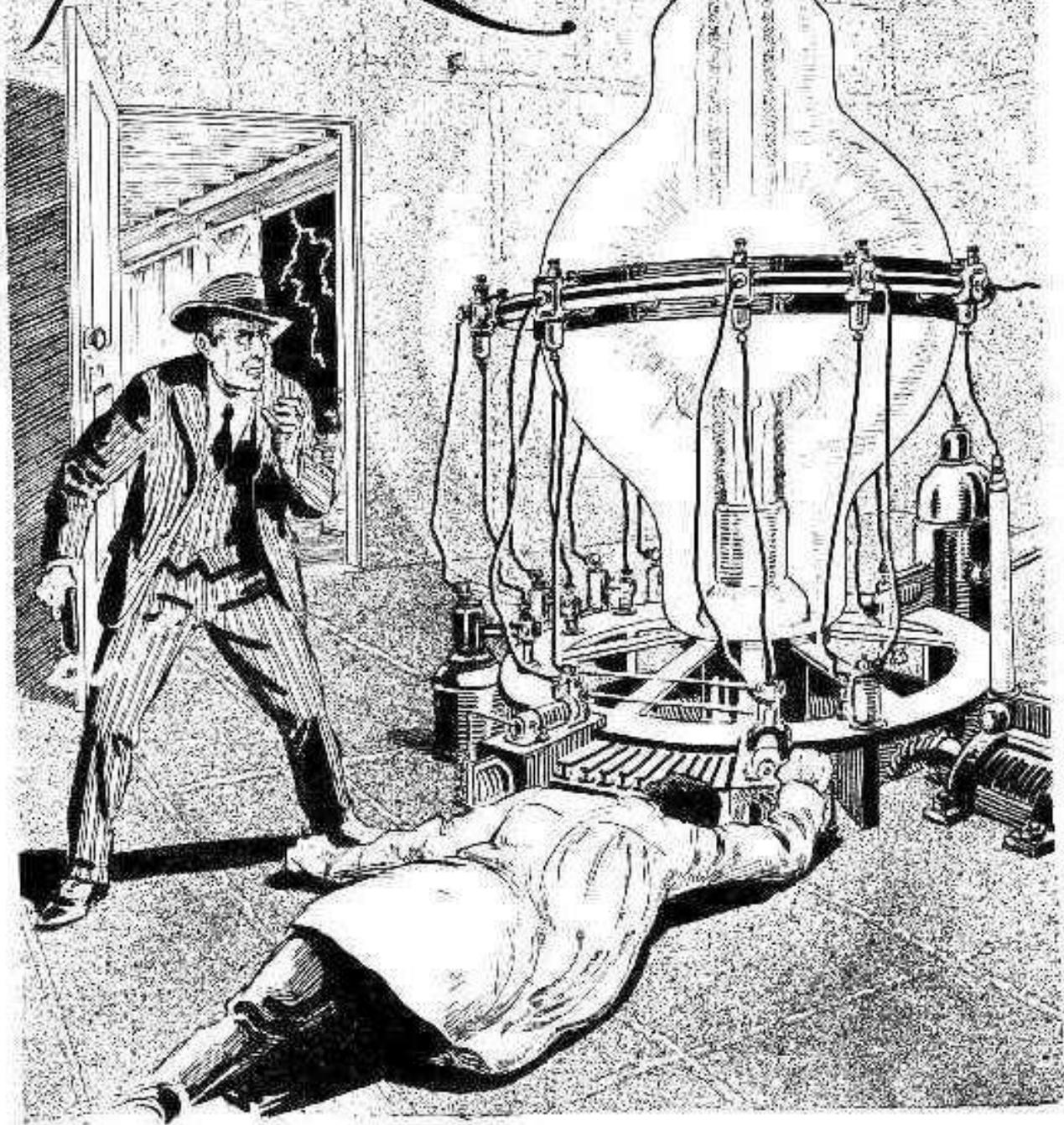


The Reion of the RAY

BY
Irvin
LESTER,
and
Fletcher
PRATT





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Written by

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Published 1929 in Science Wonder Stories, Vol. 01, No. 1

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Published in: www.atomicvintage.com.br

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Note to reader editor.

The “solution of the trisection of the angle” given here is, of course, a fallacy, as the problem cannot be solved. If, however, a precision instrument could be made to draw the lines as described in the story, it would be possible to prove mathematically that the solution was perfectly correct.

The passages in code on the following pages are in a code invented by one of the writers. It won a prize offered for the most nearly indecipherable code, and a modification of it is in practical use. Having told, in a footnote, how to decipher it, we thought it would add to the interest of the reader of the story to work it out for himself.

T. L. & F. P.

A brief history of the great revolt and the Adams Ray that brought it about. Compiled from new sources, including original documents. Published at St. Louis, Mo., December, 2055.

PROLOG: A Word From the Editor

It is with some diffidence that we add another to the already numerous histories of the events following the discovery of the Adams Ray. The only reason we do so at all is that to our mind the story of the discovery has never been properly told. It was an event of world-shaking importance, and in time it did shake the world to very good purpose. But when the world first became aware of it, it was though a chain of exterior events, and the connection of the Adams Ray with these events was not seen at the time. Thus practically all the histories, even the most scholarly that touch the period treat the Adams Ray and its discovery as a happily fortitious event, a chance discovery coming in the midst of the great War of the Northern Alliance. It possessed a distinct influence on the course and termination of that conflict. The Wagstaff is

treated in the same way; as though both were inventions like the paravane and the tank, born of the War of 1914.

The Wagstaff to a certain extent, really merits this description. The Adams Ray merits it not at all. In reality it was not only the proximate cause of the war, but the determinant of the whole of subsequent history. The war might have taken place in any case; but the time at which it broke out, the course it took, and the leading events in it, were all fixed by the Ray.

For this reason we have adopted the course, unusual in writing a general history, of dealing in great detail with events that seem comparatively small. Granted that this has disadvantages. It makes what is intended to be a serious history seem more like a novel, and it causes a break in the middle of our story. But the last part of the story has already been told, and only a sketchy narrative of the events is needed by a generation that already has most of them by heart. The discriminating historian can do no more than bring the facts into their proper relation and draw the philosophical inferences from them.

The first part of the story — the more detailed part — has never been told at all as a connected whole. This is, in fact, our main excuse for writing this history. The recent publication of the memoirs of Walker Adsill, former chief of the United States Secret Service, threw a flood of light into many of the dark corners of the early history of the Adams Ray. These memoirs set up a search for further documents, and the writer has fortunately been placed in possession of those found in the Soviet archives after the fall of Tula. With the aid of these, we have attempted to outline the events revolving about the discovery of the Adams Ray in something the manner they occurred. If we have done it in a way that at times seems fanciful, it is because we believe that we have in this way given a more faithful picture of the actual happenings than could be had from any ordinary historical narrative.

The story of the beginning is well-documented. For the life of Robert C. Adams, we have the records of the Rensselaer Polytechnic Institute and the memories of all those who had

any contact with him and who, after he became famous, brought forth their mites of information to add to the general fund. Epstein's letter and Adsill's conference with him come, of course, from the memoirs of the Secret Service chief. Operative C117's report is from the Soviet archives and Adams' diary, with its mysterious code message, was found in a Munich bookshop by a German professor of mathematics who was interested in cryptograms. He bought it on catching a chance glimpse of the strings of numbers which indicated material for his hobby. It was badly torn and some parts were missing when it was discovered.

PART 1 - CHAPTER I - The Story of Bob Adams (Time: 1900— July 10, 1926)

JERRY ADAMS' boy had learned loneliness early. An orphan with money is placed in a truly pitiable position; and to Bob Adams it quite soon appeared that people were cultivating his acquaintance for what they could get out of it. Deprived of all resources but those of his own making, and made the butt of cruel boyish jokes by reason of the suspicion with which he found it necessary to surround himself, he never made any friends of his own age.

As with all those who are thus thrown in upon themselves, Bob Adams lacked a sense of proportion. When he formed his one and only true friendship— with the teacher of mathematics at the orphan school to which he had been consigned by relatives anxious to be rid of responsibility—his keen young mind became completely absorbed in the ideas and contacts presented by the mathematician. He took more interest in geometry than in baseball, an unhealthy condition in so young a lad, and it was indeed through this very absorption in mathematics that he came to part with his one friend.

It was one night during Bob Adams' final year at school, just before he was due to go up to college. The professor of mathematics had been in bed for some time when he was aroused by a thunderous knocking and opened the door to find young Adams, all radiant with an idea.

“I’ve found how to trisect the angle,” he declared.

“Indeed,” said the professor. “Well, tell me about it in the morning. This is hardly the time—”

“But look. It won’t take a minute. Let me show you,” and producing a pencil and a piece of paper from his pocket, the boy proceeded to explain.

Perhaps the mathematician’s temper was none of the best at being forced to stand in pajamas and listen to a problem in geometry. “But that’s silly,” he said. “You young idiot, don’t you know that trisecting the angle is the same as squaring the circle which is the same thing as finding the value of pi, on which mathematicians have worked for centuries? Your solution is a fallacy.

“But where’s the fallacy?” asked Bob Adams, a trifle irritated, and anxious to prove that he was right. . .

“Never mind, take my word for it that there is one. I’ll explain it in the morning.” He yawned.

“Good night.”

Bob Adams found himself facing a closed door.

It was perhaps natural that having his great discovery treated in this fashion by the very person from whom he had counted on for help and encouragement, should drive him into an unreasoning rage. With the anger still hot in him, he strode down the road to the station, took a night train to New York and enlisted in the army by adding two years to his age.

He was rescued and packed off to Rensselaer Poly where he led a solitary existence for six years. When he returned to Mt. Hope, where he had been born, he had little more knowledge of men and culture than when he left, but he had a formidable section of the alphabet after his name in the form of engineering degrees. And on the strength of his graduate work, was already regarded as one of the more promising electrical engineers of the country.

Of this Bob Adams knew little and cared nothing. The rebuff his maiden discovery had received made him sensitive to hostile criticism and he studiously avoided it by not telling anybody what he was doing or had done. Back in the New Jersey village he turned a barn into a laboratory and began to do research work with the sublime indifference to the outside world that characterizes the true searcher after knowledge.

His neighbors regarded the whole business with the same spirit medieval peasants might have looked on the operations of an alchemist, the Bughouse” was what they called Bob Adams barn And the experimenter himself was referred to as a “nut but a dam’ bright feller,” with that curious mixture of pride and contempt which outstanding ability always rouses in those whose lives are modeled on that of an eight-day clock.

In time the townsfolk became used to the queer, silent young man, classifying him as a natural oddity along with Martin Haney, who was a hundred years old. Both were pointed out to summer boarders as sights of the town.

Matters stood thus in 1926, in the spring of which year there was an unusual number of summer boarders, coming unusually early. The Jersey House and most of the lake cottages were crowded by the end of May. Among the boarders might have been noted a young man from New York with a Jewish cast of countenance who was not at all a normal specimen of the class to which he belonged. The local dances held no interest for him; he did not seem to care for girls or boating or fishing. All to him were less than the dust. His actions, in brief, bore out his claim that he was there just for a rest.

