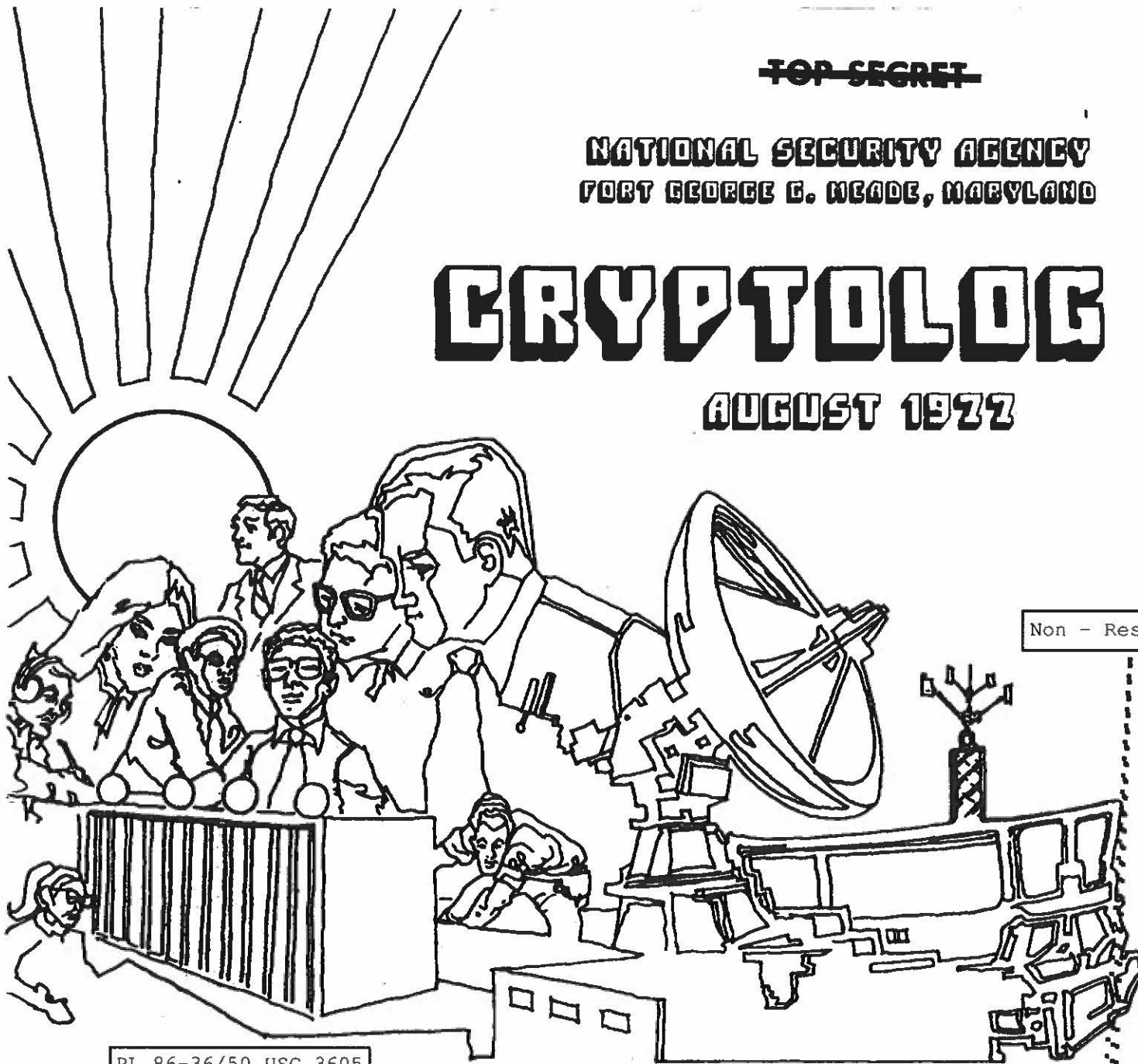


~~TOP SECRET~~

NATIONAL SECURITY AGENCY
FORT GEORGE G. MEADE, MARYLAND

CRYPTOLOG

AUGUST 1977



Non - Responsive

PL 86-36/50 USC 3605

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~~THIS DOCUMENT CONTAINS CODEWORD MATERIAL~~

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Exempt from GDS, ~~Exemption Category 2~~
Declassify Upon Notification by the Originator~~

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LET ME REPEAT - (I say, let me repeat) AND MAKE MYSELF PERFECTLY CLEAR



Peter Jenks, G

Four articles (designated I, II, III, and IV) were selected from the *NSA Technical Journal* without prior examination of their contents. Within each, the second and the penultimate paragraphs were abstracted from according to each of two rules.

