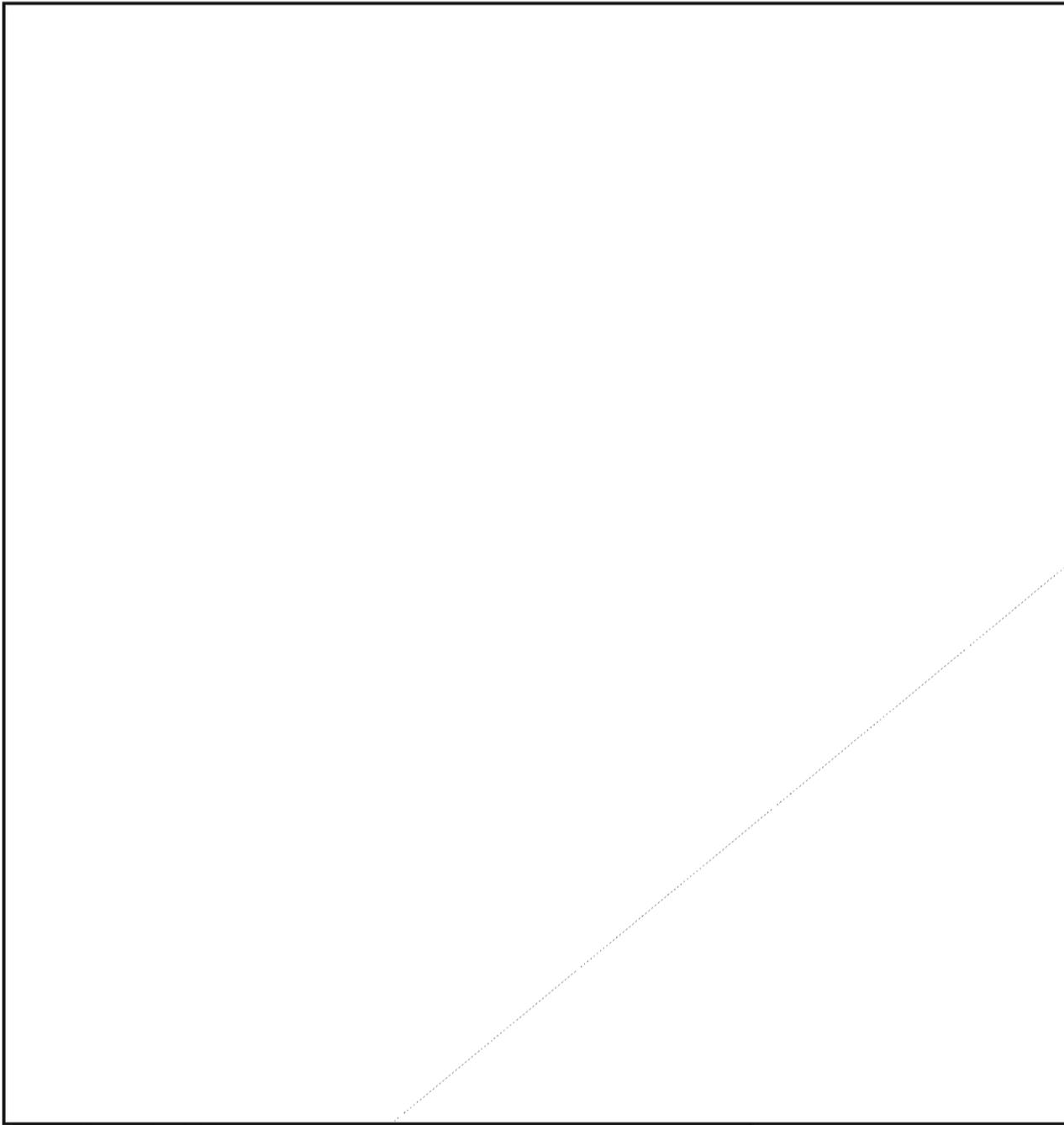


~~SECRET~~



~~SECRET~~

~~HANDLE VIA COMINT CHANNELS ONLY~~



SEMINAR ON TRANSLATION PROBLEMS (U)

(U) P16 will sponsor a Seminar on Translation Problems from 10 to 13 September. Topics common to practically all languages—things like ambiguity, redundancy, set phrases, culture-bound words, and the formation of neologisms—will be treated in each of the first sessions; these will be followed by specialized "tack-ons" devoted to specific languages or groups of related languages. Novice translators, old hands, and even non-linguist managers should find the sessions, which will feature correction of "problem translations" (in English, but reflecting the fact that a translator had a problem in rendering the text), enlightening and useful.

