DOCID: 4235147

Tiltman - 11 Dec. 78

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TILTMAN, JOHN

(SIDE 1)

Schorreck: If I could start out, we might start out a little bit differently than we did the other day. I wonder if you could give us your thoughts and impressions on the origins of radio intelligence in England, & the concept of deriving intelligence from communications wasn't new, but was it in England a natural consequence of what had been done in the Post Office earlier or was this a conceptual revolution, so to speak?

Tiltman: I don't know that I can answer that one. As I say I was brought in quite by chance to do one job and I spent a year in the London office before I went to India. I was purely employed on cryptanalysis. I knew nothing about the intercept. The one thing I knew was that I worked on Russian the first year I was there. I knew that we got our material by drop copies from the Post Office. So that in fact, from my first year, we were working entirely on Russian diplomatic between London and Moscow.

Schorreck: Did you have any thoughts about this as you went on in the business even in the 1930's? How did you regard the business? Was it a continuation of something that you felt had occurred before, was there a great deal of continuity to it, or, as I say, was this a conceptual...

Tiltman: I think I should say that the office, as I first joined it, Government Code & Cipher School, was composed of officers who worked (Williams who'd worked) during the war in 40 OB in the Admiralty or the War Office, Cork Street Office, and had very little to do with anything that happened in the field and they were working at that time almost entirely on diplomatic material. In fact, the whole, the whole

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office was given up to diplomatic material. Done rather in small packets of people dealing with a particular language, I worked at that time only with the Russian people. We were anything from 4 to 7. Am I answering the questions you want?

Goodman: Perhaps we could go at it this way -- Could you describe the format of one of the messages that you were looking at, in that Russian diplomatic traffic?

Tiltman: By format, do you mean...

Goodman: The beginning and ending, the sort of appearance it had...

Tiltman: I can't remember the addresses. They, in those days, the Russian ciphers usually had a name, for instance, ~~the~~ not the first one I worked on, but the one I first broke, my own first success, was a cipher which all the messages were headed with the word "DELEGAT".

Goodman: Was it sort of a cablegram form?

Tiltman: Yes, it was purely drop copies from the cable.

Goodman: They were drop copies...?

Tiltman: Yes. The address at the Moscow end was NAR MOCOMINDEL.

Goodman: Now when you use the word "drop copy" you literally mean an extra copy of the message?

Tiltman: We had a private arrangement with the Post Office.

Goodman: And it wasn't a business of intercepting it from the link itself?

Tiltman: No, no, we had a copy taken from the actual cable copy dropped off at the cable office. We had an officer named Main whose sole job in those days was as liaison with the cable company, to see that we got pretty well everything.

Schorreck: Brigadier, would you ~~a~~recount for us the incidents which took place which led you into the business when you went to the War

Office? We'd like to have that on tape.

Tiltman: I was in the British Infantry during the war, and I got a regular commission in France. I didn't start as a regular officer. The end of the war, I went back to a regular battalion. In March 1920, I was accepted for a Russian course for Army Officers in London. It was an elementary course, and I knew a good deal of Russian by then. I had been in Siberia and I'd learned a little on my own, and so on. And it was a 5-month course. It took place in Kings College in London. With, uh, is this too much detail?

Goodman: No, no. Could I ask you again the name of the College -- Gaines, was it?

Tiltman: Kings College, part of the University of London. There were two instructors. One was Baron Meyendorff, who had been president of the Russian Duma and the other was an Armenian named Raffi.

Goodman: Do you recall the spelling of these two men, Brigadier?

Tiltman: Meyendorff is Meyendor double f. Raffi was Ra double f i. There were 20 students, all junior Army Officers, and I don't know how they were selected. They weren't a very exciting lot. I was the only one who knew any Russian at all. I was allowed to go very much my own way.

Goodman: Were they former intelligence officers, or did you talk to them and discover. . .?

Tiltman: No,

Goodman: Had they a background that way . . .

Tiltman: I don't think so. They hadn't any linguistic background.

Goodman: Did any of them have signal flashes on? Do you recall the detail?

Tiltman: No, I'm sure they didn't - the ones I remember were all Army artillery officers, except myself. I don't know how they were chosen. I was simply chosen as a result of a circular that went around.

Goodman: What was your Unit you said joined the regular . . .

Tiltman: Kings Own Scottish Borders - which is one of the five old Scottish Border Regiments. Then the course came to an end in July. It must have started in February, I suppose. . . it ended in July. ~~In July~~ Just before the end of the course, I took the normal Army Language Examination in Russian and I was graded as a 2nd Class Interpreter. In those days, it wasn't possible for (Us/A) in a normal language at that time. An Officer would go through the preliminary examination, he would then go abroad to the country concerned and spend 3 years there. But we weren't able to do it that way in the case of Russian. I was one of the very early people who was awarded 2nd Class, who was rated 2nd Class Interpreter. The standard was very, very low indeed, ~~because,~~ for various reasons. Partly, because we couldn't go to Russia. So, I had a 2nd Class Interpretership and I was in the War Office by chance with another officer and because I knew a bit more Russian than the others, I was borrowed for 2 weeks because they were getting a pile-up of Russian diplomatic decrypts - that was more than they could handle in the office.

Goodman: Do you recall the name of the office?

Tiltman: Well, it was the Russian section of the Government Code and Cipher School. It was Watergate House on the Embankment near Charing Cross Station. We had the whole house.

Goodman: Did any of the course material concern intelligence or was it purely Russian?

Tiltman: No, it was purely a language class starting from scratch.

Goodman: Did you wonder what you would use the Russian for?

Tiltman: No, It was at the time, after all, this was after the Russian Revolution, Russia was a potentially hostile country in a way, and we'd had parties in South Russia, Archangel and ...

Goodman: Now you said you had been to Russia?

Tiltman: I was in Siberia. I was in Vladivostok and Irkutsk...

Goodman: Did that help you to relate to the language better than . . .

Tiltman: Well, I knew a great deal more than the others who were starting from scratch. I tried to teach myself as much as I could. I didn't attend the classes very much.

