

Vince Wilson, E5

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National Security Agency

Fort George G. Meade, Maryland



SEPTEMBER 1973



DRAGON SEEDS

THIS DOCUMENT CONTAINS CODEWORD MATERIAL

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This is *Dragon Seeds*.

There is fantasy, irony, and the bite of reality in the name. It speaks of the East. And, like the East, it suggests much, says little.

Dragon Seeds is both Mother China and her neighbors. *Dragon Seeds* is monumental and minuscule. It is the past and future. It begs for elaboration but gives none. In it are echoed softly slurred Mandarin, brittle Vietnamese, determined Korean. In it is the spectre looming over the Thai, Lao, and Khmer. It is frightening and friendly. It is uncertain.

Above all, *Dragon Seeds* is promise. It is fertile with ideas unbounded, to be cultivated with creativity and imagination. It is challenge. It is alive. It will be more than it is.

Dragon Seeds is yours. May it grow with you.

The Editors

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WE ARE LATE!
REORGANIZATION
MADE US

M I S S T H E
DATE.

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DRAGON SEEDS

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**Rebels threaten
Cambodian city**

**Rebels Build Up
Pressure Near
Phnom Penh**



**Heavy
Fighting
Resumes**

Battle for Kompong Cham Renewed

Siege Eased

**Insurgents Enter
Kompong Cham,
Are Driven Out**



'LEA SEN HOEUYI

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EO 3.3b(3)
PL 86-36/50 USC 3605



Vol. 2
Nr. III

SEPTEMBER 1973

TABLE OF CONTENTS

Buddha Speaks	1
SAWTOOTH Answers the Q Question.....Jane E. Dunn	8
What Have They Done to Our Linguists?.....Jeryl O. Gegan	14
The Open Door: Teacher Very Funny.....Rich Atkinson	19
Surveying [redacted] Cryptosystems..Sam Coury	24
History of a Dragon.....Don DeLong	29
Seedlings	33
Ask the Dragon Lady	36
Contributors	41