Rule 1: Copy down all hits of 10 or more symbols (to include letters, word spacers, punctuation, etc.).

Rule 2: Copy down the longest words, counting the beginning and ending word spacers, until an amount of text approximating that consumed by the Rule 1 abstraction process has been abstracted.

In retrospect, a similar Rule 2 might well have been:

Copy down all words of 12 or more letters, counting in the beginning and ending word spacers.

The messages are identified by Roman numeral with the adjuncts A, B, C, and D, with the following meanings:

- A - Rule 1, second paragraph,
- B - Rule 1, penultimate paragraph,
- C - Rule 2, second paragraph,
- D - Rule 2, penultimate paragraph.

For each "short list," the approximate paragraph length is shown. For each abstract there is also shown: how many times it occurred, its length, and the letters of text consumed. In the Rule 1 short lists, some hits are shown as occurring only once: this is because they hit longer sequences in part, the latter being shown elsewhere in the tabulation. All of the work, incidentally, was extremely sloppy.

The short lists were submitted to two people who were asked to surmise, in each case, the texts whence the lists derived. Their answers were graded on a scale of 1 through 4, with the result that Rule 1 data led to answers scoring 3.7 and Rule 2 data led to scores averaging 1.5. This work also was extremely sloppy.

The sloppiness, though, doesn't much matter. The data behaves very well, and an examination of the short lists themselves accounts, given a little reflection, for why it does. One feels that, in general, texts characterized by an earnest endeavour to convey specialized information will behave in much the same way. And

it is precisely this attribute which should interest us, so much of this Agency's take sharing it. The question is, in cryptanalysis, in intelligence retrieval, and in other domains, is this "information-theoretical" aspect of our data sufficiently exploited? It is doubtful: few people know there is so much "long-hitting" within a message and fewer still know what the "long hits" look like.

The latter points are the crux of the matter and, accordingly, it seems more to the point for me to publish what I have, in hopes of stimulating inquiry, than for me to collect much more and, ultimately, to write a learned disquisition. Here, then, are the abstracts.

	Number of occurrences	Length of hit	Occurrences x length
IA			
650			
-the-German	1	11	11
-the-Enigma-	2	12	24
-cryptanaly	1	11	11
-cryptanalysts-	2	15	30
-the-German-crypt	2	17	34
<u>Total hits: 5</u>			<u>110</u>
IB			
840			
-interrogations-	2	16	32
-the-Germans-did-not-	2	21	42
-security-doctrine	2	18	36
-doctrine-	2	10	20
<u>Total hits: 4</u>			<u>130</u>
IC			
650			
-cryptanalysts-	2	15	30
-cryptanalytic-	1	15	15
-compartmentation-	1	18	18
-interrogated.[5]-	1	18	18
-cryptographers-	1	16	16
-information-	1	13	13
-understanding-	1	15	15
<u>Total hits: 7</u>			<u>125</u>

ID.			
840			
-interrogations-	2	16	32
-cryptanalytic-	1	15	15
-uncritically-	1	14	14
-preserving-	1	12	12
-questionable-	1	14	14
-operational-	1	13	13
-exploited-	1	11	11
-revealing-	1	11	11
-successes-	1	11	11
<u>Total hits: 9</u>			<u>133</u>

	2	15	30
	3	13	39
	2	10	20
	2	17	34
	2	10	20
	2	22	44
	2	18	36
	1	13	13
			<u>236</u>
	2	19	38
	3	11	33
			<u>71</u>
	1	16	16
	1	11	11
	1	10	10
	1	14	14
	1	11	11
	3	13	39
	2	12	24
	1	13	13
	1	12	12
	1	12	12
	1	13	13
	1	11	11
	2	10	20
	1	10	10
	1	11	11
<u>Total hits: 15</u>			<u>227</u>

IID			
350			
-significantly-	1	15	15
-percentage-	2	12	24
-interesting-	1	13	13
-statistics-	1	12	12
<u>Total hits: 4</u>			<u>64</u>

