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Record of Trial of German Saboteurs

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ARMY SERVICE FORCES

SIGNAL SECURITY AGENCY

WASHINGTON 25, D. C.



SPSIS-1

9 May 1945

SUBJECT: Record of Trial of German Saboteurs

TO: Assistant Commandant
Signal Security Agency

1. Inclosed for information and file within Signal Security Agency are four copies of a digest of information taken from the Record of Trial of William C. Colepaugh and Erich Gispel, accused as German espionage agents.

2. In a memorandum of 27 March 1945 from the Commanding Officer of Signal Security Agency to the Deputy Chief of Military Intelligence Service it was requested that MIS procure from the Judge Advocate General's Department the transcript of testimony taken in the trial of Colepaugh and Gispel and forward that record to Signal Security Agency for information. However, because only one copy of the Record of Trial is available and because of the voluminous nature of the record (5 volumes, consisting of 869 pages of testimony and 104 exhibits), the Judge Advocate General's Department was unwilling to release the file. Arrangements were therefore made through Lt. Colonel Duncombe of MIS for the undersigned to visit the Judge Advocate General's Department and examine the file in that office. The inclosed digest summarizes those portions of the testimony dealing with secret inks, microphotography, cipher systems and clandestine radio communication.

3. Although this information was originally requested by the Laboratory Branch, it is believed that the Director of Communications Research, Signal Security Agency Historian, Intelligence Division, and Communications Branch may also be interested in the inclosed report.

1 Inclosure
1. Report (4 cys)

WILLARD M. J. BAIRD
Captain, Signal Corps
Liaison Officer to MIS

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9 May 1945

INFORMATION TAKEN FROM THE RECORD OF TRIAL OF
WILLIAM C. COLFPAUGH AND ERICH GIMPEL

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INFORMATION TAKEN FROM THE RECORD OF TRIAL OF

WILLIAM C. COLEPAUGH AND ERICH GIMPEL

I. GENERAL INFORMATION

1. William Curtis Colepaugh, a native of the United States, and Erich Gimpel, a German, left Germany in October 1944 aboard a German submarine and landed 54 days later off the coast of Maine on the night of 29-30 November 1944, at Frenchman's Bay, proceeding thence to New York City where they were apprehended by the FBI the last week of December 1944 and subsequently tried in January 1945 by a Military Commission and convicted under the 82nd Article of War. The following information is taken from the Record of Trial of these men, on file in the Office of Judge Advocate General, U. S. Army. The Record of Trial is classified SECRET.

2. Before leaving Germany, Colepaugh and Gimpel were given a Leica film bearing the names of 20 American prisoners of war interned in Germany "To be used by us in the event we wished to correspond with Berlin." (Colepaugh's testimony, p. 3) "We were to write an innocuous message or letter, but the information we desired to transmit would be placed on the letter by us in secret ink and all letters going to those American prisoners of war would be examined by the Security Army in Berlin On the same day I made microphotographic dots on a film, which dots contained instructions for Gimpel on how to build a radio and also for receiving and transmitting messages when we reached the United States, wave lengths and time for receiving and transmitting messages, and the two names of individuals serving as mail drops in Lisbon and Madrid which were to be used by Gimpel in transmitting secret messages."

3. Colepaugh's testimony, continuing, p. 3: "In Dresden we were given a microphotographic apparatus which we put aboard the submarine. This was to be used to make photographic dots for possible transmission of information from the United States and to enable us to read such dots, but we left the apparatus on the submarine because it was too heavy to carry, in view of our weakened condition after the long trip. We were also given secret ink and a supply of developing powder to develop any secret messages that were sent to us in the United States. We were given a code for sending messages on the radio, utilizing as a base the words 'Lucky Strike Cigarettes, It's Toasted.'"

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4. Gimpel's testimony, p. 6: "I was to build an 80-watt radio transmitter in the United States, and Germany was to start sending messages to me They gave me the Leica camera in case I could not make radio contact with Germany I was to use the Leica camera to make up microdots, and these were to be mailed to Germany I was to get in contact with some neutral ship to carry the letters over."

II. CIPHER SYSTEMS

5. Colepaugh's explanation of the cipher system to be used for radio communication with Germany appears on p. 379 et seq of the Record of Trial in the testimony of an FBI agent who stated that Colepaugh advised that the first step in the use of this code was to take a familiar phrase bearing 31 letters. In Berlin, while the matter was being discussed with Gimpel and himself, he happened to notice the phrase "Lucky Strike Cigarettes, It's Toasted" in a magazine in the office and that happened to be 31 letters so he chose that one as easily remembered.