Goodman: Could we touch on that Siberian experience for a moment? Would you describe your going and your experience in Siberia . . . and coming back if that is not too much difficulty?

Tiltman: You'll tell me if I'm putting in unnecessary detail?

Goodman: None of the detail is unnecessary, sir.

Tiltman: Just after the Armistice, a notice came around that there were openings for Army Officers to go to, to virtually to help the White Russian Armies that were forming in resistance to the Soviet government and in fact, I was picked, I went for an interview to the War Office and I was picked because I knew a little Russian. I left from Liverpool about the 15th of December, something like that, 1918.

Goodman: Do you recall who interviewed you? Were they intelligence people or were they simply . . .

Tiltman: I think they were intelligence poeple, I really don't remember. The man who interviewed me, I did know afterwards in India. His name was Isaacs, Major Isaacs. As far as I know, he was a member of the Intelligence Branch, but I didn't know my way about the war office at all. Until we left Liverpool, I didn't know what part of the world

we were going to. None of us did. The party was 14 officers and 36 sergeants. The sergeants, I don't know how they were selected. They weren't a very good lot. The officers were mostly selected from some kind of connection with Russia. Two of them were regular Army Officers who were taken prisoners in the Battle of Mons and had spent the war time trying to escape - partly trying to escape and partly learning Russian. They were quite good Russian scholars. Then, there were various people who worked in Russian firms in Russia.

Goodman: But all Army Officers, right?

Tiltman: There were 14 Army officers. The sergeants were, I don't think they were selected.

Goodman: Just detailed?

Tiltman: Just detailed.

Goodman: Were they all combat arms?

Tiltman: That I can't remember. They weren't very well ~~slated.~~ selected. It was messily organized.

Goodman: Well, that answers my question. I was going to ask the question whether the 14 officers appeared to be there by design or by chance . . .

Tiltman: Well, as I say, they mostly had to have some connection with Russia. In actual fact, we were allowed, when we got to Siberia, each of us to take one sergeant up as an officers servant. I don't mean that they necessarily performed as batmen, but we were allowed a batman in those days. I had a wonderful man named Swarbrick who was a sergeant who was bilingual in English and Russian who had been in a, I don't remember what in a bank or something in Leningrad, he was there when I left.

Goodman: Now, where did you land when you got to . . .

Tiltman: I landed in Vladivostok.

Goodman: What did you do then?

Tiltman: We took a Transiberian Railway eventually up to Irkutsk. There were six of us that went to Irkutsk and about 6 that went to Omnsk which was much further up.

Goodman: Now, when you landed at Vladivostok, did anyone meet you and greet you or talk to you about your purpose, mission, or . . .?

Tiltman: Honestly, I remember very little about the organizational detail of my time in Siberia.

Schorreck: I think you said you had nothing whatever to do with intelligence though while you were there?

Tiltman: Well, I did~~n't~~ in theory, I was supposed to read the Russian newspapers, but my Russian wasn't really quite good enough and I was sick most of the time I was there. In fact, I was only working, I was there for two and a half months, but only worked for about 6 weeks. The rest of the time, I was either traveling on a train, or was in a hospital in Vladivostok.

Goodman: Was the sergeant with you during your travels?

Tiltman: Yes, but not for, he didn't come back with me. He stayed in Irkutsk.

Goodman: Were you reporting to anyone or were you simply traveling and reading?

Tiltman: We had, there was a major who was in charge of the party in Irkutsk. I don't remember how many of the sergeants there were. There were 6 officers. We really never got to the point of doing anything very useful. We'd be taken to inspect Russian officers ~~sources~~ courses and that sort of thing. I have a very poor memory of what happened in those days.

Goodmen: When you came out, what prompted that? Was it your illness?

Tiltman: Yes.

Goodman: So you were actually invalided out than?

Tiltman: I was invalided out. I wasn't in very good shape. I'd been badly wounded in World War I and I went one morning to inspect an officers course, performing one of its rare occasions when it came out into the open at all, and it was 4 miles out of Irkutsk and I walked along the River Angara which runs into Lake Baikal to where, to the rendevous. Siberia in the winter, being the country it is, I was a little early for my appointment, and the wind started getting up my front and I couldn't stay there. I walked back along the Angara frozen river, and when I got home, the temperature was 61 degrees below zero fahrenheit. I didn't actually get frostbitten, but I was quite ill after that. I was evacuated down to Vladivostok and eventually, I was in the hospital there for some time, then sent home.

Goodman: When you finished your language course, when you meant to come back, you had said that you had gone to the War Office with a friend who was looking for a job.

Tiltman: Yes.

Goodman: Would you recount what happened then?

Tiltman: Do you want all this detail for your history?

Goodman: Yes.

Schorreck: He wants the humorous side as well as --

Tiltman: I went with a friend who was looking for a job. I sat outside an office in the War Office while he went in. A man I knew came out of the office and he said what are you doing here and I said I'm waiting for Dick, the name of the officer, inside. He said were you on this Russian course, and I said "yes". He said, "As far as I know, you're the only one who hasn't come in here looking for a job". He said, "I have always been told that you don't go to the war office looking for a job." He said, "As a matter of fact, we're looking for someone who knows Russian - they don't know any Russian, any of these

people". So I said, "I have got a 2nd Class Interpretorship". Then, shortly after that, I was called up for an interview, no - no, I beg your pardon, Shortly after that I was told that I was not to go back to my regiment for a fortnight, 2 weeks, because they needed Russian interpretors in an office in London. I was taken over by a civilian from the War Office named Williams, this was the first of August, 1920, and sat down to what I thought was a test in Russian and it turned out to be a piece of translation. The Director at that time was Cdr. Dennison, who was one of the Admiralty 40 OB officers. And he remained our Director until '42. It was only then that I learned what they did there. And may I go a little into technical detail?

Goodman: Yes sir.