It was perhaps a coincidence that, returning from a walk on the Rockaway road one night, he should fall into step with Bob Adams during one of the latter’s infrequent journeys to the village for some small necessity. The young scientist, after a glance and a civil “Good evening” pegged along in a silence. The stranger, having nodded a reply to the other’s greeting, seemed well-pleased to preserve it.

They were passing the last houses of the village when Adams broke the silence with “Down for the summer?”

“No. Just came down for a rest. Too much study.”

From such little seeds do great things grow. There was no further conversation that evening, but at another meeting (also by chance, curiously enough) a couple of nights later, the two discovered a common interest in the electrical phenomena connected with vacuum tubes and in a mutual desire for solitude. The New Yorker, who introduced himself as Schneider, a student electrical engineer, gained as hearty an approval as Bob Adams ever gave any human, and was ultimately invited to the laboratory.

He found the big barn had been cut off by a partition about a third of the way from the end. The smaller section was closed with a locked door, Adams explaining that he was conducting an experiment of some delicacy within. But the larger room, filled with electrical apparatus was a treasure house to the visitor. He examined things with interest and intelligence and offered suggestions that Adams found genuinely helpful.

The latter thought he had never met so entirely congenial a character. The friendship grew with rapidity and June and part of July were gone without the young experimenter realizing that Schneider was staying somewhat beyond the time when he might have been expected to return to the city.

It was on the afternoon of the tenth of the latter month that they sat together in the outer room discussing the Coolidge tube and its possibilities. “It might, someday,” said Adams, “even lead to the release of the interatomic energy for which the chemists have been looking.”

“But even if it did,” protested Schneider, “might it not be more of a curse than a blessing? Russell thinks that if the process of releasing atomic energy were once started it couldn’t be stopped, and that it would run through the whole world like a fire, reducing

everything to vibrating ions. Besides, look at the amount of current it takes to produce the changes brought about by the Coolidge tube. It would hardly be economic as a regular thing.”

“That doesn’t follow,” said Adams. “Coolidge got one set of results with a vacuum tube constructed in a certain way. If a different type of tube were used, you might get different results altogether. He certainly made atomic changes of some sort with his tubes and if” But then he broke off and glanced keenly at Schneider. “Can you keep a secret?”

As the other nodded, he rose, and leading the way to the locked portion of the laboratory, opened it with some effort (the door seemed extraordinarily heavy) and pressed a switch.

Adams’ Secret

IN the glare of the two or three large electric light bulbs set in the ceiling, Schneider saw a windowless room about ten feet by fifteen, the entire center of which was occupied by a huge vacuum tube, all of ten feet tall. It swelled out to a sphere at the center and at its widest point seemed to be covered with some metal. A wheeled rack held it upright, and a maze of heavy electrical cables ran from it to connections in the wall. The room itself was perfectly bare save for two sheets of metal that were leaned against one side, and which also lined the walls, floor and ceiling. Schneider eyed this curiously.

“Lead insulation,” said Adams, following his glance. “What you see here is probably the largest vacuum tube ever built. It is the Coolidge type with modifications. I’ve killed a rabbit in two seconds with its emanations and set up such violent atomic disturbance in gasoline as to cause it to explode in a closed dish. Lord alone knows what else it will do. I haven’t given it a thorough trial yet.”

Schneider’s eyes bulged. “Why you might be able to set off explosives at a distance with it!” he exclaimed. “Such a thing would be worth millions to any country.”

“I suppose so,” said Adams, “but I don’t care to sell it at present. It’s still purely experimental.”

“I have a friend— that is, I know somebody — I think I could make arrangements,” stammered Schneider, “if you will let tests be made on it I think I could get you a fair price .”

“But I don’t want to sell it,” said Bob, his suspicious flaring up on the instant, “I have money enough.”

“But you must sell it,” cried Schneider, in uncontrollable excitement, “I tell you such a thing — my people will ”

“Your people! Say, boy, who are your people? What are you talking about, anyway? I tell you I won’t sell it, and the United States of America are the only people who will get it. I might have known there’d be a catch in it somewhere when you started hanging around. Come on, get out of here now, and trot back home!” He stepped menacingly forward.

“Oh, yes you will sell it, Mr. Robert Adams,” said Schneider, his eyes suddenly grown hard as he backed away. “You’ll sell it or I’ll take it,” and Bob Adams was looking into the round steel ring of a revolver mouth. “Quick, now, how is it made?”

For answer the young scientist dived forward and down, striking up at the revolver with his outstretched hand. There was a sharp report, a flash of flame, and Bob Adams went down heavily, striking some apparatus at the base of the giant tube with his head.

For a moment Schneider stood over him, a thin blue curl of smoke rising from the revolver still held in his hand. Then he became aware of a low humming sound and a violet glow from the giant tube. He glanced through the open door. The afternoon had grown dark as night; a thunderstorm was gathering outside, and for an instant he saw the trees along the road bending to the tempest, outlined black against a flash of lightning.

Then a great fountain of fire, far in the distance, rushed up toward the skies and flaring brighter than the lightning rushing down. A roar like the crash of a falling mountain drowned

the thunder. The ground trembled; the windows in the outer room burst in a rain of glass; a scream rose somewhere in the village of Mt. Hope, and Schneider slid gently to the floor beside Bob Adams, his revolver denting the soft lead insulation as he fell.

CHAPTER II - Three Men Meet in Washington - (Time — September, 1926)

“THE position is this, Mr. Epstein,” the oldest of the three was saying. “Admiral Downs is not, and has not been, satisfied that the explosion of the Lake Denmark arsenal was caused by lightning. The papers so reported it and we let them do it because we wished to carry on our line of investigation quietly.

“Wy shouldn’t you teenk it’s by the lightning the explosion?” asked Epstein without removing the cigar from his face.

The man in uniform looked at the older man and receiving a nod, turned to the Jew. Because we had taken the utmost precautions against that very thing,” he said. “The magazines were in different places, and largely underground. They were not very subject to ignition from one another. And the testimony, of the only two eyewitnesses we have, agrees on one thing—that two or three magazines went up at the same time. A lightning stroke might set one off, but that three lightning strokes should explode three different magazines at the same moment is almost unthinkable. That is why we called in Mr. Adsill.”

The older man took up the tale again. “Other operatives in the department have been combing the locality for some time in search of anything that would give us a start. I tell you this to show you what we are up against. Of course an immense amount of confusion resulted from the explosion in all the surrounding towns, and Lake Denmark itself was bare of any indications of an incendiary origin for the affair. But at Mt. Hope, a few miles to the northwest, we found something that was promising.

“It appears that a young chap named Bob Adams had been conducting electrical experiments with vacuum tubes there. The War Department reports that he had been experimenting with a ray to stop aeroplanes or something of that sort. He had notified them of some success in the work and asked that they send a man down. They gave it little attention, they are always getting; such reports from inventors, but our investigations show that Adams had a high reputation as an electrical engineer and experimenter.

“We found he had been missing from his place since the day of the explosion. Now Mt. Hope was one of the towns that was heavily shelled ; he may easily have lost his life in the explosion. But the barn he had converted into a laboratory was intact except for some broken glass. And the rather curious fact was that all the electrical fuses were blown out.

“At one end of the barn was a room lined throughout with lead and fitted with electrical connections of unusual size, but otherwise perfectly vacant. Adams’ electric meter, which had been read the day before, shows that he had used an immense amount of current that day; nearly two hundred kilowatt hours.

“There was nothing to connect this with the explosion beyond the fact that he was experimenting with rays. But we followed up the clue in the village, where a number of the summer boarders have not been accounted for, and searched the rooms that had been occupied by those who were missing. In one of them, which had been occupied by a chap named Schneider, we found this:”

He laid a piece of cardboard before the man he had addressed as Mr. Epstein. On it were pasted a number of small pieces of paper with several gaps. Something had been written on these with a typewriter:

“RGUBJ JR QUKK DJPE NW Y (here came a break) YID AIIB (a break) EOYJ REYXJ EOAA BIR JRDOYSYR RI (break) RI IAAE.”

“Mmm. And what should it mean by me? I can’t read Greek yet,” said Mr. Epstein.

“We have had the code experts working on it.” said the older man. “They find it fairly simple. It is made by striking not the correct letter on the typewriter, but in alternate words the one before the correct letter and the one after it. Here is the solution they give for it:”

“Think he will show me,” it read, “t- . . . tus soon . . . with truck. Will not hesitate to... to USSR.”

“Wot’s dees?” inquired Mr. Epstein, “t-u-s. Maybe it should be appartus, nu admiral? Saftig!” He beamed at the admiral, who winced.

“It is very suggestive, Mr. Epstein,” said the older man. “Especially in view of the fact that a grocer in Mt. Hope reports that his two-ton delivery truck has been missing since the explosion. It might have been taken by someone anxious to get away — but then, it might not. At all events the USSR with which this message closes are the initials of the Soviet Republic. Now it may be a wild goose chase, and we can’t give you anything more definite to work on than just this; but we want you to go to Moscow and find out what you can about the discovery of a new ray that will set off explosives. If such a thing is in the hands of the Communists, it is a matter of extreme importance not only to this country but to the whole world, for an army provided with such a ray would be absolutely invincible. In fact, Mr. Epstein we are facing a national crisis, and we are depending upon you.”

“I should gradually become a Bolsheviki, hah,” said Mr. Epstein rolling his cigar in his mouth. “Is that all you can tell me yet?”

“I am sorry to say that it is.”

“Hmmm. How much expenses do I get if I go there? Alretty the department is owing me money with income taxes.”

“All you need. I tell you this is a national emergency.”

“Hmm. And then somebody in this department says, ‘This voucher is not complete.’ Loafer! ‘Where is the receipt you’re getting by the hatboy you tipped?’”

“I’ll see that you get ample funds. You are to leave tonight.”

“Yi, yi. To oblige a friend I’ll do it. Business is business!” He rose and leaned across the table to the man in uniform. “Pleased to meet you, Mr. Admiral. Next time you’re in New York when I get back call me up, huh?” and putting on a flat derby hat, he swaggered out.

The man in uniform looked at the older man and elevated his eyebrows. “Do you think—? One can’t be too careful in an affair of this importance—” he began.

“The best man in the department for the job,” answered the other incisively. “With that impudent Jewish salesman’s manner of his he can go anywhere and find out anything. Nobody suspects him because he is too obvious to suspect. And let me tell you he has a keen mind behind the funny exterior. He could repeat every word that has been said here, just as it was uttered.”

“Well, I hope you’re right,” said the man in uniform, gathering up a handful of papers. “On the surface he is certainly not prepossessing, and candidly, I fear we are facing something very serious.”

CHAPTER III - Report of Secret Operative C117 - (Time — June-October, 1926)

TO THE High Commissars of the Eschgan, Comrades Stensoff, Vyonovich and Zaninin: Report on operations in the State of New Jersey, America, as ordered:

1. I was assigned to investigate possibilities with regard to high explosive ray reported as being developed by Robert C. Adams, American electrical engineer, at Mt. Hope, State of New Jersey.