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STU BUCK

. . . receiving the Meritorious Civilian Service Award

from

Gen. Sam Phillips,

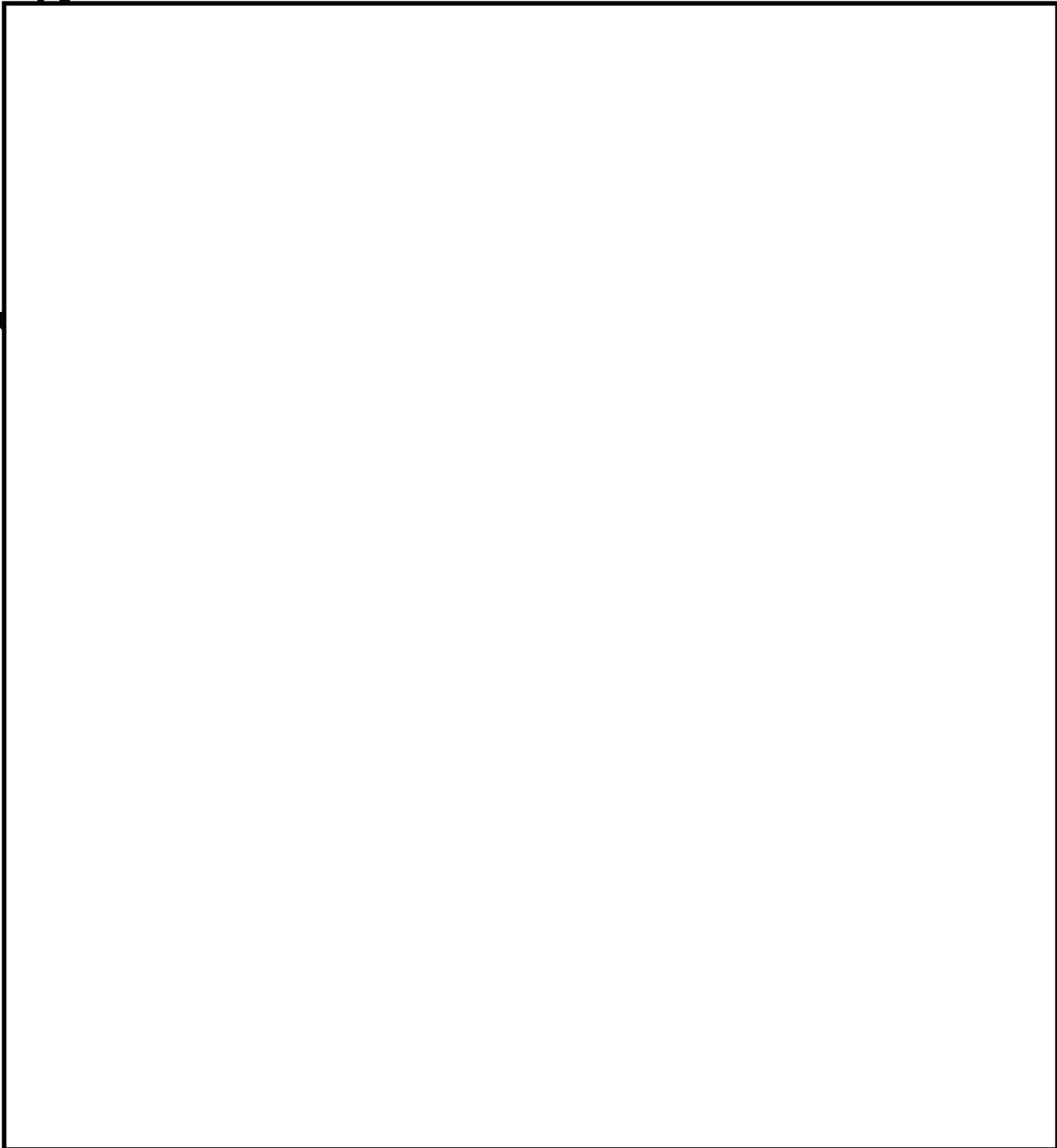
former Director, NSA

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B

COMPUTER-AIDED BOOKBREAKING (NOT "BOOKBREAKING BY COMPUTER")
By Stuart H. Buck



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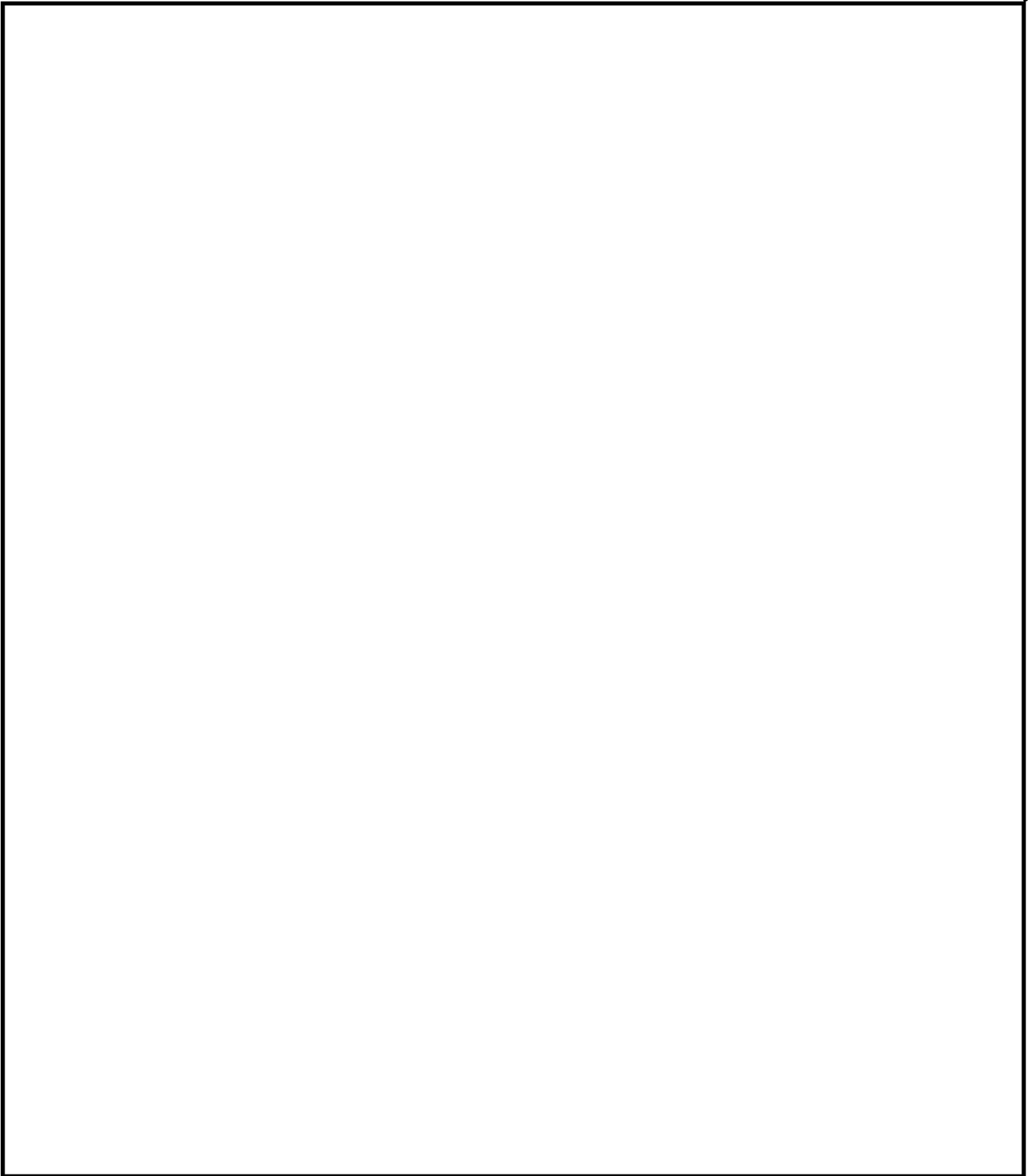
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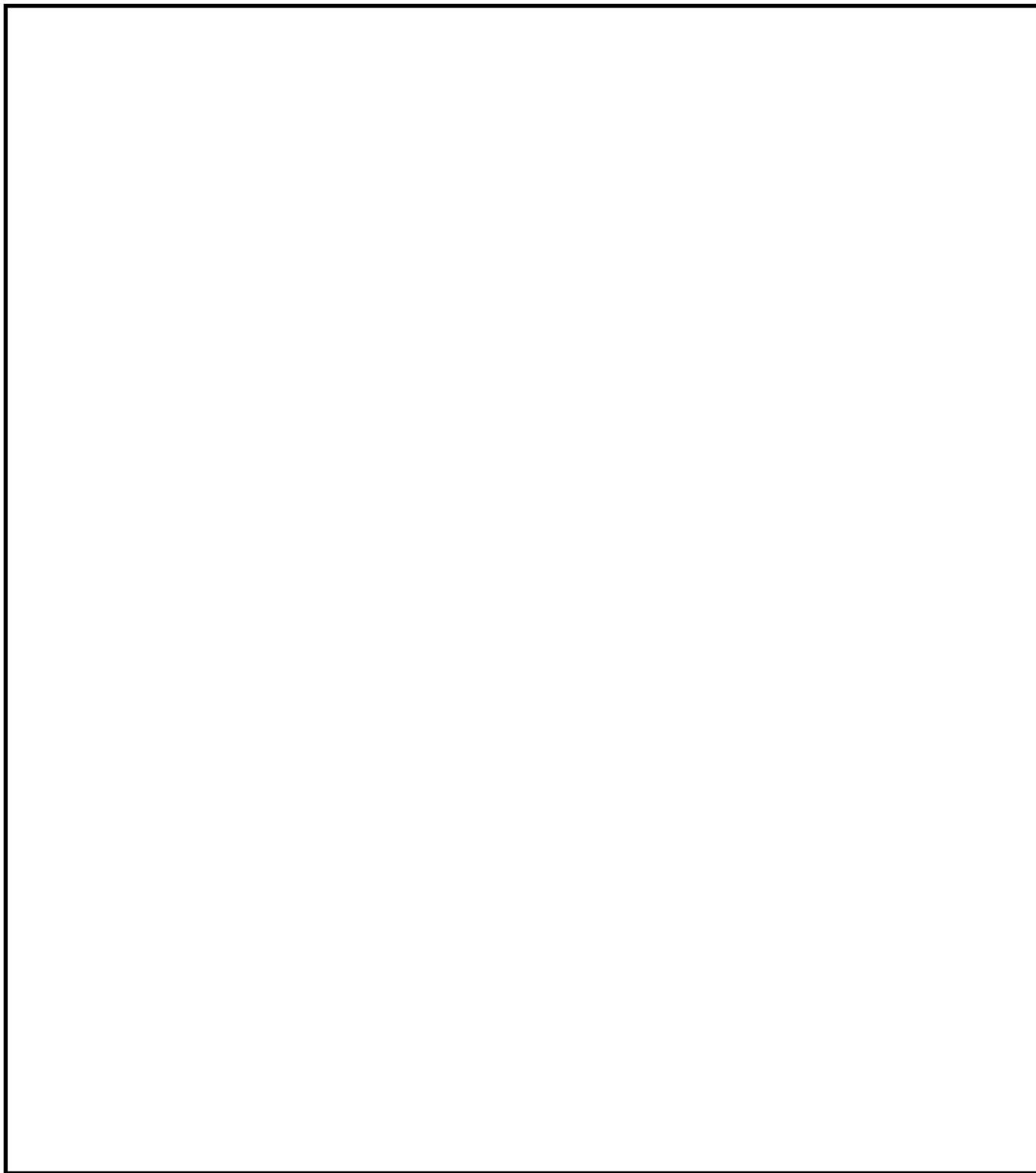
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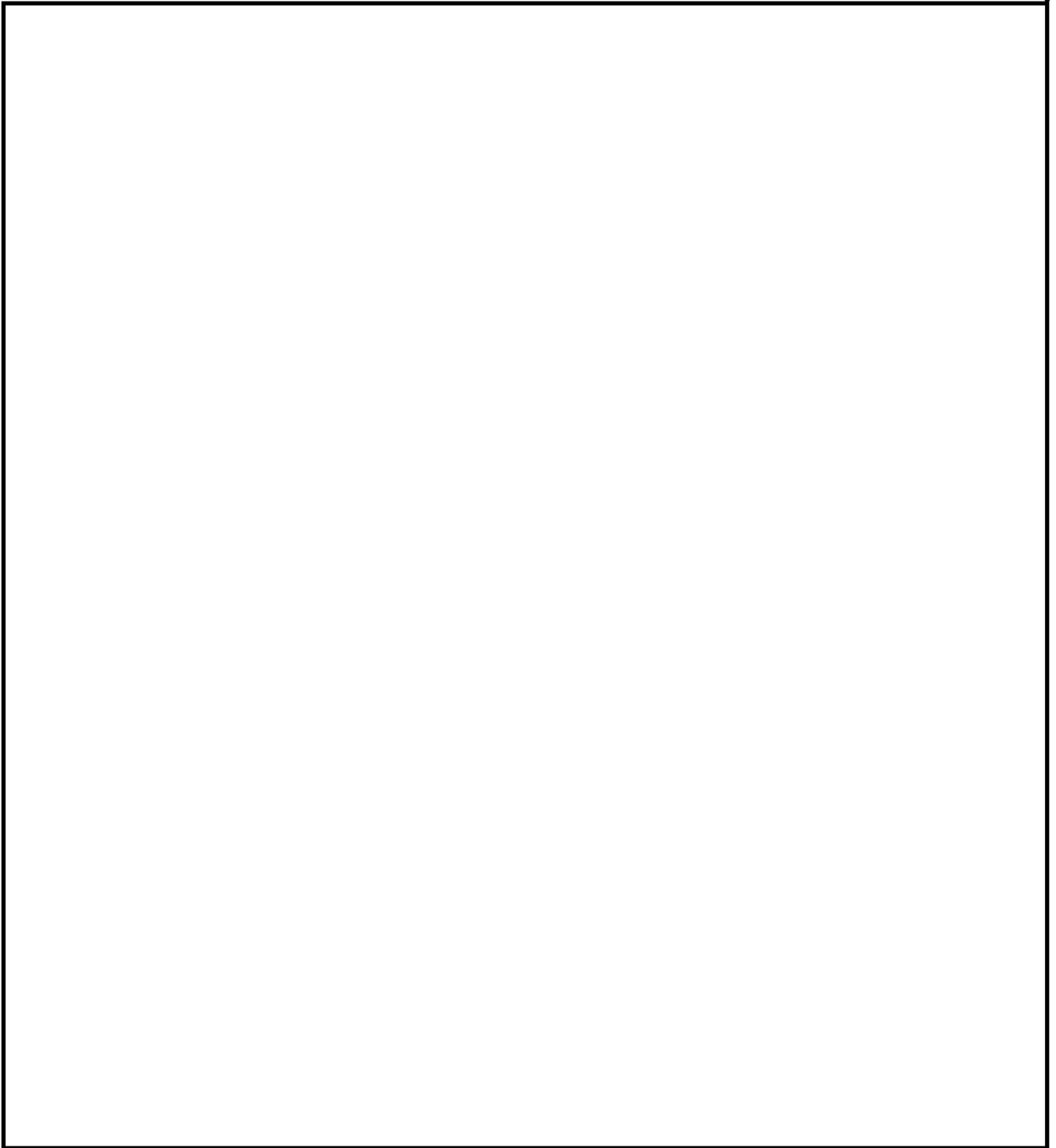
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PL 86-36/50 USC 3605

STUART BUCK'S
academic degrees reflect major
interests both on and off the job;
he holds an AB in Romance Languages from
Harvard and an MA in History from Columbia.
As a history buff, he has made extensive
studies on the American Civil War,
although his interests range
far beyond that one period.

MR. BUCK
entered the SIGINT field while
with the Army in 1943, and he became
a civilian analyst the following year; he
has been with the Agency ever since.

Cryptolinguistics
was his field from the beginning
with concentration on bookbreaking,

Readers of the
NSA Technical Journal
will recognize him from his
scholarly articles on languages
and cryptolinguistics, and others know
him as the author of handbooks, dictionaries,
and readers in

Mongolian and Tibetan.
He is deeply involved in developing
technical aids to bookbreaking and
rejoices in the challenge of working with
machine-oriented friends to unite the divergent
fields of
natural language and computer
programming for code reconstruction.

Mr. Buck made PT his base when it was first
established as NSA 064 during the Korean War.

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This puzzle, a Mao quotation in STC encrypted by means of a 10 x 10 playfair, was submitted by SSG Anthony Zambito, B213. It will probably be a "snap" for someone with a Chinese language background but a non-Chinese crypticist could recover the pseudoplain if he were familiar with the properties of STC.