Tiltman: The Russian ciphers - at the time - they were using single columnar transposition or Russian transliterated into English characters and sent in English characters. The keys for the transposition were taken from books of English poetry and no key was used twice by intention and so each message had to be worked on separately. There were a great many messages. There was a great deal of correspondence. Some of the messages were quite long, and they weren't very difficult. The nature of the transliteration made it a fairly easy job. Letters which were single in Russian, were 2 letters in English - like "ya", and the single Russian letter was "shch", and this sort of things, so it wasn't particularly difficult to put them together. This suited me very well. I was pretty quick at it. Eventually, the war office decided that they would keep me seconded for a year before going back to my regiment. Stuff was still pouring in very important.

Goodman: Had you seen, had you ever done any cryptanalysis before this? This was absolutely new to you?

Tiltman: It was absolutely new to me. The Goldbug was about the highest.

Goodman: Had you done crosswords and that sort of thing?

Tiltman: There were no crosswords in those days.

Goodman: I don't recall them, but,

Tiltman: I don't think crosswords came in until a short time after that.

Goodman: Did someone instruct you before they turned you loose or did they just say here . . .?

Tiltman: Well, we started in translations.

Goodman: Right, OK.

Tiltman: And then we were shown how to do it. I think I should say that the leader of this Russian party was a Russian named Fetterlein. He had been the Chief Russian Cryptanalyst back to about 1898. He was a General and an Admiral in the Russian Services.

Goodman: Do you recall the spelling?

Tiltman: (Ernst) Fetterlein - The christian name is important because I brought his brother into the office later on and his brother's son, so Ernst Fetterlein was the oldest brother. He had really quite a good record, reputation for cryptanalysis of that period.

Goodman: So he gave you some technical instruction as to translation?

Tiltman: The story was that I was the only person he would ever show anything to. He wasn't interested in anybody else in the office, he never helped anybody except me. After this had been going for I suppose, a couple of months, they changed the cipher ~~and instead of,~~ and they substituted 2 figures for each letter and Then they did transposition on top and ~~the, uh,~~ there were variants for the common letters.

for instance, there were seven variant denomes for the vowels "o" which is the ~~communist~~ commonest vowel in Russian, and so on. The whole 100 pairs from 00-99 were used and we were lucky - this is the one mistake I remember in those days. They used one key in the new cipher that they'd used in the old one. Fetterlein got this out and that enabled us to substitute Russian. This time we worked, of course, in Russian characters for the letters...the denomes and eventually we built up a whole table. We were more or less in the same position as we were before. We still had to read each message separately. Then sometime very early in 1941, they changed again and brought in this new cipher delegat.

Goodman: 41 or 21?

Tiltman: 21, sorry. We didn't think we were going to have very much luck with this; we didn't have any clue to the substitution and of course, this was years and years before the age of any kind of computer or Hollerith or anything like that. Everything had to be done by hand. Fetterlein didn't think we'd be able to do this. We all realized that the only chance we had was to find a message, that was in which the variants had been very badly used, so that we might possibly find some arrangement of the text so that we would get recognizable repetitions in it, find the key length and put things together. I was lucky. I suppose about a month after it had been introduced, I found a long message. It was over a thousand denomes, it was a part message, the second part of a three part message. To cut the story short, it had one word in it seven times, "dogowor", which means treaty in Russian. It means seven

letters required 14 figures and the man, instead of using, the encipherer, instead of using his variants, the first time he came to the word "dogowor", the first "o" was, I can't remember what the number was, suppose the first "o" was an "18" and the second "o" was "25" and the third "o" was "39"; instead of using his variants everytime he came to the word again, he copied it down from the original one. So, in fact, you had a 14-figure repeat occurring 7 times and 2 of them were flush so that at a definite spacing, you could put together a column. A third occasion was offset only one. This was a very favorable case. The beginning of the message was PROD, prodolzhenie, which means continuation and "r" and "o" and "d" occurred in this word "dogowor". It ended PRODSLED. So it was possible to build up the whole of this one message and we read it. Well then we had suspected for a long time that the Russians used lines of poetry, the length of keys varied so much we suspected they were using a book of poetry as a source for the keys and Fetterlein showed me the standard way of trying to get back to the original text from a key. The key would be for instance, the numbers from 1-31 rearranged, and so on. The method of making up a figure key from a sentence is simply numbering the letters in alphabetical order from left to right. The result is that if you write a key out from left to right, but everytime you have to go back you drop a line, then you get the key separated into a series of lines of numbers in numerical order and if, for instance, the letter "e" occurs in the second line, none of the other letters can contain "e", or anything like that, you see. For this reason, the word "the" was particularly recognizable,

because "t" was a late letter in one of the next lines, then "h", then "e" would usually ~~go~~ occur 3-4 times in the line and so on. I stayed late one night, and partially got this message reduced to order, and I stayed late, and whether it was the first message or one that we got out shortly afterwards I don't know, but I tried these things in Russian. Fetterlein had been trying to turn the keys into Russian for a long time, but failed. Just for the hell of it, I tried one in English and it came out straightway. It read "then your curbed thoughts can measure". Then another key came shortly afterwards, "end distempers none it heeds or feeds", which both of them give the same result. So then I went to the British Museum Library. I had already inquired whether anybody knew what this poetry was, and nobody did. But a professor of English Literature at London University said that it must be a minor poet, because he didn't recognize any of it, but he would guess that it was between the ages of Pope and Cooper, ~~Calper.~~ Cowper. So I spent 3 miserable days in the British Museum reading through the poetry of the period and couldn't find it. I then returned to the office and somebody else in the office had got out two messages with consecutive indicated line numbers, they simply indicated the page and line, and this read: "and if she be not for me what care I for whom she be". Everybody knew what that was, but they didn't know who it was by or where it came from. So I went back to work again and I found that it was, I found it in an anthology. It was by an obscure poet named George Wither, of the 17th Century - which was not in the period I had been looking through. So I went back to the British Museum and it either had to be an anthology of which there were hundreds,

or it had to be a collected works of George Wither. George Wither had only been published once or twice and there was an out-of-print cheap shilling copy of his poems which turned out to be right. Then Commander Dennison and I went to the Director of the British Museum and said we wanted to borrow this book. I can still remember his saying, "I know its only a shilling edition, but you're asking me to break the law of the land". However, we managed to get hold of the book and from that point onwards, we could decrypt and translate a message the moment it came in. It usually reached us before it reached the Russian Embassy.