2. Operatives E32, C212 and C96 were assigned to my orders.

3. Operative E32 was assigned to make contact and technical examination.

Operative E32 took a room at Mt. Hope as a summer boarder, giving his name as Schneider and his profession as electrical engineer. Reports were transmitted by his typing

them and leaving them in upper drawer of his dresser for inspection when he was out, or on prearranged place under stone at edge of lake.

On June 1, Operative E32 reported preliminary contact with Robert C. Adams. On June 4, he reported second contact, adding that Adams was an extremely suspicious and self-centered nature and would be difficult subject, requiring much time.

I addressed reproof to him, emphasizing the need of haste as Adams might complete his device so far as to give public demonstration or otherwise succeed in persuading American army officials to give it attention. On June 14 he reported that Adams would certainly never give public demonstration and abhorred publicity of all kinds.

On June 18, he reported that Adams was evidently making progress with ray device, spending much time on it. Report also stated that it was probably in the nature of a vacuum tube of some type. On June 20, report stated that device was kept in separate section of Adams' laboratory, a large barn, refitted for the purpose, and that Adams always kept door locked.

On June 24 report stated that Adams was bitter over failure of the War Department of his government to give any attention to his invention; and that device might be purchased. I urged Operative E32 to obtain some knowledge of construction and possibilities of device.

On July 8 report stated that E32 thought Adams would show him device in a few days. Report requested that I have large truck prepared for emergencies as device was evidently large. Report also requested that I be prepared to burglarize laboratory if necessary. I accordingly instructed Operatives C212 and C96 to arrive in Mt. Hope on July 11.

On July 10 there was a heavy thunderstorm in early evening. Thinking the opportunity good, I approached the Adams laboratory to reconnoitre. While so engaged, I thought I heard a shot within, but not being certain did not dare to approach, as Operative E32 and Adams had been seen to enter.

A few minutes later there was a terrific explosion to the south and east where a large American government arsenal is located, not far away. The explosion was so violent that some houses were demolished down; and it was followed by further explosions in the same direction. Have since learned that the entire arsenal blew up, one magazine after another. Shells and rockets began to fall in the village. Meanwhile there was no sound within the laboratory, and after waiting a short time I entered by the front door, which stood open.

I found a large number of laboratory appliances in an outer room, many of them broken by the shock of the explosion. There was an inner room at the back, with its door open.

I entered and found Operative E32 lying on the floor together with Adams. Adams was bleeding from a bullet wound in the body and was unconscious. Operative E32 was dead from unascertained cause. His revolver lay on the floor beside him and there were small burns on his forehead. Both men lay at the foot of a large glass tube passing through a metallic sphere. Tube was about ten feet long and had heavy electrical connections at each end. There was a switch set at base of tube on the floor and turned on. I found all electrical fuses in the building burned out when I tried to turn on a light.

The explosion of the arsenal was still continuing and the village was in great confusion when I returned there. People were leaving or attempting to leave by all roads. Several dead lay in the streets. I possessed myself of a small covered truck and returned to the laboratory with it.

Within the truck I placed bodies of Operative E32 and Adams, and after some effort, unscrewed connections of the tube, which I took to be the device on which Adams had been working; and got it also into the truck.

At the back end of the truck, I placed several chairs I found in the outer room (to allay suspicion) and drove away. At the west end of the village I found a broken-down passenger car

and changed license plates with it. Then I drove west from that point and by country roads to Easton, State of Pennsylvania, arriving in early morning.

At once summoned Operative C212 by long distance telephone from New York, concealing Adams in small patch of woods near town together with truck.

Operative C212 arrived next morning with closed car, in which we confined Adams after tying him securely and attending his injury. The tube found in the laboratory was packed in a large case secured from a store in Easton, labelled "Musical Instruments" and shipped to Operative C212's address in New York.

We returned to New York in the car, as Adams continued to make violent threats, and we judged it unsafe to take him on the railroad.

At New York, operative C212 bought a large piano which was brought to his address. Export manifest was prepared for it, the address to which it was to be shipped being given as that of Norwegian agent (Operative A145) at Oslo. We made special request on the customs house to examine it at shipping address as on account of the delicacy of the instrument it might be broken by opening it either at the New York pier or at destination. Inspector called and was shown the piano. The large tube from Adams' laboratory was packed in its case and shipped in its place, instructions being forwarded to Operative A145 by cable. This instrument should now be in your hands.

Fearing that the device would be useless without some explanation of its operation, and being certain that only Adams could give this, he has been sent forward to you, under charge of Operative C212 on the tramp steamer "Creole" to London, from which point he will be forwarded by the usual channels.

I am certain that the explosion was caused by the operation of the tube, the same probably causing the death of Operative E32 also (Comrade Chanin) for whom I recommend posthumous honors and a decoration. The device cannot but be of the uttermost importance to

our country and to the Social Revolution. Evidently, however, considerable dangers attend its use, and Adams alone can explain these. I recommend that every effort be made to play on his vanity, as the reports of Operative E32 indicate that he is an extremely difficult subject and this is the only method that offers success.

In further connection with Adams I cannot too highly emphasize the importance of the diary found in his pocket when he was searched at Easton, State of Pennsylvania, following my arrival there. This diary is transmitted herewith. It will be noted that some passages of it are in cipher, but efforts at this office have hitherto failed to resolve this cipher. We are retaining a copy of the diary in hopes that it will give us something to work on here.

There is little danger of the American government following up the matter, as it is openly reported by officials connected with the government that the explosion was caused by a stroke of lightning striking the open door of a magazine. This is quoted by the newspapers who have also published the account of one eyewitness of the explosion who holds the same view.

Report is hereby respectfully submitted.

Operative C117

CHAPTER IV - Extracts From the Diary of Bob Adams - (Time— 1924- July, 1926)

NOVEMBER 11, 1924 — I wonder if there can be any connection between the cosmic ray of which Milliken speaks (by the way “cosmic ray” is a terrible phrase, but I suppose newspapers must be newspapers) and the emanations from the Coolidge tube? It would be worth investigating.

December 3— Bought a Coolidge tube. Certainly the idea of extra-heating the cathode is very ingenious. I suppose Dr. Coolidge has already thought of heating the anode as well, but it might be worth while to repeat the experiment on my own.

January 8, 1925— What would a medieval alchemist give to have one of these Coolidge tubes! The Philosopher's Stone realized! Imagine reducing a gas to an amorphous solid, simply by unseen emanations, and imagine making a stone glow with light. Coolidge writes, me that he will announce his results to the scientific world at the next meeting of the American Association. That's in 1926 and gives me a year or more to work on improvements.

January 24— If the emanations from the Coolidge tube produce such remarkable results, why couldn't one build a bigger tube and get still more remarkable results. Believe it worth trying.

March 19— Well, it was a bust. The big tube is built — six feet tall, platinum cathode, extra-heating arrangement, nickel shutter and all the rest of it. Today I tried it on a white rabbit from the Polyclinic. I ought to have known better though; of course the load would be too heavy for any ordinary current. I wonder if I can get a Niagara Falls connection via Easton.

March 23— I'm to have the power cable, it seems. These big companies! They act as though they were doing you a favor by selling you something. Fortunately, Howells, third vice-president, or panjandrum or something, knew my old prof at Rensselaer and I got away with it. Meanwhile, I wonder whether one wouldn't get a more powerful emanation by using something other than platinum or tungsten for the heated cathode? It seems to me that these refractory metals give off the least possible amount of emanation.

March 28— A steel cathode clearly would not do; neither would molybdenum; they are too inert. I want something almost radioactive in its own right. Thorium or uranium, now—

April 12— Got the power today and tried out the giant tube. Result, one bald rabbit and one burned hand. I must be careful of these emanations or I'll be crippled. Not that it matters, but it would be a hindrance in one's work. Wonder how the rabbit feels?

April 15— Rabbit doesn't feel any more. Emanations were too much for him, I take it. His hair had commenced to grow out again, though, and not white but black and coarse.

Singular transmutation. Evidently these emanations are very powerful indeed, and I can think myself lucky with only a burned hand. Ordered some thin sheet lead to construct a shield for myself and for the wall of my laboratory.

May 20— Made a small tube with a thorium cathode. Got interesting results all right while it lasted. Turned it on a test-tube of methane (Coolidge's experiment with his tube) and got not the amorphous brown powder but a mild explosion, with trace of propane as an end product. This looks promising. But the thorium melted in approximately ten seconds.

June 15— Tried a uranium cathode. Got another and more violent explosion, more traces of propane and a cut on the arm from flying glass. Again the cathode melted before the experiment was complete. Clearly, I'll have to find a way of hardening up my metal or else use a harder metal. But what harder metals are there? There are the more or less inert type, like iron — these are useless; and the extra-hard ones, like tungsten, which is what Coolidge has been using. No, the only way is to harden my uranium or thorium. I wonder, too, if the emanations would set up such violent disturbances in other volatile compounds as to cause an explosion?

July 18— Tried 00-7 5-29-23-16-21 35-14-12-3-28-25-35-20-14-35-00-24-12 36-3-14 21-4 1-26-7-36-3 20-2 9-14-17-28-32-22-16 and got a cathode that lasted 45 seconds under the power I gave it. This is genuine improvement. Still the 00-18-10-28-2 was not altogether satisfactory; it was difficult to mix and separated under the heat; the emanations didn't give at all the effect I had counted on. Evidently the nickel screen holds up some of them, thin as it is. However I managed to explode a test tube of gasoline with it; and the test tube was sealed with wax.

July 26— Still working on hardening process for my cathode. Have wired to Schuckert and Merck for more of the rare earth metals. Some of these may be the solution of my problem — I've tried most of the ordinary ones.

August 9— Even if the cathode only lasts for a few seconds, such a tube should be of considerable value. At close range it will produce explosions all right, but what if I could lengthen the range? Got another cathode that lasted 50 seconds — this time with 0-14-28-3-31-15-29 5-28-36 3-35-7-27-12-22-4-28 18-35 4-22-15-14-34 19-26 0-26-22 0-12-13-17-25-2-18. Killed a guinea pig with it at three feet. I seem to be dealing with truly elemental forces.

August 20— The lead screen that I have to hide behind is a perpetual nuisance. I ought to have some kind of a screen around the tube itself that would protect me while I'm close to it. Or better still, a reflector on the inside of the tube, that would enable me to cast the emanations in a small, controlled beam in any direction I wish.

August 31— Perhaps the trouble lies in the screen. True, nickel can be rolled thinner than anything else. But nickel seems to hold up some of the emanations. I wonder what could be done with a pure cobalt screen?

September 8— Tried the small tube with the last type of cathode and a pure cobalt screen, rolled as thin as I could get it. Almost no emanations at all, but these are very potent, and of a new type of rays. I shall call them delta-rays. Took the nail off my right little finger in about three seconds with it when I became incautious. My screen is too thick.

October 30— For the past month and a half I have been experimenting with cobalt, trying to get it thinner. Have decided that the only way to do it is invent a special process of my own.

December 12— Got it at last! The perfect cobalt screen.