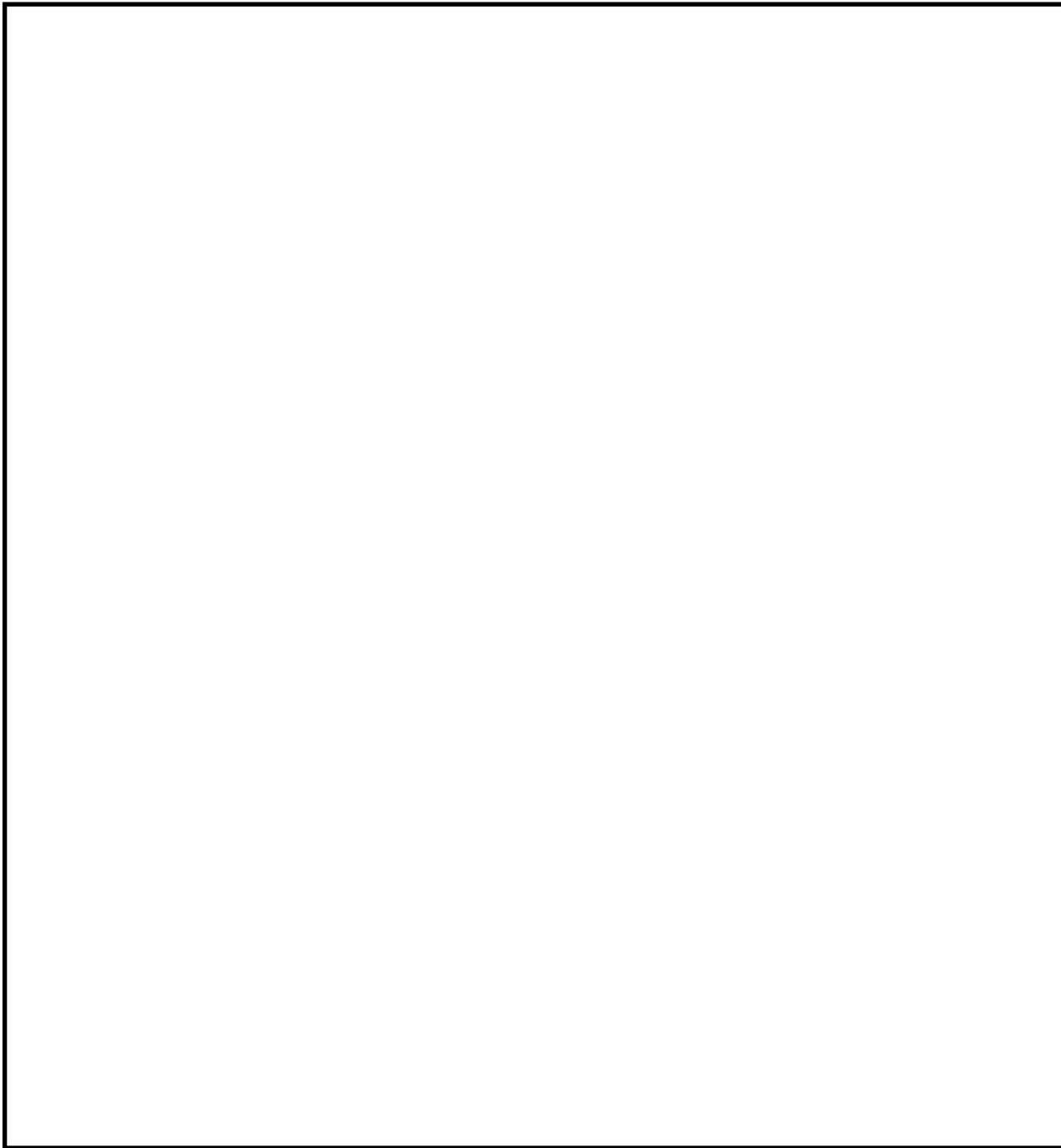
09269	70418	99795	69489	09262	93983	03172	21126
11727	56794	89160	44436	32817	35250	89798	40184
02521	56216	24328	14381	11261	17275	67948	91604
44363	28122	36034	21126	13873	08414	09255	94813
61562	32601	87112	61172	75679	39073	52508	95472
01032	85111	26422	40324	02529	72593	72155	10019
87188	90679	84018	49489	15621	62454	72010	32851
11261	62448	58155	10019	87188	90683	03318	19390
29113	35181	69777	17154	38749	48913	26077	12057
81695	45527	80972	59372	94895	45527	80162	44858
94894	68713	93153	95455	27809	72593	72948	91539
54552	78016	24485	89489	22360	01541	43532	13084
64506	31718	70735	25089	02522	78016	24112	67984
61849	39073	52508	90252	27801	62401	20112	61604
54704	65695	14948	92210	76513	27677	61735	25089
20722	78016	24207	21126	87188	90677	42318	10157
66294	27494	89327	67761	73525	08902	52278	01624
11264	67017	79015	76629	42749	48989	40010	32210
76515	01127	24298	80426	11261	17248	14015	76629
42749	39010						

(Answer in next issue)

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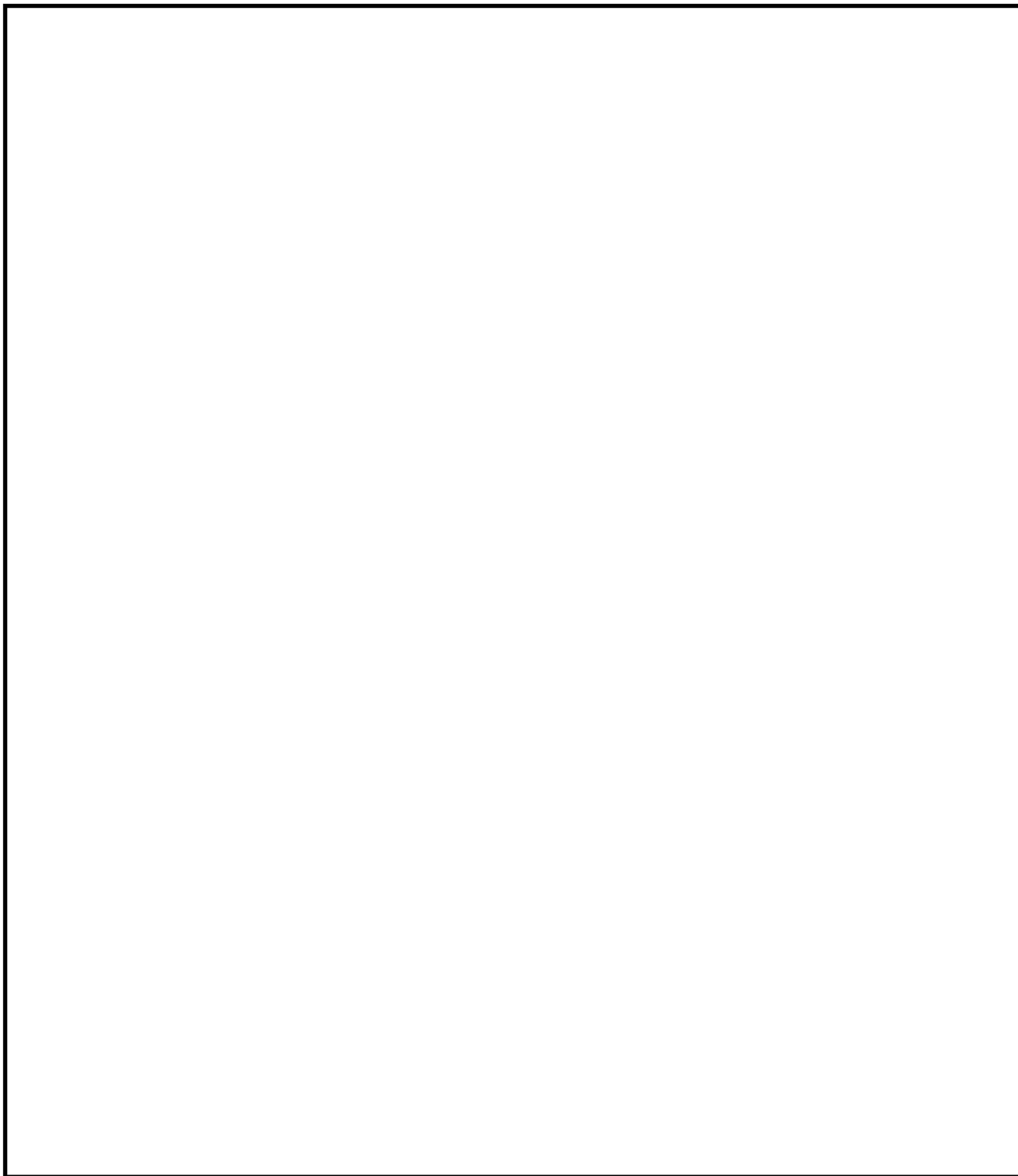
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SAWTOOTH ANSWERS THE *Q* QUESTION
by Jane Dunn, B4