IIIA			
380			
-electromagnetic-waves-	2	23	46
-intercept	2	10	20
-atmosphere	2	11	22
<u>Total hits: 3</u>			<u>88</u>

IIIB			
400			
-light-rays-	2	12	24
-light-rays-obey-the-			
laws-of	2	28	56
-of-refraction-	2	15	30
-the-medium	2	11	22
-refraction-	1	12	12
<u>Total hits: 5</u>			<u>144</u>

IIIC			
380			
-electromagnetic-	2	17	34
-synonymous-	1	12	12
-acquisition-	1	13	13
-compressional-	1	15	15
-penetrating-	1	13	13
<u>Total hits: 5</u>			<u>87</u>

IIID			
400			
-geometrical-	1	13	13
-principles-	1	12	12
-reflection:-	1	13	13
-rectilinearly-	1	15	15
-homogeneous-	1	13	13
-independently-	1	15	15
-refraction-	3	12	36
-discontinuous-	1	15	15
-propagation-	1	13	13
<u>Total hits: 9</u>			<u>145</u>

IVA			
980			
-technolog	2	10	20
-the-spectr	2	11	22
-wave-trains-	2	13	26
-coherent-	2	10	20
-the-visible-	2	13	26
-spectral-region	2	16	32
-to-generate	2	12	24
<u>Total hits: 7</u>			<u>170</u>

IVB			
750			
-generators	2	11	22
-on-the-lattice-			
structure-of-the	2	32	64
-the-parameter	2	14	28
ation-of-the-OFT-	2	17	34
-of-the-OFT	1	11	11
<u>Total hits: 5</u>			<u>159</u>

IVC			
980			
-technological-	1	15	15
-processing-	1	12	12
-experienced-	1	13	13
-technology-	1	12	12
-feasibility-	1	13	13
-spontaneous-	1	13	13
-stimulated-	1	12	12
-constitutes-	1	13	13
-electromagnetic-	1	17	17
-associated-	1	12	12
-interesting-	1	13	13
-achievements-	1	14	14
-appropriate-	1	13	13
<hr/>			<hr/>
Total hits: 13			172

IVD			
750			
-attractive-	1	12	12
-techniques-	1	12	12
-generating-	1	12	12
-pseudorandom-	1	14	14
-congruential-	1	14	14
-generators-	1	12	12
-application-	1	13	13
-determining-	1	13	13
-parameters-	2	12	24
-examination-	1	13	13
-cryptanalytic-	1	15	15
-additional-	1	12	12
-directions-	1	12	12
<hr/>			<hr/>
Total hits: 13			178

(S)

TELLING IT LIKE IT IS

**A CRYPTOLOG Interview
with
Ramon A. Santiago-Ortiz,
G6T2**



Mary Ann Harrison tells us that you telephoned her recently to tell her how much you liked her article, "Why Are These People Smiling?", in the May 1977 CRYPTOLOG. She said that your remarks about the status of the Spanish native linguist at NSA deserve much broader dissemination. Would you be willing to share some of your views with CRYPTOLOG readers?

Certainly! The situation that I mentioned to Ms. Harrison has been building up for several years, and I feel that now might be a good time to bring it to the attention of people who might be able to improve it.

First, I would like to give a little history of how Spanish native speakers happened to come to the Agency in the first place. Starting in the fall of 1963, and especially in 1964, when the crisis in the Dominican Republic began, a Department of Defense contractor went to Puerto Rico and hired a group of U.S. citizens and native speakers of Spanish, to be trained as Spanish-language transcribers. Most of them were college graduates, and others had already completed 3 1/2 years of college. In May 1965, after they had completed training in the Washington area as transcribers and analysts, NSA recruited 16 of them from the contractor. NSA also went directly to Puerto Rico at that time and recruited additional personnel. Of the 16 people recruited as "the 1965 group," all but one were hired as GGD-7; one was hired as GGD-9. In subsequent years, more people, whether trained or untrained, were recruited as GGD-7.