16-36-26-24-3-31-12-0-13-28-7 12-20 3-0-35-36-20-15-8 4-16-1-7-14-20 26-3 21-26-31-9-4 2-28-9-22 32-29 25-0-21-18 17 3-12-35-6 3-22-19-7 28-12-34-32 12-34-29-8-35-31. Thin as the nickel screen and allows all the emanations to come through. Also lengthens the life of the cathode. Tried it on a pinch of shot-gun powder and burned it up at once. Now to get

a cathode that will stand up, and a reflector. The tube is a perfect fiend for eating up power, though.

January 26— Have asked the War Department to send a man up here. The U. S. Army ought to know about this. If I have the wit to dope out such a ray, somebody else may, too, and they ought to know what's going on. Foreign investigators might apply it in a bad way for this country. Besides I might pop off some time and somebody else might get hold of it. Still working on cathode and reflector; the latter quite as much of a problem as the former.

February 9— Big improvement with the new cathode. Stood up for two minutes before melting under the heat and impact. Also got a convincing and unpleasant demonstration of the range of these delta-rays. Just after I had turned the apparatus on — I was working with a sample of quartz as a target — I heard shouts from the road and went out to see what was the matter. A car, which had been trying to work its way through the snow was standing there, all afire, with the owner pathetically trying to shovel snow onto the blaze with his hands. It was a big machine and the fire seemed to be coming from the gasoline tank at the back. "Can't imagine what made her catch," he said, as we stood watching it burn after he had given up. "Just as I came opposite your place I heard an explosion and looked around and there she was burning to beat the band. Might have been the exhaust, but hell! the exhaust is quite a distance from the gas tank." It must have been the emanations from my tube all right. I felt sorry for the poor chap, but of course couldn't tell him about it. Hope he was insured. Heavens, imagine the power of the emanations I'm getting if they will set off gasoline in a closed container through the wall of the laboratory at a distance of two or three hundred yards! Why, it's a ray. It will be necessary, however, to take precautions in the future. Sent for more sheet lead, and am going to line the room thoroughly with it. A lead shield, or lead-loaded rayon clothes for myself wouldn't be out of the way, either, I suppose. I can arrange the switch for the big tube to be worked from the floor, behind and under the lead shield.

February 13— 'Reflector moving along beautifully. Get increased power on emanations directly in front of tube, and no dispersal. But will it work on large size? And the cathode! The cathode! If the new one fails. I'll be in despair.

February 27— No answer from the War Department. Damn! That's the trouble with these government agencies. They are so wretchedly hard to move. Maxim had to sell his machine gun to the Boers before anybody would believe him in his own country, and Fulton tried half the governments of Europe with the steamboat and submarine. Truly, the way of the inventor is hard. Tried the new cathode. Best results yet. Killed a rabbit in two seconds. 14-00-22-36 35-29-5-16-1-36 32-9-22-15 16-35-20-36-12-5 0-2-29-9-4 31-20-21-7-15-9-22 29-32-2-0-25-26-14-18 35-32-18-9-17-22-19-33 4-22-25-15-28-7 2-0-13-6-16-7 29-28-15-12 32-21 12-28-35-2 11-34-20-25 13-32 26-3-30-32-34-1-13-10.

March 19— Still no answer from the War Department, in spite of a second and a third letter. How stupid governments are!

April 12— Think I have the perfect cathode at last. It stood up half-an-hour under current this afternoon, and ran my electric bill to fabulous figures, besides exploding everything of a volatile nature I could bring within range without exposing myself. Indeed this seems to be the chief purpose in life of my new tube; but I must be careful about those burns. The emanations seems to affect the nerve tissue in some way. Shouldn't wonder if it produced insanity of a sort in humans.

May 14— Think I will build a big tube, of tenfoot dimensions, then walk into the War Department down there and dare them to let me try it on some of their explosives or gasoline. Tried kerosene today. Got some gases and a heavy carbon residue under long exposure; at first very little result. Not volatile enough. Evidently, I can't either explode it or set it on fire. But gasoline, that's different. Why these emanations of mine — or this ray, for that's what it amounts to — will bring an aeroplane down in flames in ten seconds, provided it isn't so high

up as to be out of range. And I ought to get good range out of a big tube. Wonder what it would do to a hydrogen-filled balloon?

May 19— Big tube progresses satisfactorily. Tried the small one on a test tube of hydrogen. No explosion, but got an interesting result from the chemical standpoint. Apparently I now have two gases, as a result; one of them rather cloudy and heavier than the other. I must have broken up the hydrogen atom. Will send it off to prof, at Rensselaer and have some of the chemistry boys analyze it. That ought to give them something to worry about.

June 6— Met a young fellow named Schneider, quite a nice chap really, down here for a rest. He's an electrical engineer, too, and interested in vacuum tubes.

June 19— Showed Schneider some of the early efforts at tubes made before I had found the cobalt screen. He suggested on his own hook, some other metal than nickel as a screen; believes that nickel holds up the emanations. Was I right about someone else following up my line of research? Yet those idiots at Washington won't believe it.

July 8— Finished the big tube. She eats power like a dozen arc lights, but certainly is a wonder. I could probably blow up every automobile and gasoline station for miles around with it if I were to turn it loose, not to mention the supplies of shells for the family shotguns. Must show it to Schneider. He'll be interested.

CHAPTER V - Portrait of a Gentleman in Exile - (Time — Winter of 1929-1930)

“YES, little father, I will be glad to put more wood on the fire. Is there anything else the little father wants? Perhaps the commissar will call on us today with a gift for the little father.”

“Mmmmp,” remarked Bob Adams, on whom the major portion of this torrent of words had been lost, and who did not care about what he had understood of the minor portion.

In the somewhat more than a year he had been there, he had picked up enough Russian to make the ordinary needs of existence known in somewhat halting fashion, and he was as comfortable as it is possible for one to be in a tiny hut surrounded by snowbound forest and with no diversion except one's thoughts and the occasional book brought by his jailer.

As to how he had got there he was more or less in a haze. He remembered the grim ring of Schneider's revolver pointing straight at him, the drip of flame from its lips; and he had a dizzy consciousness of having wakened, weak and sick with pain in a closed car bumping over country roads at high speed. There was a dazed recollection of endless hours on an evil-smelling shelf under foul blankets in the dark — a shelf that swayed to and fro to the maddening accompaniment of pounding water somewhere outside. He remembered a sudden flash of sunlight and air, then more hours in a cubbyhole like the first, And finally he remembered, feeling weak and slow as he was led along a wooden dock among people who wore astrakhan hats and spoke Russian.

Then after long hours in a train, a garden and courteous attendants, where he had recovered his strength and something of his interest in life. Finally there was an office and a polite gentleman who spoke perfect English, gave him a cigar, and demanded in the calmest manner possible the formulae for the cathode, the cobalt screen and the reflector of his ray tube, about which the gentleman seemed perfectly informed.

Now he had been here for something over a year. It was impossible to keep exact count. Here— where? He did not know. Achinsk, said the two guards with the red star of Bolshevism on their hats, but he was not enough of a geographer to know where Achinsk might be save that it was several days' journey from where he had met the man with the cigars. From his front, door he could see nothing but trees— cedars, mostly— showing dark green against an endless vista of snow, with the ice of a frozen river gleaming far down the hill in the distance.

Once or twice a month a man who had introduced himself as “Stensoff, Commissar of the Eschgan, at your service” visited him and brought a book — usually a French or German translation, of some Russian writer praising the Social Revolution, subtly or blatantly. Stensoff, Commissar of the Eschgan, was about due that day. Bob wondered if he would get a newspaper. Sometimes one was accorded him as a great favor.

Stensoff was disposed to talk of literature that afternoon, the subject of the ray tube having been barred long before by an agreement after Bob had refused to talk about anything as long as it was brought into the conversation.

“You should really keep a diary, my dear Adam, he said (he always called Bob “Adam,” a fact which irritated the American intensely) “the diary of an American on the banks of the Yenisei, ha — ha! It would be worthy to rank beside that of Marie Bashkirtseff and Pepys. You men of ability are always good writers when you choose.

“What would there be to record?” asked Bob, “that Gavril has shot a partridge, and more snow came this afternoon? No thank you.”

“Thoughts, my dear Adam, thoughts. The Greeks were correct when they assigned thinkers the highest place in the commonwealth. That is why we Russians will ultimately succeed to the rule of the world. Our great men are all thinkers, men who take the time for meditation. It is a habit you westerners should cultivate. And if you did not wish your diary to be too public, you might keep it in a code, like Pepys.”

“Ah, yes,” said Bob. It was really too obvious. “So you got hold of the diary I used to keep did you? And you want me to give you more samples of the code I used so you can work it out. I thought that in order to keep relations smooth, we had agreed not to discuss the question of my invention?”

“What difference, really, my dear Adam? Your code will be read some day. You only delay. You know that you have been reported dead and missing in America. Here you have the

golden opportunity to make the name for yourself. Change your name and what is it they say? — attach your cart to the rising star, says your proverb. The Soviet system is certain to spread over the world — what a glory for you if you are the instrument of its immediate victory! Think of three hundred Billiards of people grateful to you!”

“I can do without their gratitude,” said Bob, rising to signify that the interview was over.

Stensoff remained seated. “You are the foolish,” he remarked, amiably. “Solitude is time for reflection, not so? Think it over still more. We will analyze your tube in time and then where is gratitude? And what is the gain to you? You only delay.”

“Yes? Then why are you so anxious to have me tell? Good bye.”

Stensoff flushed. “Let me tell you my dear Adam,” he said, rising in his turn, “that the central Cheka has authorized to take serious measures if you do not honor us with information at an early date. I have been most patient with you, and it is my intervention that has preserved you from serious measures thus far. Bear in mind that to me personally you owe a debt of gratitude, for I have well treated you. This will not always be.”

It was evident that the Soviets were becoming urgent about getting the information they were after, mused Bob, after Stensoff had gone. He wondered how far the Commissar of the Eschgan would dare to carry his “serious measures.” Not too far, he decided, for he, Bob Adams, was too much like the goose that laid the golden eggs, and the Cheka, much though it might favor energetic measures, would not willingly cut off its last chance of learning the secret of his tube. Still he had heard of tortures.

"The short Siberian winter day had ended, and Gavril, one of the guards, had come in with a brace of heathcock, which he had begun to prepare for dinner, humming to himself some Russian peasant melody. Vladimir, the other guard, was sleeping, snoring heavily, as a pig might.

There was a knock at the door. Gavril dropped the heathcock and snatched up his rifle, shouting, "Who's there?" Vladimir sat up in his bunk, mumbling sleepily.

A voice said something unintelligible in Russian. "We want no visitors. Go on to the village," said Gavril loudly, without moving toward the door. Again the voice answered, apparently wheedling. Gavril moved sullenly across the room and flung back the bolt. The door swung open to reveal a fat man of medium height, obviously Jewish, who choked and gasped in the smoky atmosphere of the little hut. He bore a pack on his back.

"Thanks to the kind gentlemen who are so good as to let me in," he said, setting his pack on the floor. "Will the kind gentlemen have some tobacco?" and undoing the pack he pulled from it a huge plug of light-colored Turkish tobacco which Gavril accepted with a glance of silent suspicion. "I am on my way to Krasnoyarsk and being lost in the woods could not find where I was going in the dark. Will the kind gentleman be so good as to permit me to spend the night?"