Goodman: Was Commander Dennison actually involved in any of the cryptanalysis which was going on?

Tiltman: No, he had been a cryptanalyst.

Goodman: But in this event, he was just there because . . . He was using his weight and waiting prestige to . . .

Tiltman: Yes.

Schorreck: I think you made the statement one time, Brigadier, that had he not been encumbered with the administrative duties that he had, he would have been an excellent cryptanalyst.

Tiltman: I think he would have. I don't remember making that statement. He had a good record from his Admiralty work during the war and he was selected to be the Director.

Schorreck: Can I ask you a question about the Russian cryptography? How would you describe it in terms of its level of sophistication, degree of difficulty, compared with other things at the time? Was it a good system, or was it a not very good system?

Tiltman: In the form it was in when I joined, it wasn't, of course,

a good system at all. It was comparitively easy to put columns of letters together until they made sense to read a message. There was a difficulty that you had to work on each message separately.

Goodman: Now you mentioned that there were two cipher changes really, the one which you first encountered and then the switch to "Delegard". Was there any indication in traffic that that was going to occur? Or any indication of the reason why?

Tiltman: No, except the change of name in the preamble "Delegard" was the name.

Goodman: Did Fetterlein speculate about why that occurred? Was there any speculation?

Tiltman: No.

Goodman: Not at all?

Tiltman: No, we just took it as it came in.

Goodman: Now what you've described is a slow evolution of yourself, from linguist or interpreter, if you want, to cryppie over that period, and it was as you described it a sort of, not a conscious effort so much as a slow change of emphasis in the things you had been doing?

Tiltman: It was very exciting, of course, I mean I think I must have been fairly presumptious; I'd had the success and I was the new boy.

Goodman: So you really got on . . .

Tiltman: Not like going to this place, now it would break my heart in three months. Well, then there were some . . . am I still giving you what you want?

Goodman: Yes, sir.

Tiltman: There some changes had to take place abroad. We had a Colonel named Jeffrey, who was working in the Indian government in Simla. He had been working almost entirely on Chinese ciphers. He

had developed, he'd had no contact in the British office, he hadn't been back. He was a very good Chinese scholar. He broke a number of difficult Chinese, big Chinese, codebooks. Well then China ceased to be a problem and he was asked to take up Russian. Well, This was a considerable difficulty. He'd absolutely refused to learn Russian. He was partially a nervous wreck by the end of the war. He'd been in Army Headquarters for a long time. He belonged to an Indian regiment, but he had never joined them. He was commissioned about 1900 and then he went straight off and learned Chinese in China and then he went to South Africa in charge of Chinese coolies in the mines and he came back to Simla in about 1912 and was posted to the Intelligence Branch in Simla where he remained until about 1935. At the end of the war, he was a Major and he was given a Brevet Colonelcy. I don't know ~~if~~ whether the nature of the Brevets is known in America.

Goodman: Yes, it was a common practice in the Civil War.

Tiltman: I hope it's died out now. It was quite ridiculous. I mean the crux of the thing was this - if a brigade, one of the commanding officers was wounded in action, and there was a Brevet Major in one of the units, he would take command of a battalion over all other Majors. That's to say he would jump right to the top of the list. The India Office descended on Colonel Jeffrey and said at the end of the war, this was sometime after the end of the war, 1920, that he would have to go back to regimental duty. This appalled him - he'd never been near a regiment in his life; he'd SATINI either been with coolies or he'd sat in the corner breaking ciphers. orner, he'd So he decided to retire. They had to find a replacement for him and they had picked a man who was afterwards a colleague of mine, Captain Muntz to relieve him. We also had a small (I don't know

how to describe this) a certain amount of interception of Russian was done in the British Embassies. The British Embassy, I don't know whether it was a legation we'll call it, in Meshed in Persia. The Assistant Military Attache was supposed to look after this, that's to say, if there was any cipher material that could be read or anything like that, he was supposed to tackle it.

(SIDE 2)

Tiltman: Before I left for India

Schorreck: I have three and David, I think has a couple . . . ~~During~~ During that year when you were in London, 1920, did you recall meeting Nigel De Gray or William Montgomery?

Tiltman: Nigel De Gray, I met years afterwards, not then. He'd left. He was head of a business called the MEDICI Society, produced Christmas cards and various things. Montgomery, I probably did meet then, and I never worked with him.

Schorreck: I was just curious if you knew them ~~and~~ or could comment on their ability.

Tiltman: Montgomery's name keeps on cropping up in literature and he was a person of no importance at all.

Schorreck: He was only involved on the Zimmerman telegram as far as I could make out.

Tiltman: Well and he probably translated something. He was no technician. He was a clergyman, actually.

Schorreck: Right, he was a Reverend.

Tiltman: He was killed driving a car along the embankment. He died in an accident

Schorreck: Brigadier, can you remember during that 1920 period, either first hand or second hand, or even third hand, anything at all ~~aoubt~~ about possible U.S./British collaboration during World War I itself?

Tiltman: I don't remember at the time it ever being discussed. Uh, Yardley, yes, talked about the Black Chamber, had a look at it and so on, but I wasn't aware even at that time, that we'd had personal dealings with Yardley.

Schorreck: Did you know whether or not in that year 1920, whether or not the British were reading U.S. traffic?

Tiltman: I have an idea there was some work being done on it, but how successful, I don't know. Being done by, I think, Strachey was working on it. I don't know what kind of cipher it was or whether they had any success, or anything about it at all.

Goodman: As you broke messages, you obviously would be aware of the text of the messages. Do you recall any which were very significant messages or was it just the run of the mill sort of exchange of diplomatic . . .?