"The first step in setting up a message for coding is to take that phrase "Lucky Strike Cigarettes, It's Toasted" and, starting in the left, place the letters of the phrase with one space in between each letter until 16 letters of the phrase have been put down. Thus we have l-u-c-k-y-s-t-r-i-k-e and so on up to the sixteenth letter. The remaining 15 letters are then placed in those empty spaces starting at the space which represents the month in the year in which the message is sent. We assume here that this message was being sent on April 26th, so the fourth space in this case would be 1,2,3,4, "E" — that is the seventeenth letter of "Lucky Strike Cigarettes, It's Toasted," so the letter goes there and you continue with the 15 remaining letters of the phrase f-i-t-s-e-g-i-t-s, and so on. In other words, right through until the remaining 15 letters have been completed, your last 3 letters going here (pointing). That gives you the phrase in a different order, the same letters in a different order.

"The next step is to give these particular letters numerical value. That is done alphabetically. The first "A" in this group is given the value 1, the second "A" is given the value 2. If there were more "A's" they would bear the succeeding numbers. There are no more "A's" and there are no "B's", so the first letter "C" is given the value 3 and so on until 31 letters have been given values up to 31.

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"The next step is to black out below the numerals a space equal to the number or date of the month in which the message is to be sent. This is April 26th; Colepaugh blacked out the space under April 26th. In going over the matter later he said that the blackout should go before the date of the month. . . . However, inasmuch as he put it here we will continue that way as it will be clearer to you.

"Then starting at the space to the right of the black-out the message is printed. In this case he has put down "Use auto battery six volt," and then at the end of the sentence he puts in fill-in letters. Here he has two X's and two Y's. Here he has "I had swell time hope you are having a good time also" and fill-in letters and "Will meet you Tuesday, Walter", which is his code name, and then he must put in fill-in letters sufficient to make the total number of letters in the message divisible by five. You notice he skipped the black-out space as he came to it.

"The next step in wording this message is to use the same letters but put them in a different order. We accomplished that by reading from the numerical values starting at 1; I A E is placed down horizontally here. Then going to 2, I R T, and so on, reading from the vertical and putting it in the horizontal line. In other words, this group of letters is the same as this with the exception that they have been transposed. The next step is the same. This group of letters is transposed once more. For instance, we started at letter 1, X O T, which goes horizontally or X O T; under 2, X R T N M V. Here we have N M V, and this is the grouping in which the message will finally be sent. Therefore, it is separated in groups of five letters.

"That is continued until you come to the third and fourth groups from the end of the message. Those are used for the key in decoding the message, so they are left blank as this transposition was. In order to build up those two groups this key is used. Taking the month of the year in which the message is sent the letters are listed until 10 letters are down on the paper. Now it so happens that April has 5 letters, so it is merely a repeat of April to get 10 letters. Had it been January, which has 7 letters, you have January and Jan making up the 10 letters. These letters are then given numerical value in the same manner as we did in previous steps. A is 1, A is 2, and so forth, until the letters have been given values. The one with the 10 is not carried over; it is merely 0.

"Then the word Deutschland is placed below these numerals. Omit the last D, inasmuch as 10 letters are required, and you will notice that the word Deutschland has no repeating letters. Below the word Deutschland the remaining letters of the alphabet are placed down. There is an A, so no A is put down. No B; so a B is put down. There is a C and D. No F; F goes down; so on until the remaining letters of the alphabet have been placed under Deutschland. This then is used as a key in building up the

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third and fourth groups from the end in building up the message.

"The next step is to take the 7th and 8th groups from the beginning of the message. That is this: Y R R A A T T L O Y, and they are placed down here. The numerical designations of these letters are then placed below them. Y, you will notice is the numeral 5, so the 5 is placed below Y. R is the numeral 1, so that is placed below the R, and so on, until the proper numerals from this key have been placed below these letters. Below those numerals are placed on the 7th group a series of numerals representing the day of the month on which the message is sent. This was sent on the 26th of April, so we have 26, 0 separating the two groups of numerals and another 26. Underneath the 8th group we have the month of the year in which the message is sent and the number of groups in the message, so we have 04 which is April and 0 separating it from the number of groups and 22 representing the number of groups. Those numerals are added together without carrying over any numbers. So this is the result of the addition of these two groups of numbers without anything carried over.

"These numbers then represent what go into the third and fourth groups from the end of the message, except that they must now be transposed back into letters. Again we go back to the key. 7 could be an E, F or V. We choose V here and put it down below the 7. If we have another 7 we wouldn't use the same letter; we use the F rather than the V again; and so on from this key substituting letters for the numerals. You notice that we do not put any vowels in those key groups. Colepaugh said that if vowels were put in there it would show that the agents were working under control, that they were actually working with the United States, being apprehended, and that we were sending the messages rather than the agents themselves.