Gavril growled inarticulately and went back to his heathcock picking. Vladimir blinkered stupidly at the newcomer and then lay down again on the bunk.

When the frugal supper of heathcock, black bread, and steaming hot tea was prepared, it was Adams who offered some to the peddler. He thought he saw the latter's eyes widen at the tones of his halting Russian, but as there was no comment beyond a murmur of thanks, dismissed the idea as imaginative. Shortly after, all four prepared for the night, the Jew spreading his heavy coat on the floor before the fire and laying down his pack as a pillow.

Still thinking about Stensoff and his "serious measures" Bob drifted off to sleep. It must have been about midnight when he woke to find the room more than usually filled with smoke, and a choking sweetness in the atmosphere. The fire had burned low. Just visible from where he lay it resembled the eyes of fiery dragons. They seemed to move; the dragons were on the march; he could almost hear the clumping of their heavy feet— beautiful dragons, armored in

jade and chalcedony. And he, Robert C. Adams, was the king and ruler of these dragons and measureless kingdoms beside. They would come to his call, would devour Stensoff, Commissar of the Eschgan, and on their burning wings, bear him across the ocean to his home. They knew him and obeyed him because he had the secret of the tube. He was prince of many magical realms, and these dragons, enchanters he had tamed, were his servants. He could hear shouting crowds waiting his coming. Solomon's Seal — what was it? — Solomon's Seal that would evoke the genii of earth and sea, it was his. There was one, now, an ugly, powerful squat geni with great goggling eyes and an absurd long nose between him and his dragons, bowing before him to do his will. The geni was seizing him to bear him off through the air and show him the realms that were his. He could see the straining shoulder muscles of the huge, obedient shape. . . .

Bob Adams awoke to the pricking of a thousand needles, an unutterable feeling of agony, and a sensation of cold. Over his head a cedar branch was swaying and creaking gently in the night breeze and his hands felt the cold touch of snow.

Looking down at him was the face of the Jew who had come into the hut.

“Nu. You are gradually coming to wake. Ain't it that you're Robert Attams?”

Bob's head was clearing. “Yes, I'm Robert Adams. What of it?”

“Maybe I should tell you a bedtime story, but I ain't got time. Your frients will be coming after us. Hurry!”

Bob sat upright and took the heavy fur cap the other was holding out to him. “Who are you? How did you get me out of there?”

“I'm Abe Epstein. I keep a tobacco store, on the Bowery by Broome Street. Some frients of yours got worried and said, ‘Abe, you're going to Russia, ain't it? Look up a frient of mine,’ so to oblige a frient I did it. Here's a gun.”

Bob took the proffered weapon and the pack the other handed him, and together they set out, their footsteps creaking in the snow, under the frosty sky of a Russian winter.

CHAPTER VI - An Odyssey of Two - (Time — Late Summer, 1930)

LETTER received by Walker Adsill of the U. S. Secret Service from Abe Epstein, dated from Baku, and forwarded by members of the U. S. Naval Oil Mission there.

Please send me some more expense money have it placed at my credit with Mr. Pappanikolou in Constantinople, for when I get there, or how do you expect I can get along without money. It costs a lot to travel when you got to pay the expenses of another man beside yourself.

Well, I found Mr. Adams like I cabled you from here today and he is with me now. I was a long time doing it and we was a long time getting away from the Russians. You see it was this way.

I went to Russia like you told me by way of Poland and said I was a tobacco man looking for new kinds of tobacco which was true and wondering whether it could be grown in Russia. Well, I went to Moscow first and began to talk about starting tobacco plantations in Ukrania which is southern Russian and pretty soon the news began to get around and by and by they sent a Soviet commissar to see me and come talk to the central committee on industry about it and I began to get somewhere. There's a great business there if a man could ever go into it but they want to put an awful tax on your profits so I played shy and said I didn't know about that and how about protection because I heard there was a lot of robbers loose in Ukrania.

"That's all right," said the Commissar and some of the committee. "We'll give you protection against the Cossacks. What the hell, can't we keep peace in our own country?"

So I said what about guaranteeing it and I didn't know whether tobacco would grow there anyway it was so cold. Then we argued a lot more, but in the meanwhilst I got hold of a

cousin of a brother-in-law of mine that knew somebody in the army there and got him busy trying to find out what he could about the ray and Mr. Adams.

He said that some awful funny things were going on in the army and that the man I connected with belonged to a special batalion that was getting some special training. He said they were dressing all of them in lead armor which was the most foolish thing he ever heard of and that the special training was with some kind of bombs covered with lead. I thought that looked kind of good like they were using something new anyway and maybe it had something to do with Mr. Adams's ray, so I stuck around and argued about tobacco some more, and then my brother-in-law's cousin said that a lot of the soldiers in the special battalian had gone blind and the rest of them had been given real thick glasses. So I thought that looked a lot more like some kind of a ray and I stuck around.

I couldn't find out much more about the ray business, though, except that they only used it for a little while and didn't have much of it, so I started out looking for our young friend Mr. Adams.

Another friend of a relative of mine that is a cantor there and has a relative in the Bolsheviki police told me they were shipping prisoners along the Trans-Siberian railway line the old Czars used to use only keeping them in small yurtas with guards over them. So I thought that might have happened to our young friend, and started out along the railway line with a pack of tobacco like one of these traveling tobacco peddlers. They are very anxious to get tobacco and I would of made money on the trip only some bums stole a lot of my tobacco one night at Chelyabinsk.

Well along at Taiga I begun to find the little yurtas like they told me about. In each one of them was an important prisoner and 2 guards with guns. I found one with a German fellow in it that said he knew enough to hang Leonid Krassin and offered me a lot of money and a

note to take out to some friends of his, but I thought it would be a good idea to have a great reputation amongst the Reds and so I gave them the note and they gave me some Polish money.

Then I got to thinking that if I found our mutual friend in one of those yurtas how would I put the guards out of the way, so I found where some hemp was growing near Taiga and got a log of churrus. Maybe you don't know what that is Mr. Adsill, but its like chewing gum and when you burn it, it \ sure makes great knockout drops because the guy that gets some of it sure has a wonderful pipe dream and passes out for the day.

Well, I went along and it got to be awful cold it was January by this time and one night I came across a yurta outside Achinsk where there was a couple of these guards and a young fellow that spoke bum Russian with a heavy English accent and I thought he might be the man we was after, so I figured slipping these guards the knockout drops wouldn't hurt them anyway. So I got outside and put a branch acrost the chimney to kind of choke the air and when everybody got to sleep I laid down in front of the fire and tossed a lot of the churrus on it and put a handkerchief over my face. By and by I got up and hauled the young fellow outside and brought him to.

He was Mr. Adams all right, so I went back and swiped the soldiers' guns and packs for us and their boots and threw them into the river through a hole in the ice and that was a shame because they were worth at least \$15 a pair.

Mr. Adams says that they got hold of a big tube of his that makes the ray and you was right that was what it was that blew up the arsenal. But he says they don't know how to make them (the Reds I mean) and they got hold of diary of his that tells where the formulas for making the ray tube are hidden but it was all in code and they couldn't read the code or make him leak. And the reason a lot of the Bolsheviki battalion went blind is because they didn't know how to handle the tube in the right way.

I knew if it was so important as that that they would be chasing us pretty soon, so we hurried. Mr. Adsill, we had a hell of a time. I'm sort of scared of a gun you know my father was shot by a gunman when I was a kid not that I'm yellow but I don't like them, so Mr. Adams had to do most of the hunting and sometimes things was scarce and we had to eat a kind of a big rat that lives there with a long tail.

By and by we got to Minusinsk. I figured they would be looking for us, so I got Mr. Adams to hide outside the town and went in alone. Sure enough it was full of soldiers in the Bolsheviki army and some of them was looking for us. But I said I was a Bhoziyat which is a Mohammedan and was making a pilgrimage to Mecca so they sold me a couple of horses and we started off again towards Baku.

At Biysko, we figured we had got by them all right so we rode into town and my tail was all sore from the saddle and who did I meet right in front of a house but one of the Commissars I met in Moscow and he got fresh right away and wanted me to come into the house, but I got on the horse again and started off. So he yells for help and pretty soon we saw them coming after us. Mr. Adsill there wasn't any place to hide if there was a tree in that country they'd keep it for a souvenir, so we just went along for a ways and then stopped and Mr. Adams he started shooting at them. He got one anyhow and put down the horse of ' another one so they laid off and we went on. But our horses got tired and we didn't have any food, so we had to shoot one of them and it was luck for us that we got so far as we did.

So we turned into the mountains and hid around there for a month or so till we figured they had stopped looking for us and we had to shoot the other horse, too, and it was some job to get to the next town which was Semiplatinsk.

I bought a couple of camels for us there, putting up the old stall about being a Bhoziyat on my way to Mecca it went over great. But I was a little nervous about hooking onto any of the caravans so we had to try for the desert alone and I'm telling you Mr. Adsill we ate sand

before we got through but here we are and maybe the Soviets don't know we got away but I wouldn't count on it so we'll probably get to Constantinople all right.

Yours faithfully,

Abe Epstein

PART II - PROLOG - Another Word From the Editor

It is no doubt bad form for the stage manager to step into the middle of the scenery while the play is going on and explain what happens next. In the present case the excuse is that the actors seem to have disappeared. If the stage manager did not trouble to explain the course of events the audience would be left to gaze at an empty stage and conjecture' what had happened in the interim when the next act opened.

To put matters more briefly and clearly, our certain information ends with the arrival of Robert Adams and Abe Epstein at Baku. This took place in the fall of 1930. Both men seem to have been in bad shape when they arrived, weak with hunger and suffering from fever. Baku was then even more than now a crossroads of the world, where people of every stock on earth jostled in the streets. And the chances are that the two Americans had not been there an hour before word of their arrival was on its way to the Soviet government.

At all events, two nights after they arrived there was a severe street riot between the Uzbegs and Georgians, which the police proved powerless to quell. The building occupied by the American Naval Oil Mission was one of the first to be burned in the turmoil. Several of the occupants were badly hurt as they escaped, and among them was Robert Adams. There seems little doubt that the riot was engineered from Moscow. The combination of the injury he received and his already weakened condition seems to have brought about in Adams a case of amnesia, or loss of memory, for there is a record from the Bellevue Hospital in New York, dated from the spring of 1931, recording his entry there as an amnesia patient.

He must have communicated to Abe Epstein or to some other American authority information as to where the formula for his tube was hidden. In spite of the fact that the singular loneliness of his life made his recovery from amnesia a matter of years, nothing is more certain than that the United States government secured the formulae at an early date.

Among the scanty records remaining to us from the period of confusion that followed is one from the fall of 1930 in which it is mentioned that a model Adams Ray tube had been set up and tested at the Indian Head proving ground of the U. S. Navy, where it set off various samples of ammunition. We also have the testimony of Albert Rodman, a naval mechanic who later rose to be governor and major-general of New Hampshire. In his autobiography he tells us that he was employed in sheathing the magazine of the battleship "West Virginia" with lead giving the fact that it was a rush job as the reason why he was unable to obtain Christmas leave in 1931.