Tiltman: I think my memory is right, one message I do remember - X- Kamenev who was the Russian Ambassador in London at the time, had been accused by the British government of something wrong (I forget what it was), and he sent a telegram in which he gave various alternative explanations of his actions that he was going to give to the British Government and he ended up, this gave me great pleasure when he came up, (a ~~French~~ Russian sentence) "then we can spit in his face". This was the explanation he was going to give to Lloyd-George. That's the only one I can remember. What he'd done I don't remember. He was out of the country in a day or two.

Goodman: When you had done a break, completed the analysis of a message, who did you hand it to?

Tiltman: I don't remember.

Goodman: Were they greeted with excitement? Huzzahs! You know . . .

Tiltman: Well, they were much more exciting than most of ~~the~~ what ~~work~~ that was going on in the office, but I don't remember. I just don't remember. We were fully involved in reading these things.

Goodman: But you saw no clear sort of relationship usually to what you had broken to what occurred?

Tiltman: No.

Goodman: None at all?

Tiltman: None, except that particular case where, where Dominick gave offense.

Goodman: And you weren't given to speculation about that - you just got in there and buried your head and did your cryptanalysis?

Tiltman: Yes.

Goodman: On organization - was the whole of the effort central to that office, or did the Navy still have their section, the Army another section . . .?

Tiltman: The Navy had a section within the office run by a man named Clarke. There was no Military Section and no Air Section in those days. I formed the first Military Section when I came back from India. There ~~were~~ was virtually no military material~~s~~.

Goodman: Was there a diplomatic section as opposed to Army-Navy?

Tiltman: Well, it was all diplomatic. They were all broken up into little parties. You know, German, such as it was, was done by one party, Italian was done by another, and so on.

Goodman: Were you in a single room or a large suite of rooms?

Tiltman: I was, six or seven of us, working in one room, ~~in~~ on Russian.

Goodman: Did you have much exchange with other members of the organization, for example, did you ever talk to other officers engaged only in intercept?

Tiltman: At that time, no. Later on, when I came back and sat in the Military Section, I had to deal with everybody.

Goodman: Did you exchange ideas with those who may have been working on the German or the Italian?

Tiltman: Not at that time. I knew nothing about it at all. Except that I knew that they were, in most cases, working on diplomatic codebooks of sorts, and that sort of thing.

Goodman: What about with your workmates? Who you were side-by-side with. Were there regular technical conferences to discuss, techniques or materials . . .?

Tiltman: No, nothing organized at all.

Goodman: It was a sort of one way exchange?

Tiltman: It really depended very largely on Fetterlein and me.

Goodman: OK, good.

Schorreck: Could you pick up then again, with your movement to India? I think you had left off with the possibility they were going to replace Jeffrey with . . .

Tiltman: Yes, yes -- there were 2 officers had to be found. One was to be Military Attache - Assistant Military Attache in (Meshed) in Persia, and at one time it was suggested I should go there. Somebody had to replace, had to replace Colonel Jeffrey, who was going to retire at that time. As a result of my success with "Delegat", it was decided that I should go to India and that Muntz should go to

Meshed. Well, then they changed it again and Muntz went to Baghdad, where I met him later. I didn't meet him before.

Goodman: Was Muntz in the War Office with you?

Tiltman: Later - not then.

Goodman: Not then, OK.

Tiltman: No, I met him when I went from Simla to Baghdad on liaison ~~duty~~ duties.

Goodman: So he just sort of appeared; you weren't aware of him previously?

Tiltman: No. He was an Army Officer. He was a little younger than me. We were talking about brevets. Colonel Jeffrey was told that he couldn't keep his brevet unless he went back to his regiment and went through the normal business of rank. This appalled him, and he decided to retire. Then, while I was on the high seas, on my way to relieve him in September '21, they changed their mind and said that he could stay, but they made a condition which was that he should go on a years leave to recover his health and leave me with his job. Well, he had never met anybody who had broken ciphers at all. This was something he invented himself, as far as he knew. By this time, he and I were nothing like on speaking terms. We parted on very bad terms. He went off on his leave, leaving his beautiful job to me - to me. I can remember saying goodbye to him. I said, "Sir, I would like to come down and see you off at the station", and he said, "No, you'd better not, we'd only quarrel on the way down". And I said, "Goodbye, Sir, I hope you will be better when you come back", and he said, "Yes, that's just the sort of bloody thing you would say to me when I'm going away" and walked out of the room.

When he came back a year later, we had a new interpreter, Stirvini, who was an ideal butt for Colonel Jeffrey's sarcastic remarks, and I kept very quiet, indeed. Eventually we became very good friends, Colonel Jeffrey and I. I worked with him for nine years.

Schorreck: You were assigned to the General Staff then.

Tiltman: I was assigned to the General Staff; the branch of intelligence was called MO3 in the Indian Army Headquarters and we were the MO3 little g (MO3g). There was Colonel Jeffrey and myself and one Russian interpreter and one clerk and one interpreter in Eastern languages, which meant Persian and Hindustani and Pashto (with whom I had very little to do.)

Goodman: Now, when Colonel Jeffrey went away for his first leave, did you have much of a turnover between yourself and him?

Tiltman: No, none we had been working together. They had changed the Russian ciphers while he was away and when he came back, or very shortly after he came back, the Russians introduced long additives and none of us had any training at all - neither Colonel Jeffrey nor anybody else. It was quite a long time before we found out what they had been doing.

Schorreck: By this time, you were working with intercept, were you not?

Tiltman: We were working with intercept. We had 2 intercept stations - one at Cherat, which is in the hills up above Peshawar in the Pandu, and the other in Pishin, which is in Baluchistan. I never went there. I went up to Cherat several times.

Schorreck: How did they send the intercept down to you?

Tiltman: I don't remember.

Goodman: Could you describe one of those intercept stations for us? Do you know what the equipment was like, antennas, or any pieces?

Tiltman: No. It was fairly elementary. I don't think they had very much.

Goodman: Were they manned by intelligence officers or by signal people?