(U) If you would like further information, the person to call is [redacted] P16, ext. 5642s or 5236s.

SOLUTION TO NSA-CROSTIC NO. 26 (U)
(CRYPTOLOG, June 1979, by D.H.W.)

[redacted] Letter to the Editor.
CRYPTOLOG, October 1978

(U) "I will laugh at [quips concerning] female traffic analysts only when the opportunities for professional women are [equal to those] for men, and when the rate of women promoted is equal to that of men promoted, and when the number of women in management positions is proportionate to the number of men in management positions."

P.L. 86-36



L 86-36
EO 1.4.(c)

Although I have no hard statistics at my fingertips, I suspect that, in the language field, at least, many old-timers are standing on principle in refusing to participate in the "professionalization" program, fathered by the late Sidney Jaffe, because they were inequitably ignored in its formulation (in other words, discriminated against) — men who had genuinely professionalized themselves before the program was initiated by securing advanced degrees, whereas others, simply because they were GS-13s and up, were "automatically professionalized" on the basis of mere salary achievement (of course, the bosses, like honey, always stick together.)

This patent shortcoming I have repeatedly pointed out to Dr. Jaffe himself, as well as to Dr. Tordella and to a number of NSA directors, either orally or in writing; however, at this late date the problem still persists, giving us the impression that the dictum of ignoring-it-will-cause-it-to-go-away still is supreme in the conduct of the cognoscenti.

[redacted] Ph. D
NSA Fellow
G52

To the Editor, CRYPTOLOG:

As a former Art Editor of CRYPTOLOG, I feel that I must write and congratulate you on the recent addition of the clever drawings that have been accompanying many of the articles in recent issues. They are very well done, truly a credit to the artist, whoever he or she may be... and why do you keep the identity of such a talented artist a deep, dark secret? Certainly you owe it to your loyal readers to tell us who is responsible for those wonderful drawings.

Admirably,

[redacted] P16

From the Editor:

It's a pleasure. The illustrations signed L², which have been appearing in CRYPTOLOG since the March issue, are the work of the very talented [redacted] of G92. In the accompanying self-portrait Ms. [redacted] is shown in a moment of artistic creativity, while one of her surly penguins looks on. Incidentally, you can catch more of Lynne's work in the WIN (Women in NSA) Newsletter each month.



In the May issue of CRYPTOLOG we asked if anyone could identify a language of the Soviet Union (other than Armenian, Georgian and the three Baltic languages) which used a non-Cyrillic writing system. Last month we printed an answer from A Group's [redacted] which identified the language as German. But it looks like the issue isn't quite that simple...

To the Editor, CRYPTOLOG:

P.L. 86-36

The answer to your Linguitrivia question can be found on page 188 of the *Area Handbook for the Soviet Union*¹, which accompanied the programmed text for NCSch course TG-003, Orientation: Soviet Union. Referring to the linguistic make-up of the Soviet Union, it states

The western branch of the Germanic group is represented by German and Yiddish. German is spoken by a decreasing number of descendants of German stealers who arrived in Russia during the eighteenth century under the reign of Catherine the Great, herself a German. Yiddish is a variety of medieval German spoken by Jews descended from those who had lived in Germany but who had subsequently moved eastward into Poland and Russia. The language is written in the Hebrew alphabet and contains a large portion of Hebrew words. In the Soviet Union it is considered to be the language of the Jewish people, although the Jewish communities in the Caucasus and Central Asia speak local Iranian and Turkic languages. Some books and journals are published in Yiddish, and it is nominally the official language of the Jewish Autonomous Oblast¹.

[redacted]

APOLOGY:

The April issue of CRYPTOLOG carried a puzzle entitled "A Somewhat Larger Problem," but later issues have, through oversight, omitted the answer.