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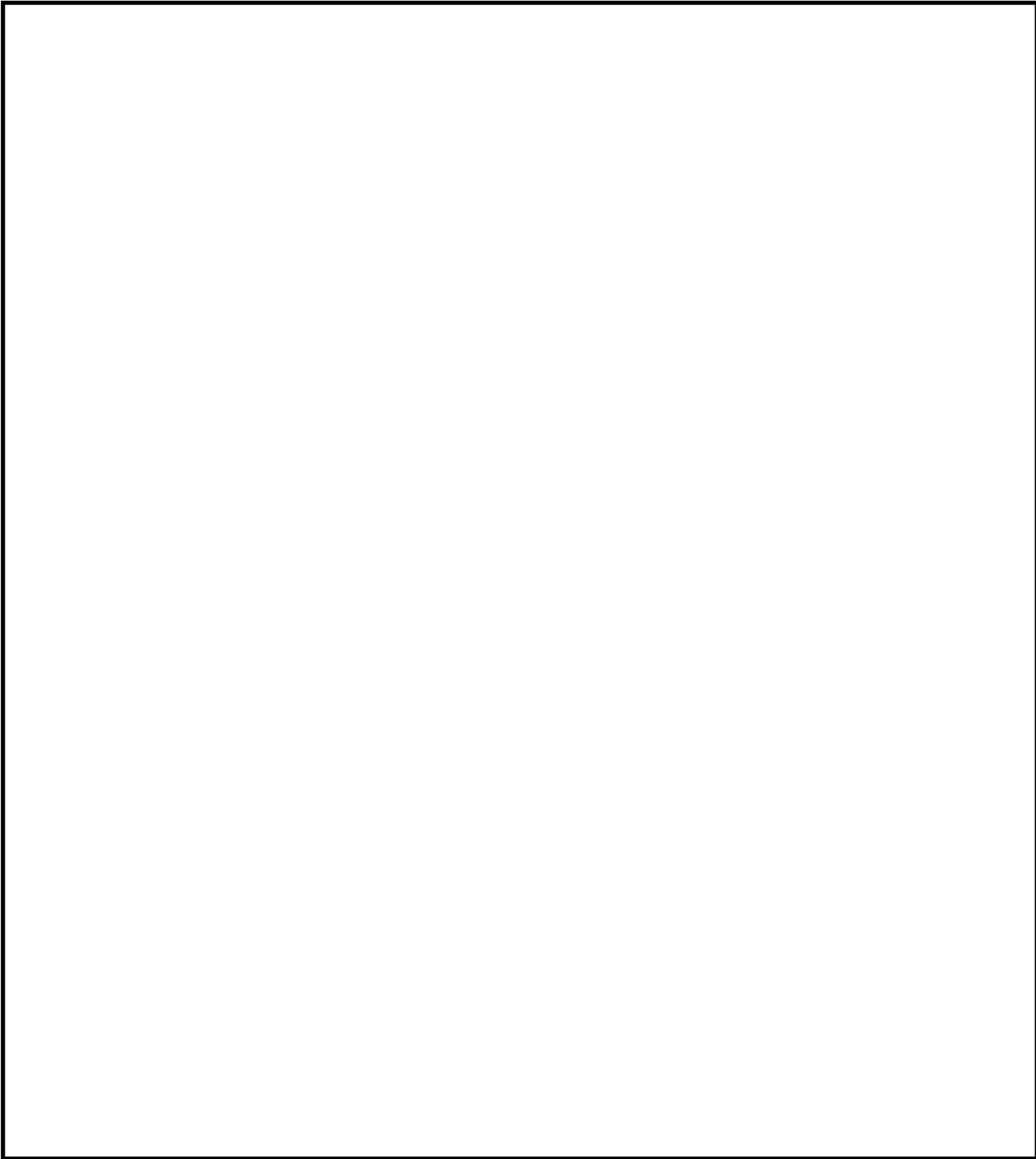
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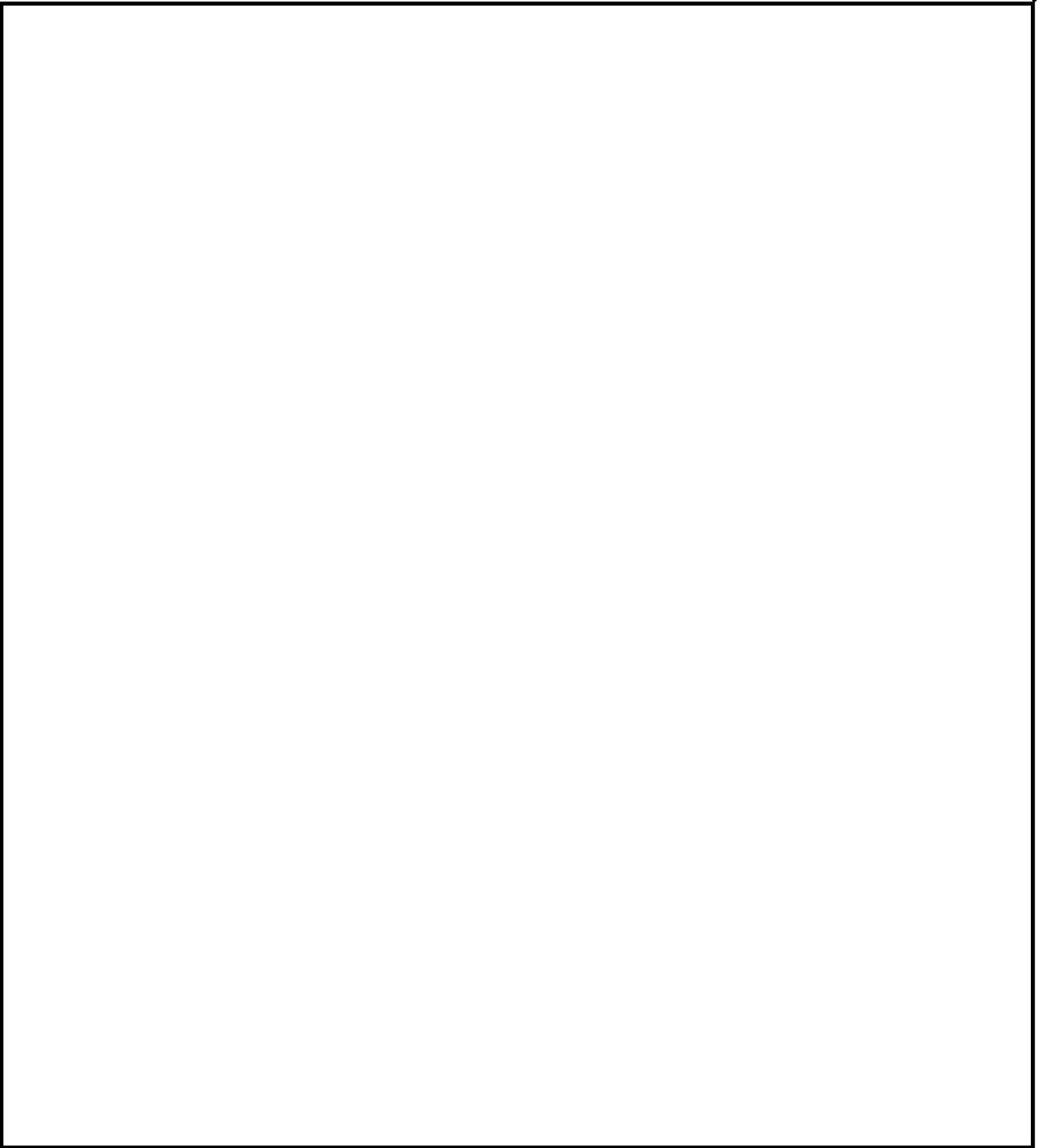
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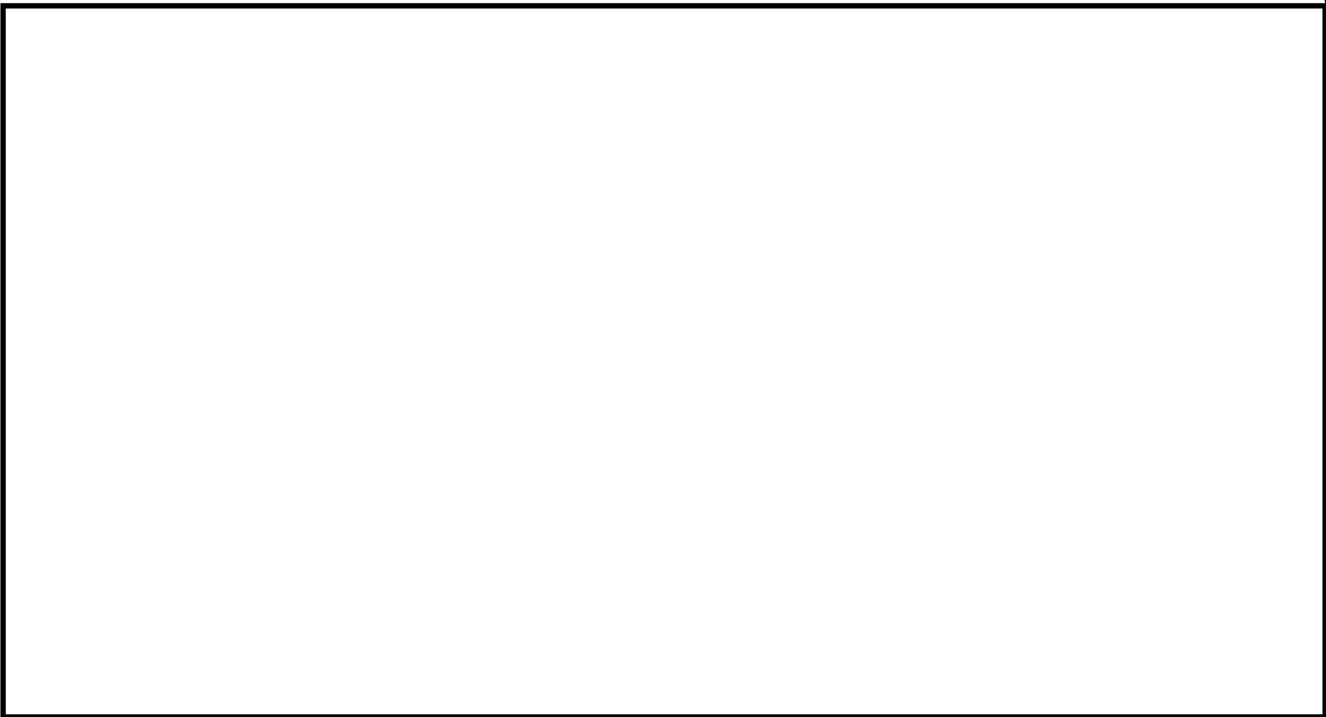
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"We will

Make a new

Garden

More splendid

Than this one.

You will see it

You will understand . . ."

--Chekov

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CRYPTO-SCRAMBLE

By Richard Atkinson

Unscramble each of the five numbered crypto-scrambles, placing one letter in each space, to form five words or names, each of which fits the definition to its right.

1. T R A C E I S G R E E N
 ○ ○ ○ _ _ _ _ _

A set of decipherments.

2. M E T S T E P
 ○ ○ _ _ _ _ _

COMSEC worry.

3. V I T A L S E A B E E R
 _ _ _ ○ _ _ _ ○ _ _ _ _

Converted by addition of a constant.

4. W H O S A D
 _ _ _ ○ _ _ _ _

RYE program performs statistics on data stream and its delta stream.

5. P U R E T E S T S
 _ _ _ _ _ ○ _ _ _ _ _ ○

RYE programs of pure tests.

Now arrange the circled letters to form the cryptoanswer suggested by the cartoon at the right.

Print CRYPTOANSWER here.



Answer on page 40

~~TOP SECRET UMBRA~~

~~TOP SECRET UMBRA~~WHAT HAVE THEY DONE TO OUR LINGUISTS?

By Jeryl O. Gegan, B65

The other day I received a Notification of Personnel Action slip telling me that my job title and COSC had been changed from Special Research Analyst to Language Analyst. Panic -- (There must be some mistake!) -- was followed by despair. Who would do such a thing to me? How will I ever face my friends and co-workers? This can't really be happening to me! After recovering a few of my senses I began calling all over the Agency to find out why I was being persecuted. . . . I called my personnel representative, the Career Guidance Division, and one of the B Group Technical Directorates. Most of the time I couldn't get through to my party; either the lines were tied up by other erstwhile SRA's who also had just been retitled or possibly no one wanted to talk to a mere language analyst.

REFLECTION

That night, alone and crying in my beer, I began to reflect on what had happened to the image and status of linguists in this Agency. When I started in the cryptologic business nearly ten years ago, my first assignment was as a linguist. Ah, those were the good old days! A linguist was *somebody* then! A linguist could walk around the halls of NSA or a field station and try to appear indifferent to all the admiring glances he received. He was the man on the spot with all the responsibility, all the answers. Whenever VIP's visited to be briefed on the tactical situation, the political situation, or on any other situation that needed looking into, the linguist was *it*! He was the leader of all who needed leading, the brightest star in all the firmament.