"Then we take these two groups and put them back into the message as the third and fourth groups from the end and that is your message as it is sent on the radio."

6. The cipher system described in the foregoing paragraph is further illustrated in Exhibit 96 of the Record of Trial as follows:

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L T U E C D K E I T S T T E R S I I K T E S C T I O G A A S R
 16 24 30 6 3 5 14 7 31 25 20 26 27 8 18 21 11 12 15 28 9 22 4 29 13 17 10 1 2 23 19
 U S E A U T O B A T T E R Y F I X V O
 L T X X Y Y I R A D S W E L L T I M E H O P E Y O U A R E H
 A V I N G A G O O D T I M E A L S O X X W I L L M E E T Y O
 U T U E S D A Y X X W A L T E R X X Q X Z
 I A E X R T Y G S T P I Y A D I N E H
 O Y S E N L A H X X F U E U T L R T I S I R Y L I G A O M O X
 L A U Y O M E L E T O H O S T W A L A E T O V Z V E Y T V T D
 D I U W I A B E X C E E L X I U A O X

XOTEN VMOIP YNLMA KYWEL
 KAUXE SXTDA YRRAA TTLOY
 IVAEB YLAXO LDAGE ETTIR
 XDSOE XLWUT ROBOT YAXXT
 QUHEI EOLGS TVLKF VFBQL

APRIL 26

APRIL APRIL
 1703528046
 D P U T S C H L / N
 R F G I J K M O P Q
 R V W X Y Z

10 letters
 leave off last D, as
 this makes 10 letters

EILZS UUXEX
 100 letters
 7, 8 from beginning 20 groups
 3, 4 from end 22 groups

7th and 8th groups
 YRRAA TTLOY
 51144 35005
 26026 66026
 77160 37027 --- (4th group from end)
 VFBQL TVLKF

REF ID: A69476

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III. MICROPHOTOGRAPHY

7. In Colepaugh's testimony, p. 9, he explained it was planned he and Gimpel would "make use of the microdots in taking photographs of war plants, materials and other items to be sent to Germany." Colepaugh said he had been informed in Germany he was the first American to have seen the German equipment used for photographing microdots. An FBI agent testified at the trial that Colepaugh had stated he and Gimpel "were given training in the microphotographic dots in Berlin and shortly before they left Berlin he made the actual microdots which are the Government's exhibit, using the microphotographic apparatus He advised that this apparatus or machine was set up as follows:

"He said that it was a box-like affair powered by a six-volt automobile battery. The current from this fed into a bulb which appeared to be an ordinary headlight bulb of an automobile with no reflector. The light from this bulb passed through a convex lens, then through the film which bore the image to be reduced to the microdot. This was ordinary Leica camera film. After passing through the film the light bearing the image went through a series of lenses which reduced the size of the image and also through a series of mirrors whenever it was necessary to bend the light. It finally hit a prism at the base of the box which deflected the light at a 90 degree angle up to the 16-millimeter film which was to bear the microdot.

"This film, as he explained it, came on rolls of about 1" or 1-1/2". It had been specially treated with chemicals so that any image appearing thereon could be enlarged and still give a clear image. It was wound on two rolls and, after an exposure was taken, one reel would be moved up to the next notch giving additional film for another exposure. After the exposure was taken, and incidentally, he mentioned that the length of exposure depended on the age of the film as it deteriorated rapidly, so that the length of exposure varied from 20 seconds to 4 minutes. After it was exposed it was removed and placed in a highly concentrated developer.

"The pan bearing the developer was cooled by ice so that it would protect the film while it was being developed. The film was placed in the pan four minutes and then in an ordinary mixture for three minutes. It was then dried. In order to prove whether the microdot was correctly placed on the film and had been given the proper exposure and developed properly, it was then placed back into the machine by means of clips into the same exposure and then looking down a tube which Colepaugh believed to be a high-powered microscope, it was possible to see the microdot and

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it was enlarged sufficiently to see whether the job had been properly done."

8. The Record of Trial, p. 10, points out that Gimpel had brought with him from Germany seven rolls of new (unused) Isopan film. The film was later developed by the FBI, but disclosed nothing on it. The film was contained in packages bearing the following labels:

AGFA	
F	$\frac{17^{\circ}}{10}$ DIN
ISOPAN F	27° Sch.
Feinkorn	3500 H. & D.
Fine Grain	Patrone
Grain Fin	Cartridge
Grain Fino	Cartrouche
	Cartrucho

9. The strip of Leica film taken from Colepaugh and Gimpel showed 10 microdots, each about 1/16" long and centered on the 16-millimeter film strip. To develop the dots and read the printed information they contained, the FBI enlarged the microdots 200 times.