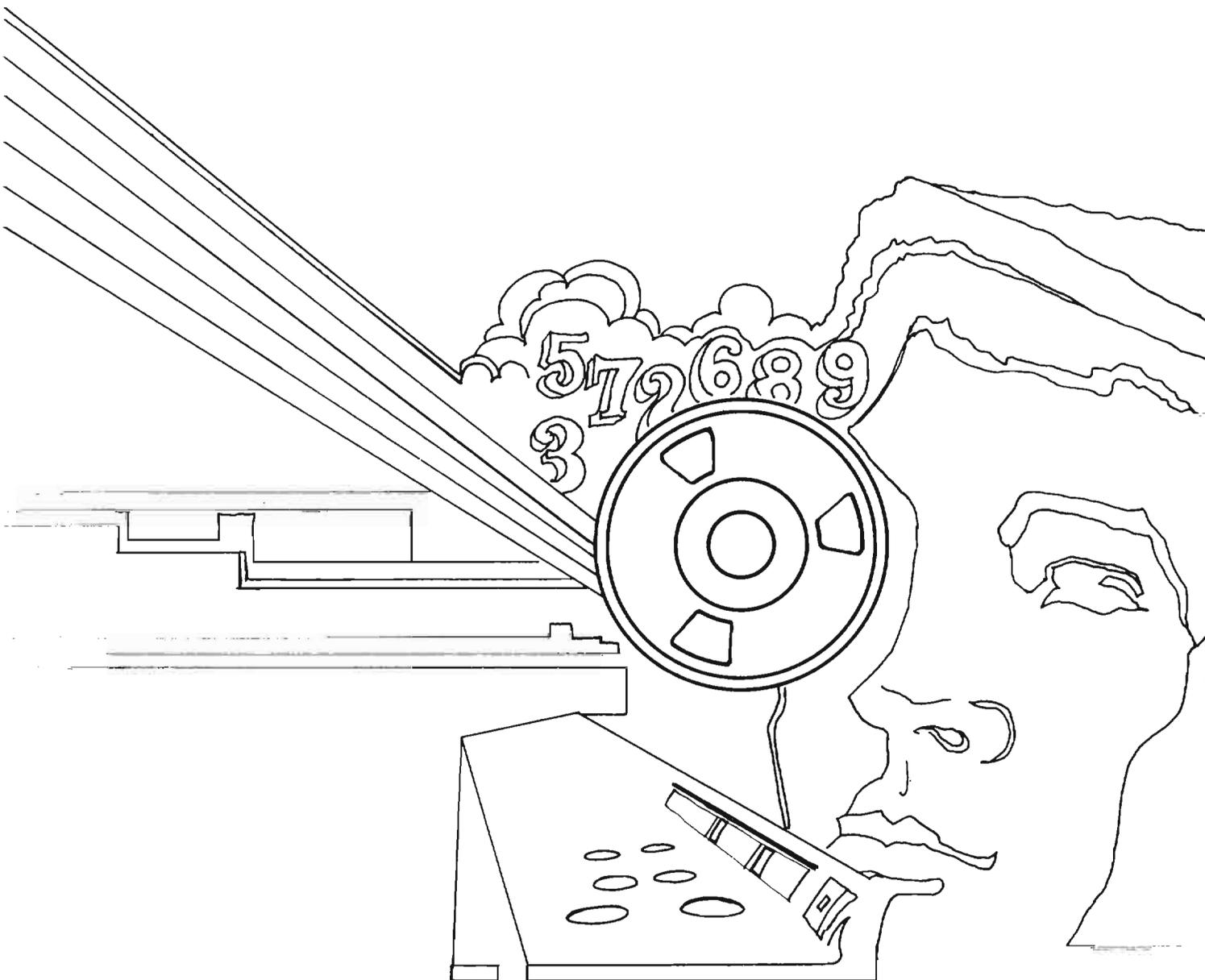
Diligence, patience and luck will produce the table, a portion of which is:

	1	2	3	4	...
T	F	Q	Z	C	...
C	S	G	D	O	...
1	O	N	G	J	...
7	X	M	J	...	...
	D	W	U	...	...
	A	H	...	...	...
5	Q	...	...	...	...

What is the allocation system?⁷ Answer next month.

P.L. 86-36

~~SECRET~~



~~THIS DOCUMENT CONTAINS CODEWORD MATERIAL~~

~~SECRET~~