In 1968 the crisis in the Dominican Republic was over, and the native speakers of Spanish were cast aside. Since then, they have become the "Lost Legion" of the Agency. And so the situation today is that, although, as a group, they have the most academic education and the largest number of certified linguists (one out of every two persons), they also have the lowest rate of promotions among linguists: the average situation is that a person has been at least 5 years in grade after his first and only promotion. The average GGD grade today, after more than 10 years of high-quality, indispensable work for the Agency, is less than GGD-11. Like transcribers of other languages, Spanish transcribers

depart for greener pastures at the first opportunity. But for Spanish-speaking linguists, this has always been a hard thing to do. From 1965 to 1968 the emphasis was always on Spanish only -- just write down in Spanish what you hear. Starting in 1968, we were told to handle some of the material differently -- to provide a gist or summary in English. And that's when we began to suffer. Because we were told then that our English wasn't "good enough." It was good enough to get us an education. It was good enough to pass the Agency's Spanish PQE (which tests the ability to put Spanish into English, not English into Spanish). And, right now, it is good enough to translate -- either in full or in gist -- vital Spanish-language material where the important thing, the essential intelligence meaning, has to be absolutely correct. It is true that editors used to change, and still change, individual words for reasons of style, but every editor always does that, even when the translator's first language is English. But, yet, our English isn't "good enough" to get us promoted.

So Spanish transcribers decided they would have to become diversified. They took courses in English, in CA, TA, area studies, bookbreaking. . . But needing the courses was not enough. Because if a Spanish transcriber was "critically needed" on the job, he couldn't be spared to take a course to improve himself. And if he couldn't improve himself, how could you expect to promote him, even if he was doing a "critical" job?

How does the Spanish transcriber get out of that vicious circle?

When courses were offered as a reward, rather than for purposes of career development, it had to be by self-study. For the past 3 years I have been trying to get certified in a second language, Portuguese, but I have never been selected to take Agency courses in Portuguese. If I want to improve myself, I'll have to do it by self-study. This is not the best way the Agency has to develop its linguists.

At the present time there are 20 transcribing consoles in G612, with a total value of many thousands of dollars. Only four of them are occupied by full-time transcribers. Of these four, three are certified in the language field. The average time

in grade before promotion for Spanish transcribers (certified or not) has exceeded 6 years.

In the Spanish language shop, versatility is amply demonstrated by the fact that at least one person is an intercept operator, can operate the wide-band recorders, can operate just about every available receiver and every piece of equipment used for intercept, is a certified language analyst, transcriber, translator, can report, can do SR work, simple TA, can operate the 204 computer, has worked in at least six Latin American areas, can do channel allocation, has written articles on Spanish-language matters for Agency publications, has done a great deal of bookbreaking, has prepared glossaries of Latin American jargon, has helped to translate a code for South American allies and for the Interamerican Board of Defense. Of the "1965 group," every person has two of the capabilities listed above. One person has all of them. And at the present time that person, after 12 years at the Agency, is a GGD-9, Step 7.

You said that G612 has only four full-time Spanish transcribers now. Can that number of people handle the amount of traffic?

Since Spanish is our first language, it is taken for granted that we can transcribe umpteen tapes a month. But if a transcriber whose first language is English translates one or two tapes a month (with or without help from a Spanish-surnamed NSAer), it's considered outstanding. And who do you think gets recommended for promotion?

As the native speakers of Spanish have left the transcription field, where has the Agency got replacements?

The Agency has not hired new native linguist/transcribers for the past 3 years. It has hired some native linguists from military conversions, but not for transcribing duties. The average conversion has been as GGD-9! Where is the justice for the remaining members of the "1965 group" who have been in grade as long as from 5 to 9 years?

I would hate to say that the situation with Spanish transcribers has racial overtones. Like Howard Cose'll, I'm just trying to "tell it like it is," even if it hurts. And, "like it is," most Spanish transcribers feel as though they have been kicked in the teeth. We're not WASPs, we're not Black, or Oriental, or Chicano -- as a minority, we're the "meat of the sandwich." Of the Puerto Ricans I know, one is a GGD-13. He came in as a 9, was a hell of a transcriber, but saw in time that he had to get out of transcribing to get ahead. He made GGD-12, and then GGD-13, but as a *manager*. If we want to advance our careers, I know that we can't do it by being "just" certified Spanish linguists. Therefore, we have tried to become more diversified and improve our value to the Agency. I, for the most part, have had little encouragement from some supervisors or the Agency as a whole, and have now, at the age of 43, very little progress to show for my efforts. And that's why I'm not doing much smiling lately.

~~SECRET~~