He also mentions that the new cruiser "Minneapolis" had a tube installed in the turret on her foredeck. Evidently the U. S. Navy took up the Adams Ray from the standpoints of both attack and defense in a whole-hearted manner. The Soviet government can hardly have been ignorant of this fact, since its secret service was unusually good and must have determined to strike the longplanned blow before the development of the ray rendered it impossible.

But from this point on we are in the midst of wars, rumors of wars, tumult and confusion. The great combat of the Northern Alliance was opening, and there is little sure information as to minor events and places. We can only discern the general outlines. Even the name of the great pioneer who first experimented with the device later brought to perfection as the Wagstaff is unknown to us.

We have attempted to gather up the records, such as they are, and have inserted documents wherever documents are available. But the main purpose of this book is to give a coherent narrative of the underlying events which really influenced the course of history, and

if it seems disjointed and impressionistic it is because the records from which it is compiled are in a confusion so hopeless that they may never be unravelled.

CHAPTER I - The First Blow - (Time — Spring of 1932)

IT WAS one of those hot days that spring sends to Washington as an earnest of what summer will bring, and the young man who entered the Pennsylvania Avenue drug store took off his hat and fanned himself with it as he slipped into a chair.

“Coco-cola with a shot of lemon, Ed,” he said, “did you order this weather?”

“Not me. I wouldn’t know what to do with it if I had it,” answered the guardian of the fountain, manipulating his faucet. “Say, what d’you think? That dame Bella never gave me a tumble when I called her up. Said she was all dated for the week.”

“You don’t know how to handle that baby. You have to treat ’em rough. Tell her Jim Blunt said if she didn’t go out with you he wouldn’t take her to the Grotto any more . . . Hey, can you be sick or something tomorrow night? I got a couple of—”

“Shh, there’s Doc White.” A bald-headed man with a protuberant stomach had appeared at the end of the fountain. “What was that?”

“Tire blew out I guess.”

“Must have been a truck,” said the soda fountain boy. “That was a big one . . . What’s yours, ma’m?”

Bang! “There goes another one,” said the young man who had described himself as Jim Blunt. “No wonder. It’s hot enough to melt rubber.”

Boom! A deep, heavy explosion this time. The building trembled gently.

“Say, what’s going on?” said the soda-fountain boy, looking over his shoulder, as though an inspection of the front window would reveal the source of the sounds.

“Prob’ly some ambassador or something. What have you got in the third at Latonia?”

Boom, boom . . . "Annie Lee. Six to one. It's a good short end bet."

"Aw, I dunno. She's not so hot. Racing Form says Little Michael is a breeze."

Boom, boom, boom ... A man outside had stopped with his hand at the door and turned back, looking up.

"That goat! Why he run last in the Withers. He's nothing but a plater."

Boom, boom . . . Doc White, the man with the protuberant stomach and bald head was sliding along behind the counters, toward the door.

"Yes, but I got a hot tip. You know Augie Colman, that little guy that comes in here. He's got a friend that was one of the Stewards down there and he says Little Michael was pulled his last time out."

Boom, boom, bang! People were stopping outside. A couple of boys ran past, shouting something unintelligible. Doc White was standing in the entry way, his white coat flapping back and forth against the bulking waist-line in the gentle breeze, gazing down the street under an eyeshading hand.

"Aw, go on. I don't give a care what Augie Colman says. Them tips ain't so—"

Boom, boom, boom, Crash! The building rocked; the man standing beside Doc White was gesticulating violently. Somebody passed, running. Shouts.

"Say, what's happening," said Jim Blunt, rising and starting toward the door. Boom — a terrific thunderpeal of sound that seemed to let loose a minor earthquake. He gripped a counter to keep himself from falling. Half a dozen bottles and packages showered to the floor. There were shouts and a universal rush for the door.

The man with the protuberant stomach was trying to rise amid a tangle of feet. Blood, from a cut on his bald head, staining the white coat. People were running. A pillar of smoke like the exhalation from a giant cigar hovered over the trees a little way up the avenue and

something lay tangled on the pavement beneath it. A smashed auto was draped weirdly across the lower part of a broken store window.

An accident to one of those squibs, Jim Blunt thought, and started toward it. Boom, boom — and then, as he ran, a bursting spray of branches and fragments flowered out of the pavement not two hundred yards ahead and he was hurled against a car by a gigantic fist.

He rose, half-dazed, to his knees and became conscious of a tear in his trousers. Other people had been knocked down, too; some of them were hurt. Boom, boom — bang! He looked toward the capitol, realized that there was a black gap in its rounded dome and that the figure at the peak was slanting crazily. The street seemed to be reeling — or was he dizzy. A black cloud shot up suddenly in the direction of the Library of Congress. There were flames down the street.

An utter and helpless terror came over him. Boom, boom, boom. A pointed finger was thrust over his shoulder and a voice shouted in his ear, “They’re bombarding us.” He looked along the direction of the digit and saw the Vee outline of a squadron of aeroplanes sharp against the pale blue of the spring sky. He could hear their buzz above the roar of a passing auto, driven madly with open cutout. Boom, boom, boom. Somebody screamed.

There was an overturned streetcar in H Street with people trying to get out of the windows on the upper side. Blood, Jim Blunt thought, blood under that street car. He felt sick. Boom, boom . . . They were coming! He realized with surprise that he was running. A pile of bricks with a broken chair in the middle of it where an odd eddy of the running throng flowed around the scene of one of those explosions — half a dozen houses knocked into one and blazing fiercely with cries from the pile. Everybody was running, riding, flying from the terror that smote down from the skies.

A fat woman clad in lavender underwear and a half-awry petticoat was knocked against him by a passing car, sending him almost to his knees. Her face was wrought with terror. Two

men trying furiously to crank a Ford. Boom, boom, boom. Negroes, white men running and shouting, all other emotions submerged in the ocean of fear. A curious odor mingled with that of burning wood in the air, a sweet smell, almost sickly sweet. He saw a black woman fling herself to the pavement with a choking gasp, unable to go further, and lay there sobbing, with her head covered. The city was burning. Boom, boom, boom.

More cars went by, one of them with its radiator bearing a plume of steam, all loaded, black with people on the running boards. He passed a camera store with its windows broken and saw two stalwart negroes helping themselves to the contents without anyone giving them the slightest attention. A fire engine was trying to make its way counter to the stream of flight, the firemen with pale, set faces, valorous and hopeless. Damn fools, thought Jim Blunt. An Italian family loaded with bundles and a crying baby were pulling more bundles on a child's cart. Boom, boom, boom, went the bombs, away behind him.

The street seemed miles in length, the sick-sweet odor grew stronger. A moment he paused in the tide of fear and looked back to see a pall of smoke lying over central Washington, with the red glow of flames beneath. The capitol was no longer visible, the street away back flooded with fugitives, afoot and in conveyances, but moving apparently with a curious lack of haste.

Above the smoke, like flies on a window pane, the aeroplanes wheeled and wheeled, shedding death, destruction and war on the first city of the United States with none to hinder them.

CHAPTER II - The Coming of Chaos - (Time — Spring of 1932)

THE Ford on whose running board he finally secured a lift broke down a little way out of Washington, and Jim Blunt left it to make his way among an ever-thinning group of wayfarers on foot. He dined frugally on a handful of strawberries searched out among the

already welltrampled plants in a field he passed. Along the half-deserted road he could catch sight of other groups of fugitives, like himself, making for Baltimore, but he felt no great desire to fall in with any of them. Just at dusk he descried an abandoned nigger shanty in the sandy scrub along the road and turned off to spend an uncomfortable night, shot with horrible dreams, on its floor.

He was roused in the uncertain light of the early hours by a sharp pain in the calf of his leg and dragged himself to weary feet before an apparition with huge goggling eyes and a black nose of indeterminate length that at first gave him the impression he was still dreaming. It was some minutes before he realized that it was a sailor in a gas mask who was prodding him with a bayonet. Outside on the road were more of these apparitions, who pointed him toward Baltimore and urged speed upon him with silent gestures, then moved off, locked in their expressionless masks, toward where a mountain of smoke on the southwestern horizon indicated the position of Washington.

His muscles filled with a great heaviness, Jim Blunt stumbled along the empty road. He would have given anything for a drink, but saw a dead horse lying across the only rivulet he passed. Once he met a truckload of soldiers with a machine gun, headed for Washington, and once a big brown car passed him in the opposite direction. It blared a furious horn at him but did not stop despite the appeal of his outstretched hand, and he caught a glimpse of other masked figures inside, as it swirled past.

Save for these interruptions the road was a monotony of sand and low vegetation out of which stinging flies rose with the sun. His watch had stopped but it was enough after sunrise to be about nine o'clock when he sighted another figure (moving Baltimore-ward around a curve ahead and quickened his tired limbs to overtake his fellow voyager. It proved to be an old man who received his advances with unconcealed suspicion, and for some time they trudged along together in silence.

Finally the other spoke. "You wouldn't have some tobacco with you, would you, mister?"

Jim Blunt felt in his pockets. No," he said, "but I got a cigarette." He extended the package, limp with being slept on.

"I don't hold much with cigarettes," said the old man. "Goin' to Annap'lis Junction?"

"I guesso," said Jim... It struck him suddenly that he was not going anywhere in particular. There was silence again for a moment.

"It's them damn Germans," the old man burst out with sudden conviction. "Germans and Bolsheviks. They should of hung that Kaiser when they had the chanct. I don't care. I'm covered with insurance. But you never get full value out of them insurance companies."

"Is it all burned?" asked Jim, glancing over his shoulder at the sierra of cloud behind him.

"Burned. Blown up. Poison gas, too. Everybody dead," said the old man. "I'm goin' to Boston, Mass. I got a son there in the bicycle business. He'll be goin' in the army though, I expect. There's war young feller. Have any relations in Washington? Haven't got a bit of tobacco, have you? I got a pipe, but I used all my tobacco."

"No-o-o," said Jim. Burned, blown up, he thought. Poison gas, everybody dead. Bella — and the little blonde that was a waitress in the Childs restaurant. Everybody dead, poison gas. War.

"They should of hung that Kaiser when they had the chanct," said the old man vigorously again, and silence fell upon them once more. The sun grew hot. Jim Blunt felt faint and weak. Another half an hour of walking brought them to a series of sandy strawberry plots, but the rows had been trodden into the ground by earlier comers and there were none but unripened berries on the vines. The houses seemed deserted, though one of them yielded a welcome drink of water from the pump. Both sucked it in greedily. From time to time the old

man tried conversation again on the two absorbing topics — his lack of tobacco and his forethought in being insured.

About noon the road brought them to a dip by a small rivulet where half a dozen men, like themselves obvious refugees, were making a meal on bread and burned potatoes around a fire. To them Jim addressed himself in the hope of food, and was allowed a handful of their scanty meal.

“What happened?” he asked between mouthfuls, “Who did it?”

“One of the soldiers says he seen it in a Baltimore paper that it was the Russian Bolsheviks,” said someone. “They came in a ship, goddam their dirty souls to hell. Everybody in Washington is dead. They’re fighting in England and San Francisco, he says, and New York is all burned to pieces. It’s war. I’m going to enlist in the navy, I don’t give a damn. They burned my store out and every cent I own, goddam them. Listen here ”

“Aw, pipe down,” another broke in. “You ain’t lost nothin.’ I had a sister — ” he seemed to choke and bit savagely at the piece of bread he was holding.