Tiltman: They were manned, as far as I remember, by civilian operators. On one of my visits to Baghdad, I made contact with a Signal Corps Officer named Nichols , who became a great friend of mine and when I got back to India, I persuaded the Indian Government to take him on to watch the intercepts and he stayed with us for quite a long time.

Goodman: I'm trying to sort out in my head . . . You said the Indian Government and, OF COURSE THE INDIAN GOVERNMENT AND THE the British Government were one and the same at that point?

Tiltman: Well, it came under the India Office in London.

Goodman: Right. The General Staff reported to the Indian Office . .

Tiltman: Remember, Remember that there were quite a lot of British Army in India as well as the proper Indian Army which was in those days nearly all officered by British.

Goodman: Were you still working on Russian diplomatic or RUSSION military?

Tiltman: Yes, it was mostly "dip" - we didn't see much military. It was mostly the Ambassador in Kabul in Afghanistan and some kind of authority in Taskent in Turkistan corresponding with Moscow.

Schorreck: And you turned your work over to the General Staff?

Tiltman: Yes.

Schorreck: And presumably, the General Staff would give it both to the Indian Government and to the British Government in London?

Tiltman: Well, I'm not so sure about that. I don't think that very much happened that way. I don't think there was very much contact between them. There must have been some.

Goodman: There was always a foreign office representative with the staff, with the Indian Army Staff, as I recall.

Tiltman: Not that I know of.

Goodman: Could it have gone that way, through the Foreign Office?

Tiltman: It must have been.

Goodman: Perhaps a more reasonable question is, when you had done your work on the messages, and whatnot, do you recall who you sent them off to? Did they go by courier?

Tiltman: I got to the stage, at one time, when I had to do all the jobs and eventually argue the meaning of messages and that was with the General Staff and not with anybody else.

Goodman: So you were reporting directly to them?

Tiltman: Yes.

Goodman: And what they did with it after that, you're not sure?

Tiltman: I don't know. I've told the story in one of my papers, you probably don't want it again - about the Wana Column. Do you want that again?

Goodman: Sure.

Tiltman: In 1925, at that time the Russians were using long additives-1000 group additives starting in all sorts of places and there was a lot of unrest on the Indian frontier. The Indian Government sent a column known as the Wana Column, to the frontier to try and deal with this. In the process, the Wana Column occupied the part of the frontier known as Waziristan. The Russian Ambassador in Kabul at the time was named Stark. Stark sent a telegram back to Moscow asking what joint action was proposed between the Russian and Afghan governments in view of the occupation of Waziristan. By that, they meant the occupation by the British.

Goodman: How did you know that he sent the telegram - Was it an intercepted telegram and you read it, right? So you were reading the additives?

Tiltman: Yes, at this stage, our interpreter who was equally ~~valuable~~ valuable in French, German, English, and Russian and not very literate, translated this by changing one letter. Not in view of the occupation of Waziristan, but with a view to the occupation of Wariristan. It's a difference between Vidu and Vide in Russian. This created a great deal of excitement, particularly in Delhi. The General Staff was in Delhi, and we were left behind in Simla in the winter of 1925. Colonel Jeffrey was very upset and said, I remember he was striding up and down the office, "In future, startling statements of this nature will be viewed with the utmost suspicion". He then directed that all Strivini's translations had to be overseen by me. Well Strivini possibly knew fifty times as much Russian as I did. But he wasn't very sensible in those days and this meant that I had to do all the translation again, as well as finding what the ciphers were and breaking them and everything else because Jeffrey wasn't very interested in Russian. So I reckon that one of the best things that every happened to me was, it was this period when I had to find out, I had to do the rudimentary TA on the Russian intercepts, find out, diagnose the ciphers, break the additive figure by figure, reconstruct the codebooks, translate the messages, and then go and argue what they meant with the general staff. I reckon there's something there.

Goodman: What's the phrase - a full platter -.

Tiltman: Yes, that went on until sometime in the beginning, I should think the end of '28 or the beginning of '29, when the Russians introduced onetime pads. But we were able to deal with it in a very very small way, because they used the pads twice - once forwards and once backwards.

Goodman: So I expect to recount that you went into India in 1921.

Tiltman: September, '21.

Goodman: And the period we just covered is to 1925?

Tiltman: Yes, I stayed in India until January 1929, then I . . .

Goodman: Were you home on leave during that period?

Tiltman: Yes, I was home.

Goodman: Did you go by the War Office then?

Tiltman: Yes, I worked 3 months in the Government Code and Cipher School.

Goodman: What did you do there? What was the ~~main event?~~ date of that? Do you recall?

Tiltman: Sometime in the summer of 1925, I did three months in the War Office. I don't remember what I worked on, I'm sorry.

Goodman: That was not training?

Tiltman: No, In Russia there wasn't any training.

Goodman: Did you find that faces had changed, that new people were there and were doing different things?

Tiltman: No. There was an influx of a few new poeple, one or two who stayed on until modern times. While I was away, J. E. S. Cooper, Josh Cooper, joined - he was eventually one of our Deputy Directors, and when I became head of the Military Section, it was supposed to include everything to do with the Air Force and he eventually was appointed the head of the Air Section. So we started World War II with myself in charge of the Military Section and Josh Cooper in charge of the Air.

Goodman: Did you go home every year on home leave or was it once every. .

Tiltman: Oh no, it was 8 months in a 4-year period. There was no flying, of course, in those days.

Goodman: Did you get by to see Denniston? COMMANDER DENNISTON?

Tiltman: Oh Yes, ~~Commander Denniston.~~

Goodman: Did you discuss the sort of work you were doing in India?

Tiltman: Yes, from the time I went to India, we corresponded regularly with the London Office. But before I did, before I went to India, I don't think there was any real direct contact between Jeffrey and the War Office.

Goodman: When you wrote or talked or corresponded with them, was it technical exchange or just general conditions, intelligence report, or. . .? I'm pressing you a little bit, General.

Tiltman: Well, I don't want to talk about things I don't remember.

Goodman: If you don't, that's fine. Had you left the Army in 1925?