But, alas, the golden age has passed. The white knight image has been shattered. A new animal has appeared on the scene. He will lead the blind, cure all ills, and answer any questions. He is: "The SRA."

Since the Vietnam war has been blamed for everything from inflation at home to the shortage of raspberries in Portugal, we can conveniently blame the war for the tarnishing of the image of the linguist. During the golden age you couldn't find any SRAs; reports and analysis were handled by linguists when they weren't busy translating. In those days, the volume

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of translatable items was much less than it is today. Translations didn't need explanations, observations, elucidations, or provocations. It was all there in black and white; only a dummy couldn't understand what it meant.

REJECTION

Then the war began and message volumes mushroomed until linguists were confronted with huge backlogs. Additionally, all messages had to be carefully and fully translated -- even the most mundane could contain a wealth of information about enemy plans. Each message had to be viewed as just a tiny piece of the war. Suddenly, nothing was black or white anymore. Someone had to take all the information these messages contained (or possibly contained), and put it into a form which the by now very confused customer could understand and then act upon. The linguists busy working on their backlogs, had no time. So, a new creature, the SRA, emerged to unravel the customers' confusion and save the entire war effort. The SRA assumed all the glamour roles. He issued the CRITICS, the Spot Reports, and the TACREPs. He was responsible for issuing the SONGBIRD TACREP which would result in a downed pilot being plucked to safety right from under the enemy's nose. He drew flags all over the maps. He knew where all the friendly and enemy positions were. He was both a military tactician and strategist. He knew the enemy commanders by name, age, and place of birth. If anyone had any questions or needed a briefing, his supreme excellence, the SRA, was the giver of all truth. The linguists, meanwhile, were still working on their backlogs. The only time anyone talked to a linguist was when the veracity of a translation was questioned. In that rare moment of actual human contact, the linguist didn't know how to act. He hemmed and hawed and sometimes reverted to his acquired language for safety and comfort. Alas! The day of the linguist had passed. He had only one unromantic mission -- to get that backlog depleted.

RENAISSANCE

One day during the height of the war, a linguist crawled out from under the table where he had fallen while checking the 17th dictionary for the meaning of an obscure term and discovered that another world, one that he vaguely remembered, really existed. He saw people writing reports, in English, of all things! He saw people giving briefings flanked by gaily-decorated wall maps. He felt a twinge for the past and, right

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then and there decided that this was for him. One by one, other linguists defected until the Agency had acquired a bevy of SRA's with extensive language capabilities. The "new improved SRA" was born. He could write, brief, analyze, explain, and talk about the idiosyncrasies of the language. He could sooth the restless inquisitive mind of the tactical customer, telling him not to worry, that in this or that instance, the enemy didn't really mean what he said.

Armed with all this versatility, the "new improved SRA" looked for new worlds to conquer. He scooped up jobs handled by traffic analysts and cryptanalysts. He started hanging around with programmers. He took MP-160 and began discussing inputs and outputs. This gave birth to the "vastly improved SRA" whose thirst, still unquenched, slipped into management and staff positions where he could exert influence over all the other production skills. His pride and mobility were unstifled and he had no desire whatsoever to return to the caves and consult a foreign language dictionary.

NOW WHAT?

Although the above story is obviously in jest, I'm sure many linguists are going to recognize the paths their own careers have followed. Why should someone spend a lot of time and effort on the thankless task of producing a translation when the only reward is the question, "Why couldn't we get this out a little sooner?" The feeling among many linguists is that they have absolutely no mobility in the Agency. An individual feels that there is no way he can progress if he remains a linguist. He must graduate into management or expand to other fields, generally SRA or Traffic Analysis. For proof, how many division chiefs with a language analyst COSC do you know? Would he be in the same grade level if he had remained a linguist?

The NSA Language Career Panel, comprised of highly dedicated professionals, has worked diligently to improve and insure the quality of linguists at NSA. With the continuous changes and improvements being made in the Professionalization Qualification Examinations, grading methods, and professionalization criteria, the Panel's mission toward high quality linguists is being realized. But, very little is being done to improve the image of linguists. They are looked upon primarily as units of energy which are expected to produce X number of translations a day. If and when the translation backlog is depleted, they can work on some innocuous language working aid. The Cryptolinguistic

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Association gives these downtrodden people something to join, somewhere they can find a little sympathy and exchange experiences, but this organization is not causing any great change in the image or status of linguists either.

The R&D types are heralded for devising wonderful machines to collect vast quantities of raw data over incredible distances. Traffic analysts score major breakthroughs in locating and identifying terminals, developing comprehensive norms, and solving the mysteries of unit subordination, etc. Cryptanalysts and their data systems compatriots use computer technology to shatter the toughest of ciphers and codes. But, where would we be with all this data were there no linguists to translate? Simply put, it would be a raw and cursory data explosion, neither justifying the cost nor the limited amount of external intelligence information derived. On the other hand, one tiny, taken-for-granted, unrewarded, immobile linguist can make it all worthwhile. He has done it, and because he has, this Agency is recognized among many customers as somewhat of a miracle worker.

In my opinion, there are several reasons why the linguist has been downgraded. Most of the individuals in the other production professions seem to feel that the linguist's job is not "technical" enough. Tough TA and CA problems may take months or years of trial and error studies until the big break comes, but even the toughest translation can be finished off in a relatively short period of time. Reporting requirements demand it. Real-time and near real-time reports must be written up and sent out immediately, but the SRA can also write long-term reports which when completed are masterpieces of intelligence information -- not a stone left unturned, every end tied up. The SRA can express his knowledge in deciding how a report will go out, what vehicle, what precedence, who should get it. He is generally familiar with the other intelligence agencies and the people who work on his problem there. The SRA goes to meetings and NIEs to talk to these people and to customers; his is a glamour job. So then, these other professionals look upon the linguist as someone who after a year to two (or seven or eight for Chinese) of language training, can sit down and translate anything. It's as simple as that. The linguist's job just doesn't *seem* technical enough for him to be held in high esteem.

As if that weren't enough, too many of our linguists enjoy the life of a scholarly recluse. He hides behind his mound of dictionaries and is oblivious of anything else that is going on around him. He holds the other professions in contempt, refusing to see how they could possibly be contributing anything of value.

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Too often when something does occur that could expand his level of understanding and application in the other cryptologic fields, he will crawl into the woodwork with the excuse that it's not language-related and therefore no concern of his. He'll even hint that he's being misused and that his job doesn't include non-linguistic work. Maybe it doesn't, but all this complaining we hear about lack of mobility and opportunity ought to be looked at in another light -- who is really at fault?

The concept of a superlinguist has been promoted by some. This theory holds that instead of a linguist moving into management or staff work after gaining non-linguistic experience in other cryptologic specialties, he should proceed to gain versatility in as many languages as he can. The more languages he knows the higher he goes, until his job, as a GG-15, is to check translations done by many junior linguists. This, to me, is the height of nonsense. Why have a GG-15 do a job that a GG-9/11 could probably do just as well? This concept promotes shirking of responsibility and encourages retreating behind an even higher mound of dictionaries while the rest of the world goes by. Could this be how the "rejection" phase started in the first place? A concept such as this will do even more to isolate and immobilize an individual.

Everyone is going to have to do a little to help improve the image of linguists at NSA. Remember! Where would this Agency be without them? Perhaps management will have to initiate a course of action, but the big change is going to have to be in the individual linguist himself. Linguists should stop hanging around the wailing wall, stop looking for sympathy from their fellow linguists, and stop blaming everyone but themselves for their '*maligned condition*'. The linguist, if he is to regain his status among other cryptologic professionals, is going to have to take it upon himself to accept more responsibility, expand his technical understanding, and learn a little bit more of what this Agency is all about. To do otherwise will be to conclude that the image of the linguistic profession at NSA has nowhere to go but down. The image is that of the individual.

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THE OPEN DOOR

*We seek to be companions along the way.
The lantern which we carry is not ours.
The spirit which we share is contagious thought;
The knowledge which we gain, an illuminating torch
And all who seek may perceive and learn.*

-The Concept of Dragon Seeds

TEACHER VERY FUNNY

by Rich Atkinson, El.

April and May of this year I spent with the [redacted] Advisory Detachment in [redacted] to conduct a six-week course in cryptanalysis for a class of [redacted] NCO's. I could probably write a small book about my two months in [redacted] but this article is limited to my experiences which relate to the course and my relationships with the students.

I'd been in [redacted] a week or so when the first day of the course dawned. I slept later than I had since arriving - almost 5:00 a.m. To be honest, I never did adjust to the [redacted] time differential. I arrived at the center where the course was to be conducted about an hour early and reviewed the "hot tips" I had received from various people:

1. my English-speaking students were not too English-speaking [seems fair, I only knew two [redacted]]
2. [redacted] disappear for a few days at a time and for no particular reason [this could be a nightmare];
3. [redacted] school day is 9-11:30 and 1-3:30, if I'm very lucky [double nightmare];

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PL 86-36/50 USC 3605

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EO 3.3b(6)
PL 86-36/50 USC 3605

4. never ask [] a question he can't answer because he will lose face, so it is best not to ask any questions [if they do show up, I can't find out how they are doing];
5. teachers are treated like gods [I have always admired honest emotion].

Armed with the helpful hints, I marched off to battle - me against [] students and a [] acting as interpreter. After rather stiff and formal introductions, I decided to start the class by telling it some of the things they would be able to accomplish after the course. I also hoped this would relax the students a bit. It appeared to work very well; students began to laugh and chatter among themselves. I knew I was off to a good start. Then the Major wiped his eyes and said, "Every student think teacher very funny". My spirits sank to a new low. The remainder of the morning went quickly, and my confidence was coming back because I felt, we were making some progress. But I still needed an icebreaker to open up a good relationship with the students.

When I returned from lunch, I discovered hot tip #2 had already reared its ugly head. One student was missing and when I inquired as to his whereabouts, I was told, "He go to post office. It far away; we start." Well, we not only started the afternoon session without him; we finished it without him. If attendance continued on this "optional" basis, the course would be worthless. I considered the episode as a possible challenge and mounted a counterattack. I told the class I was very impressed with their afternoon work. They were obviously pleased with the compliment. Then I added that they understood so well that they could help the missing student catch up before class began the next day.