10. Gimpel had also brought with him from Germany a Leica camera; there was no film in the camera. Gimpel also had a portrait lens (photographic lens) to use in the camera.

IV. RADIO COMMUNICATION

11. Before their apprehension in New York, Colepaugh and Gimpel had purchased certain equipment to erect a radio receiving and transmitting station. At the time of their arrest they had a General Electric radio (with short-wave band), two milliameters (100 and 250 milliamperes), a Model P.B. 100-volt ohmmeter, and a copy of the Radio Amateur's Handbook, 1944 Edition, published by The American Radio Relay League. The milliameters were manufactured by The Sterling Mfg. Co. and were for AC operation. The ohmmeter was manufactured by the Superior Instrument Co., New York, N. Y.

12. The following information on radio procedure, cipher systems for disguising radio operation, cover names, and mail drops was taken from

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the enlarged microdots brought over from Germany by Colepaugh and Gimpel.

*1. Call Letters

	1 2 3 4 5 6 7 8 9 0		Sunday	7
1	o n e o n e o		Monday	6
2	t w o t w o t w o t		Tuesday	5
3	t h r e e t h r e e		Wednesday	4
4	f o u r f o u r f o		Thursday	3
5	f i v e f i v e f i		Friday	2
6	s i x s i x s i x s		Saturday	1
7	s e v e n s e v e n			
8	e i g h t e i g h t			
9	n i n e n i n e n i			
0	z e r o z e r o z e			

The date is expressed in four figures, e.g., 31.8—3108. This number is multiplied by the number of the day of the week, e.g., Wednesday — 31.8—3108 x 4 — 12432. The call letter is formed from four figures. If a five-digit number has resulted from the multiplication, the first digit is omitted, thus 2432.

Control: Forms the call letters from the four figures, reading from left to right, e.g.,

2-4=0; 4-3=E; 3-2=0; thus OEO.

At the same time, the four letters standing below (the first ones) are chosen for additional call letters, e.g.:

1	Call Letters	OEO
2	"	IRR
3	"	IEU
4	"	ESV
5	"	IEX

With these call letters, the next five call letters are formed by using each preceding letter (in the English alphabet).

6 NDN
7 HCC
8 HGT
9 DRU
10 HDW

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If "E" occurs twice in the call letters, the first one is then replaced by a "Y".

Outstation: Forms the call letters from the four numbers, reading from right to left; thus, in the example,

2-3=H; 3-4=U; 4-2=t; - HUT. Otherwise the procedure is as in the case of control.

"2. Auxiliary Key.

Numerical key which changes monthly is formed from the English names of the months. In addition, the key word "DEUTSCHLAND" without the second "D" and the completion (of the alphabet) according to the sequence of the letters.

e.g. J A N U A R Y J A N
 4 1 6 9 2 8 0 5 3 7
 D E U T S C H L A N
 B F G I J K M O P C
 R V W X Y Z

In the case of a change of frequency of more than 50 kilocycles, the next call letter must be sent.

"3. Frequencies.

The outstation has 10 transmitting frequencies which are numbered in an ascending sequence from 1 to 10. In addition, the frequencies are designated and requested by 2-digit key numbers — which change monthly. The key numbers are derived from the numerical key of the month from the auxiliary key, from adjacent numbers reading from left to right.

No.	Kilocycles	Key Numbers (e.g. January)
1	7100	41
2	8320	16
3	8970	69
4	9800	92
5	10125	28
6	11200	80
7	12350	05
8	13550	53
9	14200	37
10	15050	74

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The control station has the following frequencies:

1	Frequency	6900 kilocycles
2	"	8100 "
3	"	9750 "
4	"	11500 "
5	"	12750 "
6	"	14460 (4807) "

4. Times.

The following basic times with the frequencies pertaining thereto are in force:

<u>No.</u>	<u>Time</u>		<u>Control</u>	<u>Outstation</u>
1	0230	GMT	6900	7100
2	0245	"	9750	9800
3	1150	"	14460(4807)	13350
4	1900	"	11500	11200
5	2310	"	6900	7100

For transmission of the exact time of the traffic, the key number of the working frequency of Aust will be added onto the basic time as a minute count; in connection with this it is to be noted that time delay (minutes) should not amount to more than one hour, therefore, only the difference is added onto the basic time. Example (?) 92-60-32 to be added(?).