Tiltman: I retired in November '25. The War Office had then got itself 4 posts, only 2 of which had filled civilian posts, and they called them Signal Computer. So there were two of us who were called Signal Computers and we had a contract of sorts, but we were a non-pensionable contract. They were very chary of us.

Goodman: You left the Army in India, right?

Tiltman: Yes, stayed in India and did the same job there for another 4 years.

Schorreck: Was it a Civil Service type of appointment, or was it just a private contract type?

Tiltman: It was a Civil Service contract, but a proper Civil Servant has to be pensionable and I didn't become a pensionable Civil Servant until 1933.

Goodman: In effect, a temporary appointment?

Tiltman: That was a hard one. I was advised that my contract was very strangely worded and that it gave me no protection at all. I'd

just gotten married and I got my father-in-law, who was a general, a doctor, who was head of the British Medical Service, to go to the Chief of General Staff to ask him if he would see me and he saw me and he said ~~my~~ "your contract ~~was~~ is perfectly ~~alright~~ all right. "you're talking rubbish" and so on I said, "Well, one of my troubles is that for security reasons, they won't allow me to see a lawyer". and I've got to sign this contract. He said "well of course you can see a lawyer. You can see the government of India lawyer." I've forgotten what his name was and I went to him and he said "You're luckier than you know - whoever drew up your contract has put something quite unnecessary into it. He put a sentence in, "While it is the intention of the General Staff to employ this officer until the age of 60, it cannot be excluded from the contract that his services can be dispensed with without notice and without compensation if the need for his work ceases to exist". He said, "You know what they've done - they've proved their intention to employ you". He said, "I've never seen this on a government contract before".

Schorreck: In 1930 or later, or earlier in 1929, you were then recalled to set up the Military Section?

Tiltman: I was still a ~~lieutenant~~, by the way.

Fletcher: I wanted to ask you a question, Brigadier, about that you were mentioning in India that you were working with intercept at that point and before that when you first started working on ciphers you were working with drop copies from the Post Office.

Tiltman: Yes.

Fletcher: Do you know when they actually started actual intercept of radio communications?

Tiltman: In India? I have no idea.

Fletcher: ~~Bruce~~: Or anywhere, I just was wondering, curious.

Tiltman: Oh, there was intercept of sorts in World War I, surely. Before I had anything to do with it. There must have been a lot.

Fletcher: But your first encounter was in India?

Tiltman: Yes.

Goodman: Once you had converted, Brigadier, which was in 1925, to Signal Computer, what did you do then? Did you stay in the same place?

Tiltman: I not only stayed in the same place and the same office, but I wore the same uniform. For some reason, they preferred me to wear a uniform.

Goodman: So you actually wore your uniform . . .

Tiltman: When anybody was wearing a uniform of course.

Goodman: And you took protocol as an Army Officer even though you were a civilian? What there was for a lieutenant, that is.

Tiltman: Yes. I went down at the end of World War I. I mean I was a Captain in World War I and we all went down to regular rank and I lost a lot of seniority.

Schorreck: What were the general living conditions like in Simla? Was it a comfortable place?

Tiltman: Oh, yes - comfortable. It was only a ramshakle hill station you know; Army Headquarters was all. . . It is in the foothills of the Himalayas - 7500 feet up, and subject to mild earthquakes, very slight. Army Headquarters was all tied together with steel rods, ~~for~~ which was their idea of protection against earthquakes and so on. We lived very comfortably. The social life was a bit heavy. My particular section and one or two others stayed all year round in Simla, but the majority of the staff went down to Delhi.

Goodman: You said there were two of you converted?

Tiltman: Yes. The other was a man whose name doesn't crop up again, named Stewart Smith.

Goodman: Was he also an analyst?

Tiltman: Of sorts, yes.

Schorreck: Could you describe your experiences when you came back and they asked you to set up the Military Section? Perhaps How that came about?

Tiltman: In fact, now I come to think of it, Stewart Smith went back to London before I did - he'd been in Baghdad. ~~He'd~~ It was he who recommended that they ought to have a Military Section and that I ought to be brought back to take charge of it.

Goodman: You evidently also traveled to Baghdad on occasion.

Tiltman: I traveled three times to Baghdad. On each occasion, I had a good reason for making liaison with the corresponding party in Baghdad, who were also working on Russian.

Goodman: Would you discuss that? Could you discuss that for us, is there a reason why you went, do you recall?

Tiltman: Well, we were held up while Colonel Jeffrey was still away in 1922, we got stuck both in Baghdad and in my office on the ~~parent~~ current Russian system. A very peculiar one that requires a lot of description - I think I'll spare you that. It only lasted for about a year, but I went over to Baghdad and Muntz and I couldn't figure it out properly. Eventually, I broke in. The other two occasions, the second occasion, I can't remember. The third occasion, we had a meeting, this was in November '24, a Staff Officer came up from the War Office named Wilson, a Signals Corps Major came from our station in Palestine, SUBORDINATE IN PALESTINE, a Major Worledge, and I met them in the Baghdad Office. AND THEN I went home on leave from there for a short time. I was twice home FROM INDIA

Goodman: So it really was a technical conference, for technical feedback.

Tiltman: Yes, a purely technical conference.

Schorreck: What happened when you came back and you established the Military Section? How did you go about doing that?

Tiltman: Well, they allotted, I forget whether, I think it was four posts, for regular Army Officers to be seconded for four years and they had no other means of selecting people, They all were technically linguists. Two or three of them were Italian linguists, and so on. They weren't particularly well-suited to cryptanalysis.

Goodman: Did they give you any direction as to the sort of emphasis they wanted to see? or was it simply ...?

Tiltman: I had a running battle with the War Office. (I've just been reading the Life of MacArthur) Their idea was that I should police the military communications of everybody in the world. Actually, there were virtually no military intercept at all. My idea was that it was no use our calling ourselves the Military Section unless we gave ourselves some cryptanalytic training. So that at all costs, I collected any job that wasn't really in the office that other people either couldn't do or wouldn't do. And we got our training that way.