As I walked to class the next morning, I didn't know what to expect. My hopes rose when I saw that all five students were present. I chatted with the student who had missed the afternoon session, and he assured me that the other four students had taught him all the material he had missed. There were no more mysterious disappearances during the course.

Next day I found my icebreaker. I had learned from one of the [] advisors that the students wanted to know how old I was. When it was time for our morning break, I put on my most serious face and asked, "Who wants to know how old I am?" The room went silent and six bodies froze. Fearing I'd been a bit overdramatic, I smiled and said, "I'm 33."

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[redacted] burst into laughter and almost fell off their chairs. I asked for a translation of the chattering. The Major regained his composure and said, "They think teacher very funny." Indeed it was the icebreaker and at least once a week for the rest of the course they would point to my graying hair (almost unknown [redacted] and ask again. The answer, 33, remained amusing for six weeks.

After a few days, I discovered a way around the "losing face" problem. I would ask a student a simple question. When he answered I immediately asked each of the other four students whether the answer was correct. Needless to say, the other four always agreed that it was. If the answer was correct, all five students were pleased; if not, the first student didn't lose face because everybody missed it. Great idea, but I'm glad I didn't have 30 students. By the fourth or fifth week, I was able to call on students and discuss their answers without checking with the other students.

Another ploy used to gain their confidence and overcome the "losing face" problem was to have the class teach me a [redacted] word each day. I think it was the highlight of their day to hear tone-deaf me attempting their tonal language. Since I didn't appear to lose face with my performances, perhaps they felt they couldn't lose face in front of me.

Before anyone gets the impression I was able to convert [redacted] students into typical Americans let me stress two important points. First, these men weren't typical [redacted] and [redacted] were aware of my American idiosyncrasies. Second, those recounted were my only two "victories". I gave in on all other clashes of customs. For example, wild horses couldn't drag a student out of the classroom before the teacher. On breaks I often wanted to write something on the blackboard before my next lecture. They wouldn't go on break until I left the classroom. My only recourse was to go out and sneak back in a few minutes later. During the morning and afternoon breaks, they wanted to buy me Cokes. One day I decided to break them of this rather expensive habit. During exercises, I sneaked out and bought myself a Coke. I came back to class with the full bottle in my hand and suggested a break. Thirty seconds later, I had a bottle of Coke in my other hand and the student who brought it to me marveled at the tremendous thirst I had. I capitulated. They had to erase the blackboard; they had to carry my notes back to my office; and no amount of protest altered a thing. There was give and take on both sides, and we each learned something about the other.

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By the second week of the course, the students realized they could learn the subject matter, and hot tip #3 bit the dust. All students were in class by 8:30 each day and studied until I appeared at 9:00. They returned from lunch about 12:15, and studied or did exercises until I appeared an hour later. By now lessons had become a real pleasure for me; eager students full of questions and willing to learn - a teacher's dream. Deadlines went out the window - if exceeded fine, if not, [redacted].

Occasionally we went to lunch as a group. These meals consisted of many different courses of chicken and seafood, washed down with liberal amounts of [redacted] the local whisky, or beer (good but potent). Each course comes with a special sauce or two. Using these sauces, [redacted] food extremely hot. Mexican food seems like a bland diet after [redacted]

During the fourth week, I decided to take the class to lunch and asked a [redacted] advisor for the name of a local restaurant. He recommended one where the food was good, but he wanted me to know it was a [redacted] restaurant not designed for tourists. Just what I wanted - not ostentatious and cheap. The day before we were to go, I had the Major announce the invitation. The class was agreeable, but not overly eager. We went the next day. After a somber beginning, we all had a great time and rolled back to class a couple of hours later. When one of the students took me aside to thank me, I found out why the class hadn't been too excited about going. They didn't think I would go in to the place when I saw it. This explained why we had eaten at a rather fancy restaurant on the previous outing.

One day of the last week, the Major suggested we quit an hour early and all go over to his house for a drink. After a polite period of meditation, I agreed. I rode over with the Major; the students walked. This was my one and only chance to get inside a middle-class house. It was a one-floor [redacted] structure set on stilts, with high ceilings and corner-to

[redacted] to cover any situation. Roughly translates to "don't worry".

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corner windows, perfect for the hot, damp climate. The students arrived ten minutes later, each carrying a full plate of food. In [] the plates were set in the middle of the table, and everyone ate directly from them. Roast peanuts, fresh sliced mangoes and sweet sauce, roast chicken, chicken in hot sauce, fried rice and a local dish consisting of chopped by-products and pepper was the hottest food I had ever eaten. One bite and my whole head began to sweat profusely as I gasped for air. This act turned out to be as funny as my age. They all showed me it wasn't hot by eating a heaping forkful. Not one to give in easily, I had another heaping forkful. Unfortunately, the results were the same as the first time. If I had to choose one incident as the highlight of the trip it would be this hour and a half informal gathering, one of those rare times when our many differences were all set aside.

There were other moments: two farewell dinners with my first cold dish of chopped onion and chicken feet (only the pads), 100-year eggs, shark fin soup, raw octopus, squid and eel, and numerous other delicacies I can't even remember and an emotional farewell scene with my students and interpreter.

All in all, they were the hardest working, most dedicated students I've ever had the pleasure of teaching. My trip was a rich experience with six new friends I'll remember for the rest of my life.

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"Nothing
would be done at all
if a man waited
till he could do it
so well that no one
could find fault
with it."

--Anonymous

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SURVEYING

CRYPTOSYSTEMS

by Sam Coury, B65

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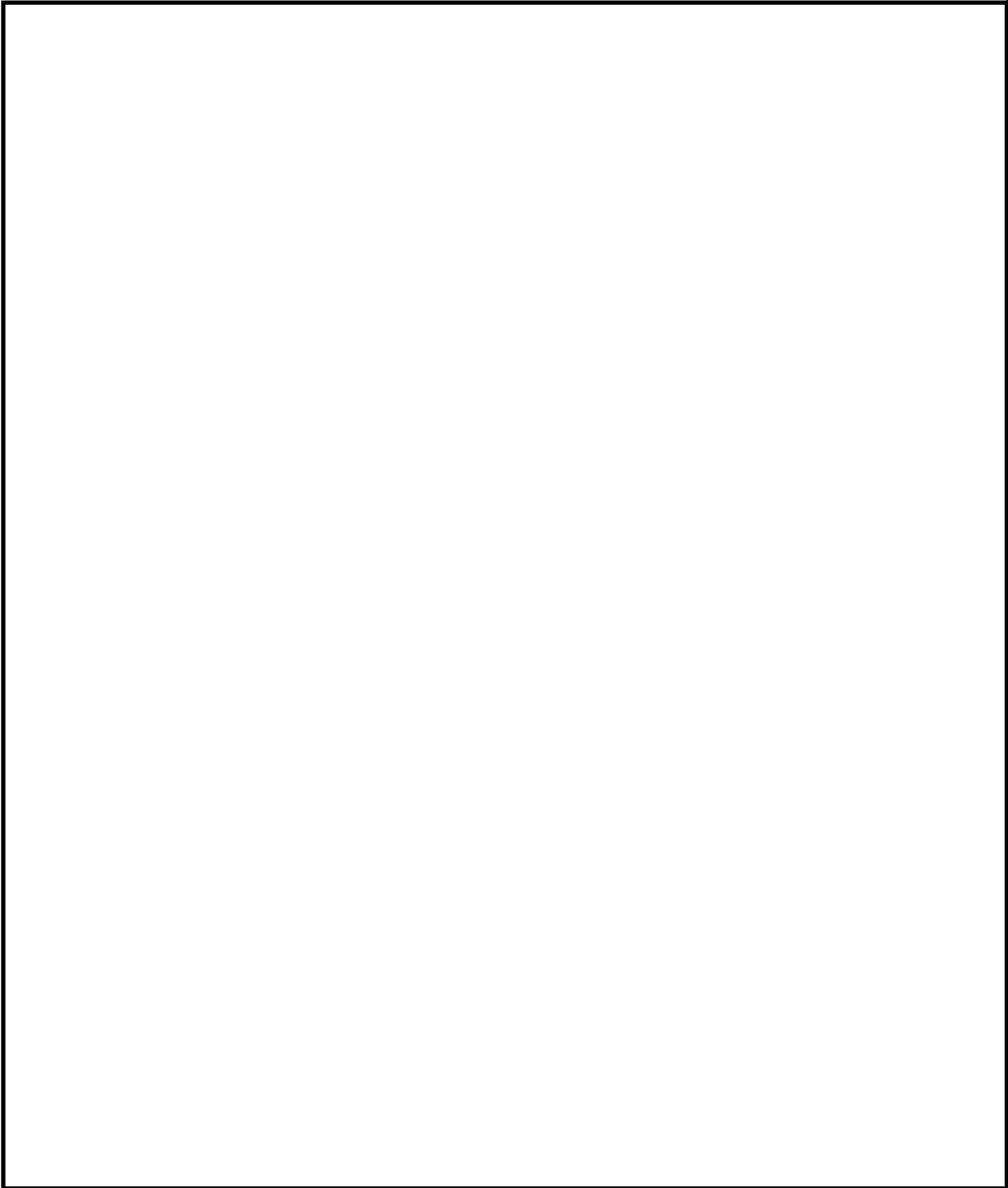
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"Truly, a cart is more than the sum of its parts.

Better to rumble like rocks

Than to tinkle like jade."

--Lao Tzu

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HISTORY OF A DRAGON

by Don DeLong, B43

According to a popular legend rooted in Greek mythology, the fire-breathing green dragon was a familiar figure and a formidable foe. During the recent fierce armed conflict in Southeast Asia (SEA), a more domesticated *purple* dragon played an entirely different role in helping to overcome the forces of evil.

Before recording the birth of the *Purple Dragon*, a slight pause for a definition of Operations Security (OPSEC). OPSEC is formally defined as: "Those actions that are necessary and appropriate to deny the enemy information concerning planned, ongoing and completed operations. This includes planning, training, and other across-the-staff procedures necessary to protect the security of operations as well as conducting OPSEC surveys to validate or improve the effectiveness of OPSEC measures." In simpler terms, it is maintaining the element of surprise, while at the same time denying information about operations to the enemy.

OPSEC, as we know it today, originated in the latter part of 1966. At that time, President Johnson expressed concern over the losses sustained by U.S. air operations in Southeast Asia and the lack of overall effectiveness.