Left (control station) remains on the frequency indicated by the basic time and changes (?) when requested. (Auxiliary key.)

Because of poor traffic conditions, the outstation strives to change its frequencies currently. As usual the operator calls by CTC only when there are several messages on hand. If the transmission which has not gone well is then broken by CFM, note that the outstation then wants to continue working on another frequency; call it immediately at the close in order to continue the transmission after it is heard again, and so on.

Another frequency is always

from 1000 - 1200 GMT -- the next higher
from 1200 - 1400 GMT -- the next lower

with the calls pertaining thereto.

RE: Starting Procedure.

1. Beginning of operations.
 2. TKE (?) Normal procedure.
HOI (?) Starting procedure.
 3. Call letters for the starting procedure:
Controls: WK5
Outstation: OXZ
1. Attempt at 0100 GMT
Controls: 6900 kcs.
Outstations: 7150 kcs.
 2. Attempt at 1200 GMT
Controls: 12800 kcs.
Outstations: 13100 kcs.
 3. Attempt at 1600 (?) GMT
Controls: 13500 kcs.
Outstation: 10300 kcs.

The starting procedure takes place in five-minute intervals. Control begins. Repeats in five minutes. If no traffic ensues, transfer automatically to the next trial series. After establishing the connection, change to normal procedures with the transmission of the group TKE (?). If the traffic breaks off for various reasons, and if there is no traffic for longer than eight days, return to the starting procedure automatically.

RE: Lisbon (?)

Call Letters: WVA (?)

Transmission times 0700 GMT and 2200 GMT on 10500 kcs.

On even days modulate tones (?) with 900 kz (?). On uneven days, one calls CRT.

Control Stations:

From time to time the control station announces the next transmission through CRT, 1th four letters. The letters are deciphered into figures according to the auxiliary key. Thereby

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it is indicated by the:

1st figure: on which day after the current date traffic should take place.

2nd figure: the number of the next transmission time (1,2,3, or 4 or 5.)

3rd and 4th figures: the key number of the prepared transmitting frequency of the outstation -- also transmitted (?) "today" to avoid lack of clarity in case the next transmission falls in the next time.

The transmitting frequencies of the control station (which are) unchanged (?), are known to belong to the transmission time.

Key: On January 23rd (?) CRX Z (?) BHL signifies next traffic on January 31st. (?). 1905 GMT on 12350 kcs.

* * * * *

Cover names:

VI D I -- David
V 176/11 -- Elmer
V 176/12 -- Walter

* * * * *

Addresses:

Amelio Leuro Lopez, Madrid, Liste 76
Virgilio Felipe Pinto, Lisbon, Av'la. Liberdade
129 Cavo dto.

V. SECRET INKS

13. The Record of Trial, p. 394, states that blue-black ink was given to Colepaugh and Gimpel in Germany. A chemical (described on p. 425 of the Record of Trial as "readily obtainable anywhere") had been added to the ink, giving it the qualities of secret ink.

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The two men were also given 10 to 20 small envelopes, about an inch square, containing a fine white powder about the consistency of table salt. This powder was to be used in developing the secret ink.

14. The Record of Trial, p. 425, mentions that white paper (such as any ordinary office stationery) could be used for preparing the secret ink messages.

15. An FBI agent explained at the trial, p. 395, that "the ink was to be used in the following manner: Using what appeared to be ordinary, blue-black ink, but was in reality the secret ink, they would write a message, an ordinary message, on a piece of paper. After the message had dried they would take another piece of blank paper and press it against the paper bearing the message, pushing these two pieces of paper together through the use of pressure such as placing heavy books on them over a period of hours, preferably overnight.

"The message would be transmitted to the blank piece of paper, although it was not visible to the naked eye. Then using this blank piece of paper on which the message had been transmitted an ordinary, innocuous friendly letter would be written to one of the mail drops or one of the American prisoners of war. This letter would be intercepted by German authorities and they would develop the secret message on the letter.

"He advised that the development was accomplished by placing the powder from one of these small packages into a saucer or small soup-plate of water. After the powder had dissolved the paper bearing the message was placed in the water. It was then taken from the water and dried in the sun. As the paper dried the message became visible and when the paper was fully dried the message would appear in a lavender or reddish color.

"It, of course, would be in reverse because it had been placed on the original piece of paper from the face of the original message and it was easily read by means of a mirror and could be read easily even though the other writing of the innocuous message was over it and because it was in reverse and in a different color."

WILLARD M. J. BAIRD
Captain, Signal Corps