“But what did they want to fight us for?” Jim pursued the subject.

“Just meanness, I guess. They’re fighting everybody. They say there’s a hundred thousand Chinks coming from Chicago, Chinks and Russians with more poison gas. This is going to be one hell of a war, let me tell you.”

His meal finished, Jim rose. “Aw, that’s the bunk,” someone else was saying. “Them Chinks can’t shoot. They don’t even know — ” He passed beyond earshot, fear and weariness combining to dull his mind to outer impressions and drive him onward anywhere down the hot river of brick between its sandy banks that led away from the ominous bank of smoke towering over Washington. There seemed no sounds left in the world and traffic going either way had utterly ceased. He tramped along in a reverie of misery.

. . . “Are you looking for a job?” The voice startled him like a shot. Beside the road stood a man of about middle age, wearing a battered Panama and supporting a motorcycle that had apparently just emerged from a path back among the sand hills.

“Huh?” What kind of a job?”

“Helping me. Come on, jump on. Twenty-five dollars a week and your board. Save me a lot of trouble.” He talked in staccato beats. Jim glanced over his shoulder in the direction of smoking Washington.

“Oh, that’s all right. They won’t come this way. You’ll be helping the country more than in the army. My niggers all ran away. Greatest invention of the age. Hang on.”

The motorcycle started with a jerk and Jim had to grip the stranger hard to hold his place. They dashed away into the scrub.

CHAPTER III The House in the Scrub (Time — Spring to Fall, 1932)

THE pathway through the sand presently issued on an establishment consisting of three or four shacks of car-doors and corrugated iron posted near the shore of an inlet of Chesapeake Bay. For a considerable space along the shore the sand dunes appeared to have been levelled by some artificial means and in the open space thus formed was a crisscross of wheel tracks and footprints. One of the shacks was considerably larger than the others, and all seemed deserted.

The man with the Panama brought the motorcycle to a stop with a flourishing turn before one of the shacks, and jumped off. “Hungry?” he inquired, with a keen glance at his companion. “Come in. Hope you can run a motorcycle. You’ll have to be dishwasher, I guess. I can cook, but the niggers ran away.”

He busied himself in a partitioned-off portion of the shack, which seemed habitable enough once one was inside. Jim Blunt noted that there were two bunks against the wall, one

above the other, and that a litter of the most miscellaneous character filled all one corner of the room, from which it flowed into the central space — a heterogeneous assemblage of dry batteries, pieces of what looked like celluloid, blueprints and gigantic rubber bands.

In a few minutes the presiding genius of the place was back with a cup of coffee and a plate on which hot food smoked. “Help yourself, young fellow,” he said amiably, “I’ve had mine. What’s your name?”

“Blunt,” said Jim, stuffing the welcome viands into his mouth, “Jim Blunt, from Washington.” “Well, Jim Blunt, mine’s Hamilton. I think you’ll like it here. Experimenting. You needn’t worry about the war. Got enough provisions for an army and we can get fish and oysters right here in the bay. Might be on a desert island. The ten books and all. Are you curious? Never mind, your’re all right. I’ll tell you. It’s fuelless airplanes. Greatest invention of the age. Fellow died and left me to work out the scheme. Can you run a motorcycle?”

“M-m-h-m,” said Jim, his mouth full.

The largest of the shacks proved to be the hangar in which the subject of the experiments was housed; an ungainly, short-bodied object with curving wings that bore an odd resemblance to a hen, a likeness which was increased when it ran down the sand behind the towing motorcycle as though to escape from a pursuing hawk. The motorcycle, it appeared, was necessary to give it a start in its present stage of development; once launched on the atmosphere it could take care of its own progress. In the long succession of days that followed, it made many of these semi-avian runs and flights, with Jim guiding the sputtering cycle along the beach, occasionally glancing over his shoulder to see the big, bird-like object rise behind him, eventually casing its tow-rope and soaring about in a staggering kind of flight.

After it landed there was always a period of pattering with this detail or that. One of the huge rubber bands that in some way obscure to Jim furnished the power for the apparatus would be tightened or changed as showing signs of wear; a battery would be replaced or a wing-tip

altered. Once a whole week of tinkering resulted in the lengthening of the wings and a wider spread for the flat avian tail.

Occasionally Jim would be told to climb into the seat of the queer craft, while Hamilton watched its performance from the ground. The first of these trials ended in a minor disaster when Jim became so busied with the question of keeping the machine on an even keel that he forgot to cast loose the tow-rope. The aeroplane promptly pulled the motorcycle, which had reached the end of its run, over on its nose, giving Hamilton a header in the sand, and Jim shared the experience a moment later when the sudden jerk at the end of the line threw him off balance completely.

Fortunately neither plane nor motorcycle was much damaged, and as Jim repeated his experience of flight he gained knowledge and confidence together. At the end of a couple of months he could handle the machine nearly as well as Hamilton, and both were accomplishing flights of considerable duration during which they stirred up the screaming gulls far down the bay or soared high and far enough to see the infrequent passengers on the Baltimore-Washington road.

Jim would have called the airplane an ornithopter if he had known of such a word. It consisted of a light tubular framework in which the operator sat as one sits on a bicycle, with pedals for the feet. Through a complicated system of bands and heavy rubber cords, these pedals furnished the power for the flapping wings, each thirty feet or more long and amazingly light and narrow for their size. In building the latter Hamilton had followed the avian formula, the feathers being made of a non-inflammable celluloid composition and opening automatically on the upstroke to decrease resistance.

An arrangement similar to a bicycle brake permitted the wings to be locked in the outspread position for soaring flight, or in an elevated position for a quick, sure landing. In front of the operator's seat was placed a row of the new Bell & Wyatt dry batteries, then

recently invented. These were furnished with two connections. The first was automatic, being actuated by the working of the pedals, and furnished additional power to the motion of the wings, reinforcing the push of the operator's legs. On the other connection (for which a hand switch was provided) they operated a small knife-like propellor of ingenious design which was placed at the nose of the mechanical bird. This was intended to be switched on during soaring flight; it gave the airplane the little additional power that enabled it to maintain height and speed during that operation and float down the lanes of wind, virtually without motion for long periods. The machine was steered partly by working one wing faster than another and partly by means of a wheel that manipulated the tail.

It developed that Hamilton was more concerned with the question of launching his craft into the air than with anything else. Once launched the aeroplane gave no trouble, but getting it off the ground involved either the use of the towing motorcycle or an extremely long and often futile run down the sand under the power furnished by the little propeller. There seemed no way of approximating a bird's swift leap into the air. Attempts to flap the wings on starting resulted only in damage to these appendages when they were banged against the ground.

Jim Blunt saw Hamilton try various expedients. Altering the undercarriage to cant the wings up at the front for a more rapid climb brought the tail down with a resounding thump on the succeeding landing and almost snapped it off. Then came a period of various stilted crane-like types of undercarriage. These permitted a limited use of the wings on rising, but they made the machine almost impossible to turn and gave it a heavy, loggy motion in the air by reason of the lowplaced weight of the wheels. The crane type of undercarriage was followed by an attempt to get quick climb by setting the wings at a sharper angle with the vertical. This experiment ended abruptly in a nose-dive into the inlet, when Hamilton found that the arrangement caused the plane to go into a series of downward swoops when he tried to do anything but climb. He chose a ducking in preference to a crash on the sands, and as a reward

had to spend nearly a week in giving the airplane a general overhauling after it had been, with much effort, fished out of the water.

Neither of them ever turned their aerial expeditions toward Washington, and the subject of the bombardment and the conflict that must be raging all about them was tacitly avoided as a matter for speculation only. Hamilton's eyes were too much fixed on the stars for such matters and Jim's too much fixed on the ground. They lived the solitary happy life of hermits, eating their way gradually through the immense supplies of canned goods Hamilton had laid in to supply an establishment of half a dozen men for several months. In this manner May summered into June, June turned to hot July, and July to blistering August. No rumor of the outside world reached their retreat, no breath of the universal war-flame passed their way. They might truly, as Hamilton had said, have been on a desert island, and the likeness was heightened by the occasional plume of smoke that moved up or down the Chesapeake, just barely within eyesight in the distance. And then the war reached out and took them.

Jim Escapes

IT was a warm morning in early Fall, fresh and clean with the night's rain. They had just finished breakfast and Jim had stepped out of the living shack to wheel out the airplane for the day's flight while Hamilton paused to clear away the dishes. As he bent over to tighten a fastening in the tail, Jim heard the crunch of feet on the sand and looked up to see three or four men entering the living shack. Something metallic gleamed in the hand of one ; all wore the trousers of American soldiers, topped by a nondescript assortment of shirts and hats. He noted that two of them were negroes, and wondered idly who they were and what they had come for as he went about his task.

A purr of voices rose within the shack. He climbed to the seat, switched the batteries on and off, and tested the controls. The bark of exasperation crept into what was being said in

there. He turned to look. "No! Get the hell out of here!" he heard Hamilton's words, then a sound like that of a trunk thrown on a sidewalk, the door was flung violently open and one of the negroes came out, backward, to the ground. Shouts; Hamilton burst suddenly from the open door, running, with the other negro and two of the white men after him. Jim Blunt heard a growl of fury, caught the look of animal ferocity on the face of the pursuer, noted with a fearful accuracy of detail that there was blood on Hamilton's head and a knife in the negro's hand. He saw the black man spring suddenly onto the back of his chief, bearing him to the ground. With a febrile panic tearing at his vitals, Jim threw the switch that set the propeller revolving and began to move gently across the sand.

He heard a gurgling cry, a command to stop, and glanced over his shoulder to see an indistinct mass of limbs writhing on the ground, the rise and fall of the knife and a figure running after him. The machine gathered speed. He worked the tail desperately in the effort to rise. Would he make it? Bump, bump. "Stop!" A shot; the bumping ceased — he was up! He pedalled with the energy of despair, felt the wings graze the surface of the water and saw a spray of shining drops. He was in the air, running slowly, low over the water.

He pedalled; the airplane rose painfully in the still air, then leaped forward as a breeze ruffled the surface of the inlet beneath. Up, up — he dared to turn, and saw the men beneath him foreshortened into two-legged spiders, running about animatedly on the sand. One lay stretched out by the door of the living shack, unmoving. That would be Hamilton. No going back now. The breeze grew stronger as he rose. He braked the wings, turned on the propeller switch again and soared up and away like a huge gull, while the four beneath gaped at his receding figure.

Jim Blunt had only the most elementary idea of geography. Baltimore, and beyond it Philadelphia and New York lay away to the north somewhere. He could make one or the other easily. But — and the thought of the bombardment and what men by the creek so long ago had

said, smote him suddenly. Baltimore, Philadelphia, New York — where they not like Washington, “all burned to pieces” with Chinamen and Bolsheviks, gas-armed, haunting the grim ruins? Was it not some outpost of these that had fallen on them at the inlet.