The Director, NSA (DIRNSA), briefed the President's Foreign Advisory Board on SIGINT indications that the Viet Cong, North Vietnamese and Chinese Communists frequently had advance knowledge of U.S. operations in SEA. In the light of this SIGINT evidence, Joint Chiefs of Staff (JCS), in the fall of 1966, tasked Commander-in-Chief, Pacific (CINCPAC) to investigate the security posture of U.S. air operations in Southeast Asia. Survey teams were first organized by CINCPAC in October, 1966. Each team contained representatives from operations, communications, COMSEC, intelligence, and other sections as needed. The entire OPSEC program in CINCPAC is known as *Purple Dragon*.

Initial areas of concern for *Purple Dragon* teams, who uncovered many U.S./Allied vulnerabilities, included but were not limited to: stereotyped operating procedures; excessive plaintext voice communications; static callsigns and frequencies; physical and personnel security.

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Among the first operational areas surveyed by *Purple Dragon* teams in 1966 and 1967 were B-52 ARC LIGHT strikes, ROLLING THUNDER tactical airstrikes over North Vietnam, and photo drones. In later years, OPSEC surveys were expanded to include carrier operations, gunship missions in the STEEL TIGER and BARREL ROLL areas, GIANT SCALE reconnaissance missions, Airborne Direction Finding (ARDF), Forward Air Controllers (FACs), GIANT NAIL reconnaissance missions, military operations in Korea, and numerous other areas.

In compliance with JCS memorandum SM 469-71, CINCPAC prepares a semiannual OPSEC report covering all surveys for the preceding six months. Portions of the report contain codeword material. The requirement that CINCPAC provide a semiannual OPSEC briefing to JCS and to key personnel at NSA has been discontinued.

The latest *Purple Dragon* OPSEC report in December 1972 contained findings on surveys that examined the amphibious exercise, GOLDEN DRAGON; U.S. Air Force gunships; ARC LIGHT missions into North Vietnam; Naval gunfire support; and U.S. Special Forces in Thailand.

Let us take a closer look at one of these surveys. Gunship operations, using AC-119 aircraft based at Danang, Vietnam, and Nakhom Phanom, Thailand, were surveyed in March of 1972 with augmentation of the survey team from 7th Air Force personnel and concurrent monitoring performed by Pacific Security Region personnel. Revealed were many areas vulnerable to exploitation by the enemy, which yielded valid prior knowledge or forewarning. Among the observations made by the survey was the report by gunship crews that the enemy gunners hold their fire until gunship escorts report minimum fuel (codeword BINGO) or expenditure of all ordnance (codeword WINCHESTER). This confirms that the enemy intercepts and exploits air-to-air communications to his advantage.

A number of major findings dealing with operational procedures, communications patterns, and Human Resource Intelligence (HUMINT) vulnerabilities were uncovered during the survey. Specific highlights included: (1) Use of distinctive static callsigns enables the enemy to identify, mission-by-mission, the gunship type, working altitude, general working area and capabilities. (2) Reporting of an escort aircraft delay, alert or cancellation by mission number via in-the-clear communications can reveal an increased vulnerability of a

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specific gunship mission, particularly if there is no spare or substitute available. (3) DELTA and BETA points (used to identify specific geographic locations) are employed widely in insecure communications to pass sensitive intelligence. (4) Aircraft status boards display a complete and up-to-date status information relative to sensory equipment. This data could be exploited through HUMINT, since numerous foreign nationals were observed in the area. (5) Nightly gunship schedules, together with any variations therein, can be readily recovered from the unclassified operating schedule and flying schedule forms. (6) Static mission numbers, which can be readily associated with specific visual reconnaissance sectors and times on-station are a source in unprotected communications that the enemy may exploit to get advance information on any changes in the nightly gunship schedule.

Meanwhile, the OPSEC effort generated considerable interest at NSA. The responsibility to provide SIGINT support to CINCPAC was vested in a B Joint Task Force which was established concurrently as an NSA counterpart to the CINCPAC *Purple Dragon* effort. B45 was designated to chair the project and all SIGINT support to the OPSEC effort at CINCPAC was directed from that office.

In support of B responsibilities to provide SIGINT support to CINCPAC OPSEC, all elements were requested to be especially watchful for any SIGINT information possibly indicating enemy foreknowledge or forewarning of U.S. or Allied operations contained in enemy communications between any of B targets. It was stressed that the words foreknowledge or forewarning need not appear in the title to make the information a valid OPSEC item.

Two additional requirements were levied on B elements in support of the task force. First, all collateral and SIGINT that could possibly relate to OPSEC was to be provided to B45 on a regular basis. Also, all offices were to coordinate with B45 on all outgoing messages that pertained in any way to the general problem of enemy awareness or foreknowledge.

During its heyday in 1971 and through January 1972, the task force provided SIGINT support to the *Purple Dragon* OPSEC effort in the form of a monthly end product known as The Awareness Report, Pacific Area. Subjects of interest that contained possible foreknowledge and that were outlined in this report included: air activity, ground forces, naval activity, movement

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of VIPS, and enemy COMSEC efforts. More specific examples within the air activity were B-52 strikes, tactical air strikes from carriers, SR-71 overflights, U-2 reconnaissance missions, and BUFFALO HUNTER photo drones.

The Enemy Awareness Report, Pacific Area, was discontinued after the January 1972 issue because a great deal of its usefulness was lost as many of the same items were reported through a more timely medium. The only current report generated by the OPSEC portion of B is a weekly electrical message forwarded only during those weeks when there is a positive foreknowledge message concerning B-52 strikes.

Although the war in Southeast Asia is supposedly coming to a close, OPSEC continues to play a vital role in support of U.S. and Allied operations in that area and in other areas of the world. To this end the office of the JCS, in July 1972, began placing renewed emphasis on their OPSEC policy guidance to the military services and the commanders of unified and specified commands.

The *Purple Dragon* remains today as a protector of the OPSEC domain. He stands ready to breath fire on those who would violate the rules of good OPSEC order.

CHINA DENOUNCES another perfidious Taiwanese trick. The Nationalists, it seems, have distributed 100,000 copies of Jonathan Livingston Seagull to their people. As the Communists see it, the high but selfish ideals advocated by the best-selling novel will distract Taiwan's youth "from the just struggle for unification" with the mainland.

WALL ST. JOURNAL
24 May 1973

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---A complete collection of papers covering past activities of the Pl Bookbreakers' Forum on Machine Aids has just been published by Pl. This document, Pl Informal No. 6, S-209,237, contains minutes of all general meetings (including two sessions for which minutes have not been issued previously), as well as a quantity of historical and background information. It should be of interest to anyone seriously involved in bookbreaking, machine support to bookbreakers, or the management of bookbreaking problems. Anyone who would like a copy should contact M.E. D'Imperio or Jean Oliver, Pl6, x3045.

---RYE Project TREES is a set of 14 bookbreaking and code message processing programs that provide a fairly timely and flexible working aid for bookbreakers. TREES enables analysts to do the initial data processing and certain diagnostic tests on codes through remote RYE terminals, provides a remote access repository for data which is alterable according to the users' requirements and allows rapid data retrieval or data

The following changes to programs listed in the Project TREES manual, dated March 1971, were generated by B users:

ASH (Page A-1) - The GR (Group Size) option data parameter should be used with paper tape input, as well as card input, on an initial ASH run with the CR option parameter. ASH will insert the GR (Group Size) submitted into word 3 of the sector 1 message file identification block for use by other Project TREES programs where the group size is a factor.

BEECH (Page B-1) - BEECH will index up to 5000 records. A version of BEECH, cataloged on RYE as BEECHLG, will index up to 10,000 records. If a user wants to selectively send messages from his message file to BEECH or BEECHLG using program SPRUCE, he may do so by using standard SPRUCE program and data parameters and substituting an XX for BI as the first BEECH or BEECHLG parameter (e.g., XX90 vice BI90, if F90 is your message file).

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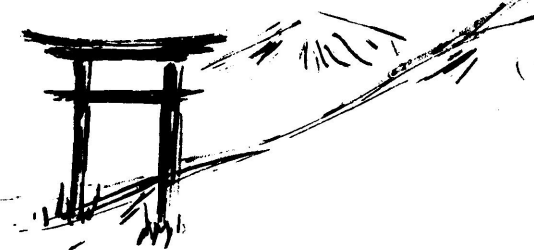
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DOGWOOD (Page D-2) - Another parameter to DOGWOOD, NOINC, is now available which will inhibit the automatic update of the frequency field of every code group appearing in a message submitted for a DOGWOOD decode.

FIR (Page F-1) - A user may input any size short identification, not necessarily a multiple of 5, and FIR will delete all messages with headers that match the header stream(s) submitted for the specified number of characters.

To get a copy of the Project TREES manual or to secure RYE FASTRAND storage for a Project TREES application, contact your division's machine applications representative (e.g., B42, G46, etc.). B65 has had extensive user experience with Project TREES over the last several years on a variety of [redacted]

[redacted] language) codes and can be contacted (7210s) for user-oriented assistance in establishing a Project TREES application.



---Did you know that the Guangming Daily, a PRC newspaper, has been carrying a special feature called "Language Reform Semimonthly." The articles deal with the movement for simplifying Chinese characters and the attempt on the part of the PRC to reduce the total number of characters now being used. As of 10 May, this feature, a full page spread, has appeared on the 10th and 25th of each month.