Goodman: You were the four officers on military communications? Because this really was your first experience with the military. . .

Tiltman: But it really wasn't any military, you see. There were a certain amount of Italian. I had nothing to do with the Italian because the man who'd been appointed as my Number 2, who also eventually became a War Office civilian, Freddy Jacob, do you remember - he was an Italian scholar - and he and anybody who knew Italian worked on it here and quite separate from me; I had nothing to do with it at all. We did all sorts of things. One of our main jobs was COMINTERN, the Secret Communications of the Communist International Center in Moscow along Berlin.

Goodman: Now this was in the Military Section?

Tiltman: In the Military Section, yes, the War Office didn't like it. They said, "Why don't you work on Military ciphers"? I said, "If you'd find us some, we'd work on it."

Schorreck: Did you request the ability or the power to levy intercept requirements?

Tiltman: I wouldn't think so. It's awfully difficult to describe this business. It was all done on the old boy basis, as we used to call it. We looked for jobs that weren't being done and snatched them and we worked in very free and easy way. In fact, how I came to rise in the office was because Commander Denniston got into the habit that when he was in difficulties with any cipher, of bringing it to me.

Goodman: So you were really a general purpose cipher expert?

Tiltman: I was a general purpose diagnostician, if you like.

Goodman: So there wasn't any military intercept and so you worked from '31 to '34 on the COMINTERN traffic?

Tiltman: Yes. And afterwards, on Japanese. We had eventually, in about, from about 1935, we had a small military unit working in Hong Kong which intercepted Japanese and I took this on and kept in touch with Japanese after the war. I broke the original Japanese Military Attache cipher back in 1933 and I broke a number of Japanese chiefly intelligence ciphers; it was the sort of material of small Japanese localized cryptanalytic units breaking the Chinese ciphers of the Chinese War Lords. They all had their own personal ciphers.

Goodman: I'm sort of interested in the fact that there were intercept stations in India and Palestine. Yet, there was no intercept, evidently there was no intercept of military communications at all. I find that sort of an interesting contrast and I wondered if you. . .

Tiltman: Well, I don't remember any direct Russian military intercept ~~while~~ when I was in India. There were occasional Japanese things that floated into the office. We learned to live with that - Japanese, but our main job was watching the diplomatic with Afghanistan on the Front.

Goodman: Even in England, I would have thought that you might have had some military intercept going on against the Continental - the Continent.

Tiltman: It only began to be built up in 1938. We did have a permanent civilian intercept station--when I first remembered it was in Chatham.

Goodman: Do you have a date for that?

Tiltman: Not at its start, no. Then, we had one in Palestine at Sarafand that was mostly military. We had one in Baghdad which was military, we had one in Simla, which wasn't really military, just the government of India.

Goodman: You mentioned that you had four regular Army Officers seconded to you for the Military Organization - can you describe them? - Were they, did they have previous cipher experience?

Tiltman: No, they were chosen for their language ability. Oh, with one exception, who stayed on with me during the war, named Pritchard. They didn't really have any flair for it at all.

Goodman: Did you get any additional replacements for them?

Tiltman: Yes. They were switched every now and then.

Goodman: They came through on regular tours of what length?

Tiltman: Then, when the Abyssinian War came on, we brought back two of them, which of course, ruined their careers forever.

Schorreck: Brigadier, there was never a question, as far as you can determine, about the legality of what you were doing? Was there? In England? about this business. .

Tiltman: No.

Schorreck: Not like there was in the U.S. during the 1930's. . .

Tiltman: Oh no, like in Stimpson, Oh no, you mean action like Stimpson?

Schorreck: Yes, and the FCC and all that. . .

Tiltman: No. There was, it didn't go that way at all. There was a certain amount of publicity when the Russian trade delegation ARCOS in London was raided, but I didn't have anything to do with it. I didn't really know what happened.

Goodman: Did you do much collateral reading of materials on ciphers in general libraries? Did you make a study out of it? I reckon I'm after, doing a lot of additional . . .

Tiltman: Hardly any of it was worth reading. There were these old French books that had been translated and there was Yardley.

Schorreck: Did you expect Kasiski?

Tiltman: It's only a name to me.

Goodman: Did you see any materials from the World War I period which they recounted histories of, uh, . . .

Tiltman: Not properly. I never saw any history of World War I.

Goodman: What did you think of Yardley? Were you aware of his book when it was first published? Do you recall that? For example, were you surprised that someone else was doing that sort of thing?

Tiltman: When was it published?

Schorreck: 1931?

Tiltman: I'd come back to London and I don't remember any particular excitement when it was first published. I was very new back then.

I read it. It didn't have very much to tell us that we hadn't figured out ourselves.

Schorreck: Did it come as a surprise to you to find out the Americans were involved in the business?

Tiltman: I don't think so; I don't remember having any feelings about it.

Schorreck: You had had no contact whatsoever and didn't know of any between the British and the U.S. all through this period? In fact, if I could ask you, what was, when was your first contact with ~~the~~ U.S. Forces?

Tiltman: My first contact was in January - February '41, with Currier, Weeks, and Sinkov.

Goodman: I think this is probably an appropriate time to stop. We've got up through 1929 and '30 and we can then go to the rest of it in more detail next time, if that's what we're going to do. We've run out of tape.

Tiltman: I made one remark about the practice of giving brevets. The height of stupidity of the whole brevet system was well brought out once during World War I. We had acting rank, temporary rank, regular army rank, and brevet rank; and until some little time after World War I started, the London Gazette, which had all promotions and ranks and everything, was still a published document and this appeared and there was one regular lieutenant who was given command of a brigade in France. This appeared in the London Gazette: "Temporary L~~oft~~ieutenant Colonel, Acting Brigadier General, to be Brevet Major on Promotion to the Rank of Captain".

Goodman: Let me ask one final question about this early period.

What kind of a classification system was in effect, if any, regarding your materials? Were they classified at all? Was there . . .

Tiltman: I think that anything that was highly classified at all was marked "Most Secret". For some reason, I remember there was some particular classification.