---The CLA Program Committee has developed what it considers to be an exceptionally informative, interesting, and stimulating lecture series for the 1973-74 year. Following is the tentative schedule:

16 Oct 73, NSA Auditorium
THE UNITED STATES INTELLIGENCE
EFFORT AND THE LINGUIST
Dr. Louis W. Tordella,
D/DIR, NSA

2 Nov 73, NSA Auditorium
THE LINGUIST AT GCHO
[redacted]

4 Dec 73, NSA Auditorium
THE CHANGING FACE OF CHINA:
REFLECTIONS ON TWO RECENT
VISITS TO PEKING
Mr. Charles W. Freeman, Jr.,
Director, People's Republic
of China and Mongolian
Affairs, U.S. Department
of State

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15 Jan 74, NSA Auditorium
22 Jan 74, FANX Auditorium
PROJECT LAYAWAY: THE NEWEST
CONCEPT IN TRANSCRIPTION
Mr. Charles Holt,
D/Chief, A64

12 Feb 74, NSA Auditorium
THE FAITHFUL ECHO: THE ROLE
OF THE LINGUIST IN U.S.
DIPLOMATIC NEGOTIATIONS
Mrs. Sophia Porson,
Senior Diplomatic Interpreter,
U.S. Department of State

12 Mar 74, NSA Auditorium
19 Mar 74, FANX Auditorium
INDONESIA: ITS PEOPLE AND
LANGUAGES
Mr. Robert S. Johnson, G92

9 Apr 74, NSA Auditorium
THE UNIVERSAL LINK: LANGUAGES
AND LINGUISTS AT THE UNITED
NATIONS
Dr. Margarita Bowen,
Georgetown University

14 May 74, NSA Auditorium
21 May 74, FANX Auditorium
THE LETHAL TRIANGLE: THE STUDENT,
THE SCHOOL, AND THE SUPERVISOR
Mr. Alan French, E1

11 June 74
THE ARAB WORLD TODAY
Speaker to be announced

---New or renewing members
of CLA may pay their 1974
dues (\$3.00) to any one
of the following persons:

Gallagher, Mr. Philip J.,
B652, Room A2548, FANX II,
ext. 7206s.

Kreinherder, Mr. Robert F.,
B65, Room A2548, FANX II,
ext. 7210s.

Mollick, Mr. John J.,
B372, Room 3C099-2, OPS-1,
FGGM, ext. 4175s.

Wagner, Miss Florence E.,
B652, Room A2548, FANX II,
ext. 7128s.

Wong, Mr. Washington,
B442, Room 3W030, OPS-1,
FGGM, ext. 4058s.

Wood, Mr. Geoffrey C.,
B653, Room A2548, FANX II,
ext. 7206s.



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PL 86-36/50 USC 3605ASK
THE
DRAGON
LADY.THE C PARALLELOGRAM

Dear Dragon Lady:

The only thing wrong with Ms. Kennard's premise is that it does not reflect SIGINT of 1958-62 when we were reading the [redacted] [redacted] comms which told us tons about CRC. Ms Kennard should see the translations and reports put out circa 1961-62 derived from [redacted] system. I believe the reports and translations were in the VHI (later VNG) series. Several messages from CRC were decrypted and published.

My impression is that the CRC remained a viable force through the mid-sixties but began to fade as the clandestine flavor of the war died. It hasn't been heard of for years.

Finally, Ms. Kennard may well have stumbled on to the truth, but I am inclined to doubt it without more proof. Her article remains an excellent *explanation* of what might have happened. But, there have been several de facto reorganizations within the Communist hierarchy since the mid-sixties and I suspect that the CRC, if it still exists, is a paper organization.

Tom Glenn, B61

Dear Dragon Lady:

Ms. Kennard's article on the "C" parallelogram in the June issue of "Dragon Seeds" provides the opportunity to expound on the problems encountered in the use of collateral information in the war in South Vietnam.

As she states, the war has produced (and is still producing) a volume of collateral that has probably never before been available to our analysts. This very volume, however, often proves to

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be a mixed blessing. To paraphrase Newton, "for every piece of supporting collateral there is an equal and opposite piece detracting." It has been postulated that given any conceivable premise, no matter how obtuse, collateral can be found which will provide substantiation. Although this statement is obviously uttered with tongue in cheek, it is nonetheless true that often it is the traffic analyst that must bail out the info analyst and not the converse as Ms. Kennard has suggested.

In her study, Ms. Kennard cites an ARVN J2 study based on captured documents but fails to mention that the documents also positively indicated that the ubiquitous Agency "C" has both a sapper and signal command. Messages from VC MR 3 specialized agencies (such as sapper and signal) were addressed to the "Sapper Command of C" or "Signal Command of C." C also sent messages to VC MR 3 asking for information and demanding that it forward reports on enemy military activity including after action reports. Is it not unusual that the CRC, equated to "C" by Ms. Kennard, "has no communications of its own" yet has its own signal command?

Further, the document which lists the No. 2 man of the Cau Ca (CRC) as the political officer of "C" is inconclusive in the equation of C to CRC. It is known that high ranking party members, not only of the central party headquarters in North Vietnam (aka C (?)) but also of COSVN (aka R) in South Vietnam, "wear two hats" and function on several committees. Could not the political officer of "C" also concurrently be the No. 3 (?) man of the Cau Vu resulting in yet another "equation."

Once again the study of collateral information has proven to be an esoteric discipline and has allowed different analysts to proceed along different paths each seeking that piece of information which will support a hypothesis formulated from analysis of previous data.

Thomas Lahr, B62

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Continuing the discussion on the plight of the Agency's linguist, the Dragon Lady shares these thoughts from a senior linguist:

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"A PROGRAM FOR THE IMPROVEMENT OF THE LANGUAGE CAREER FIELD"

1. Set up a scale which distinguishes more clearly between the plodding, factory-hand linguists and the expert, innovative and intelligence-minded ones. At present I suspect they are all lumped together in the mind of management, and this accounts for the low estate of language as a calling.
2. Make language professionalization tests rigorous enough to discriminate not only between well-qualified and poorly-qualified linguists but also between professional linguists and dilettantes from other fields who just think they'd like to pick up another certificate on the cheap.
3. Recognize some of the newer fields of language work: comprehensive language files, computerized language aids, computer analysis of plain language phenomena, effective aptitude and achievement tests, and even "blue-sky" projects like linguistic approaches to encoded voice and ways of solving the transcription problem.
4. Publicize achievements in the language field -- both among managers and among other linguists.
5. Promote linguists for linguistic work, that their days may be long in their own field and that the newer generation may be inspired to enter that field and to give it their best and their all.

Recognize - Publicize - Promote!"

* * * *

"ຖ້ວນ ຖ້ວນ ມື ມື ມື"

*"The foot of an elephant closes the
mouth of a chicken."*

--Laotian proverb

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SOLUTION TO JUNE 1973 TRANSPOSITION PROBLEM

FOUR SAGES AND THEIR SAYINGS
7 15 23 16 18 1 8 5 19 2 13 4 22 10 6 11 17 20 3 24 12 14 9 21

THE SAGES OF CHINA AND THEIR RECORDED SAYINGS REMAIN TO THIS HOUR MIGHTY FORCES IN THE LIFE OF THE WORLD XX THE GEMS OF WISDOMS SO BRILLIANT IN THEIR CLEAN CUT DIRECTNESS HAVE HAD INFLUENCE FAR BEYOND THE CONFINES OF CHINA AND THE ORIENT XX THEY GLOW IN THE LITERATURE OF ALL LANDS MODIFIED XX AND PERHAPS A LITTLE DISTORTED AT TIMES XX IN FORM AS THE CENTURIES PASSED AND APPLIED TO CONDITIONS SPARAMOUNT IN THE TIME OF MANY AUTHORS WHOSE WORKS CONSTITUTE THE BACKGROUND OF LIFE IN VARIOUS COUNTRIES XX WITH THE PASSING OF THE YEARS THOSE GEMS HAVE BEEN CALLED UPON TO SERVE DIVERGENT PU

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

Encipherment involved transcribing by key
column in an alternate vertical route.

* * *

SOLUTION TO CRYPTO-SCRAMBLE:

1. Generatrices
2. Tempest
3. Relative Base
4. Shadow
5. Superstet

CRYPTOSANSWER: REPEAT RATE

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EO 3.3b(6)
PL 86-36/50 USC 3605

CONTRIBUTORS

RICH ATKINSON, E13, is a graduate of the University of Colorado who joined NSA in 1963 and was immediately assigned to P1 where he has spent most of his Agency life. He has accomplished a 3-year tour in Cheltenham, England and the P1 Crypto-Math Intern Program (not necessarily in that order) and is recognized as a professional in the fields of Mathematics, Cryptanalysis, and Education and Training. Rich can currently be found at the National Cryptologic School using baseball batting averages to illustrate the theory of probabilities for budding cryptanalysts (and wondering how we got this sketch).

SAM J. COURV, B65, began work for NSA in 1948, spent nine years as an analyst of [REDACTED] cryptosystems. Subsequently, from 1960 to 1962, he served a tour of duty in Cheltenham, England where he was concerned with [REDACTED]. Immediately afterwards, he joined B Group and was tasked with analyzing first VC and then Southeast Asian diplomatic cryptosystems. Since 1966, he has been responsible primarily for cryptanalytic efforts against [REDACTED] cryptosystems.

CAPT DON DELONG has spent the last two years of a 12-year Air Force career working in the OPSEC portion of B45. He holds a degree in Business Administration from Southwestern State College in his native Oklahoma. A former Morse intercept operator, Capt Delong lists among his military assignments such widely scattered areas as Alaska, Germany, and Thailand. While in Southeast Asia, he provided SIGINT support to ARC LIGHT missions and maintained a secure communications facility in support of BUFFALO HUNTER photo drone missions and GIANT NAIL (U-2) reconnaissance overflights.

JANE (BETTY) DUNN's connection with SIGINT dates back to WWII and covers targets from Japanese Military to CHICOM [REDACTED] with stops along the way for work on [REDACTED] European Satellite, and Vietnamese Communist cryptosystems. She holds a B.E. from Duquesne University and was prepared to teach French in Pennsylvania high schools before she was detoured to Arlington Hall. Betty is a certified cryptanalyst, a tutor for the CA Intern program, an E.E.O. counsellor, and the biographic editor for DRAGON SEEDS. Chief of B45, the PRC [REDACTED] Division, from May 1972 until the reorganization of July 1973, Betty is now a member of the B4 Technical Directorate for Cryptanalysis.

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PL 86-36/50 USC 3605

JERYL O. (JERRY) GEGAN, B652, joined NSA in 1966, following a stint in the Army Security Agency. He has worked as a linguist, reporter, and traffic analyst in both the [redacted] sections. In 1968 and again in 1971, Jerry served as a Lao linguist on temporary loan to a [redacted] field site. From 1969 to 1972, he was the B12 integrated analyst for Laos at USM-7 (Udorn, Thailand). Jerry is Chief of the [redacted] Chairman of the Lao PQE Committee, and certified by both the Language and Special Research Career Panels.

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