He rose higher, pedalling the wings. Might better find a farmhouse somewhere. There were a few clouds in the northwest. Again he braked the wings and soared along in great sweeps, heading for the north with only the sun for a guide to direction.

It was perhaps an hour later that he ran into the storm. The country beneath him was showing a greener and more settled character, but whether he had passed Baltimore or not he could not tell. His attention was completely taken up with the question of the storm which announced itself in a pattering of raindrops on his face. It simply did not occur to him to land where he was. Knowing from old experience of the difficulty of flying the machine through the gusty flaws that would come, he took one last glance at the sun to keep it on his right, and began to pedal again for height. For half an hour more the wind whistled about him and it was black as night. He tried to keep his direction. How well he was succeeding, he did not know. When at last he emerged into the sunlight, he was drenched, horribly tired and unhappy.

He noted the silver line of a big river somewhere beneath him, felt the sun on the back of his right shoulder. Must have worked a little west he thought, and began to descend to look over the country. He was nearing a city. White buildings showed in the sunlight, and as he approached, he could see little figures among them. He swept nearer and began to make out definite motions among the midgets on the ground. They were pointing toward him, gesticulating. On the roof of one of the buildings, several men seemed to be busy with some kind of an apparatus that looked like a pushball with a rod stuck through it and emitted vague lightings like those from a trolley wire when it is wet.

A broad street, innocent of telephone wires, ran past this building. Almost without thinking, Jim Blunt braked his wings into the upright position, switched on the propeller and

dropped lightly to the pavement before the building, utterly exhausted and with a funny numbness stealing over him. He heard dim voices asking what it was, then a sharp word of command, and someone said, "The ray's knocked him out. Call Captain Hargitt. Then Jim Blunt passed out of consciousness.

CHAPTER IV - Two Gentlemen Hear the News - (Time — Spring, 1932)

THE nurse was offering him an egg.

He seemed rather the better of the two cases who occupied adjoining beds in the hospital. For one thing, he was younger than the man who lay in the bed beside him with closed eyes, a neat grey beard sparsely sprinkled with black projecting over the coverlet. For another he had managed to reach a half-sitting posture and was moving a little.

The young man lifted one arm as though it hurt him to move, dabbed the spoon in the egg and took a mouthful.

"Do you feel better?" the nurse asked.

"I don't know," he answered, "I haven't felt at all up to now. What happened?"

"You were in an accident. We'll tell you all about it later. Can you give us your name?"

"Mason. H. Mason, Lieutenant, Navy. What happened?"

"Don't worry about that now. Here, drink this and go to sleep if you can."

Lieutenant H. Mason accepted the drink, looking about him through the bottom of the glass as he drained it. His eyes fell on the man by his side, and he gave a sudden start of surprise, followed by a little grimace of pain. "How — how did he get here?" he said, indicating the older man.

"Do you know who he is?" asked the nurse.

"Admiral de Roebeck, acting secretary of the Navy," replied the younger man, leaning back among the pillows, and there was silence in the hospital ward.

The silence lasted all through the golden afternoon, and it was not until the lights had been turned on that it was broken. Then came the sound of feet in the hall, and of hushed voices in conference, followed by the flinging open of the door and the irruption into the ward of a small and curious procession. There were two nurses, a man in a dark suit with black corded glasses whose nervous air gave him the aspect of one burdened with great affairs, and a tall man with white hair and a flowing robe of black silk over his business suit. Through the door two or three more were visible, and presently entered also a man in uniform and puttees who looked like an aviator, and a physician.

The man with the corded glasses glanced at the bearded figure in bed, nodding his head vigorously. Yes, that's Admiral de Roebeck, all right," he said, "is he badly hurt?"

The patient who had been thus identified opened his eyes languidly and was now looking at them. The white-haired man with the silk robe came forward and sat beside the bed.

"Admiral de Roebeck," he said, "are you well enough to understand me?" The injured man nodded slowly, and the other went on, "There has been a — catastrophe, in which the President and several members of the cabinet were involved. I am Justice Kenyon of the Supreme Court. It is important that we swear you in as President of the United States and that you nominate a cabinet at once. Do you think you can do it?"

"Yes," said the man on the bed in a voice so weak and far away that it might have come from another world. The justice glanced at the doctor who had followed him into the room. The latter nodded.

"I must ask the rest of you to witness this ceremony," said the justice, rising. "Is there a stenographer in the building?"

There was a moment's pause, as one of the nurses slipped out of the room to return with another girl in nurse's uniform, awed and silent at the importance of her mission, and bringing a piece of notepaper and the stub of a pencil.

The man with the corded glasses produced a Bible from somewhere, apparently by magic, and there in the hospital ward, under the dimmed light and beside the two beds was held the solemn ceremonial of the swearing in of a successor to the great traditions of Washington, Lincoln and Roosevelt, with a sick man, three nurses, an aviator, a doctor and a lawyer for audience; surely the strangest group that had ever seen the induction of a President of the United States.

The new President lay with closed eyes, making his replies in a thin voice, and as Justice Kenyon closed, the doctor stepped to his side with a glass of some stimulant. He drank it and seemed to grow slightly stronger, looking from one to another of the group with shrewd, kindly eyes. The man in the corded glasses spoke. "Would it be asking too much of you to nominate a cabinet, sir?" he said.

President de Roebeck glanced around again. His eyes fell on the bed by his side where Lieutenant H. Mason lay watching him.

"What is your name?" he asked.

Lieutenant H. Mason's arm moved painfully in the gesture of a salute. "Lieutenant Mason, U. S. Navy, sir."

"Will you act — temporarily... as Secretary of State, to make appointments if I should not survive?"

There was a murmur in the room. The man with the corded glasses stepped to the bed. "While I do not doubt that you have the fullest confidence in this young man — " he began, but the faint voice of the admiral interrupted him.

"I'd trust a navy man first... Nominate Lieutenant Mason as my Secretary of State... J. P. Morgan, junior, Secretary of the Treasury. General Slocum Secretary of War . . ."

"I doubt whether General Slocum can be located, sir," said someone.

“All right, then, the highest ranking officer of the army . . . Ralph D. Paine, Secretary of the Navy . . . A. E. Smith of the Interior — ” the voice trailed off into silence and the eyes closed again. The doctor sprang to the bed side, looked at his patient a moment, and then turned to the rest. “I am afraid that the president is not in condition to talk any more,” he said, “May I ask that you leave?”

CHAPTER V - Conference on a Balcony - (Time — Autumn, 1932)

PAUL DE ROEBECK, President of the United States, lay back in a sheel chair on the balcony of the Mercy Hospital at Alexandria, looking across the Potomac toward the ruins of what had been the capital city of the United States. Herbert Mason, his Secretary of State, sat beside him. Around the two were grouped the other members of the cabinet, and on the other side of a small table the balcony was filled by perhaps two score men grouped in chairs. Most of them were expressing various degrees of annoyance or astonishment in their attitudes or faces.

“But I tell you it’s impossible,” declared one of them for what must have been the twentieth time. “The American people will never submit to dictation in this fashion. They will demand a Congress and an immediate presidential election.”

Mason looked at the president, who nodded. “You agree with us, do you not, that an election at the present time is hardly possible?” he asked with the air of one going over a thing patiently with little children.

“Not in Vermont!” one of them burst in.

“But Vermont cannot elect a president and Congress alone, and many whole states are in a condition which, to be frank, is nothing less than anarchy. We could hardly be certain that a majority of the members would not turn out to be avowed enemies of the present system of government. The Constitution, gentlemen, makes it the first duty of the President to see that

each state has a republican form of government. The proposals we have outlined here are directed toward that end.

“Moreover, our entire effort would be held up until the new Congress had been organized and had inquired, more or less slowly, into various features of the war and had appropriated for them. You have been asked to this conference, gentlemen, because as governors of the several states, you are big enough to appreciate that in the time it would take to wait for Congress, it will be too late. The Polish army is on the verge of collapse; the Italians are beaten, Germany and England can do nothing, and God knows what is happening in France. In a year, gentlemen, we will be invaded by an army of two million men. The steps we propose to take are revolutionary, but they are necessary in this struggle for national existence.

“I propose to read the agenda of this meeting in detail, and we can then present each point for a separate vote.”

A somewhat grudging assent came from the group as he took up several sheets of paper.

“First — that martial law be declared in existence throughout the country.”

“I agree to that,” said one of the audience. “It is a necessary step, especially as martial law is practically in existence in large districts already. Question!”

There was opposition, and the article was clearly carried when the roll-call had been completed.

“Second,” Mason went on, “that the governors of the several states be commissioned as major generals of the army and placed in command of the several states as military areas.”

“A most wise measure,” said one of the governors, rubbing his hands slightly, and his opinion met with such general assent that Mason proceeded without delay to the third article.

“Thirdly — that enrollment in the army be required from every citizen, by presidential proclamation, and—”

He got no further in the torrent of criticism that rose. When it had quieted down somewhat the President spoke for the first time lifting his voice with obvious effort so that all could hear:

“I am aware of the objections to this plan, and they have been stated by you gentlemen in several forms. Nevertheless, I am convinced that it is a logical step leading out of the declaration of martial law, and that practically it is in the interests of efficiency. The attorney general assures me that legally my position is sound and I intend to carry this thing through even if it means impeachment. Please proceed.”

“Thirdly,” Mason read, above the chorus of muttered remarks that was reminiscent of distant thunder, “that enrollment in the army be required from every citizen by presidential proclamation, and that all those in essential industries be assigned to their respective duties in their present industries.

“Fourthly — that the people thus engaged be paid through the government agencies to be established for the purpose, and be paid in vouchers denoting so much labor done, to be eventually taken up at a fair valuation. . . This,” he broke off from his reading to explain, “is Mr. Morgan’s plan. In view of the present state of the currency, the loss of the mint and the destruction of much of the gold reserve, as well as the world-wide disruption of money markets, we are practically driven to adopt some means of inflation or fiat currency: The dangers of either course are so great that this system is suggested as a substitute. It is believed that these labor vouchers will serve the purpose of a minor circulating medium.”

The circle burst into murmurs, and in his clear voice Mason began to call the roll: “Alabama — nay; Arizona — yea. . .” When he had finished there was a majority of two for the article with three not voting.

“Fifthly — that every factory capable of making electrical apparatus be commandeered at once and set to turning out tubes for the production of the Adams anti-explosive ray.”

This, like the second article, was carried without comment or objection.

“Sixthly — that no Congress be summoned until the war shall have been brought to a conclusion, or until the Continental United States be held free from danger, and that in its place each of the governors shall appoint a single representative to serve as a committee on the Union.”

Again came the choir of whispers and some open comment, and again the vote was so close that there could fairly be said to be no majority. But like the rest it was pronounced carried.

“This closes the agenda for the conference, gentlemen,” said Mason evenly, and as he did so, the President pulled himself upright in his chair. “I hope,” he said, “that whatever your opinions, I can count on your cooperation. A great deal of the success of our effort and with it I may say, the continued existence of these United States, depends upon this.”

CHAPTER VI - The Ray Goes to War - (Time — November-December, 1932)

FROM the Memoirs of Sir Evelyn Oldmixon, Sometime Member of the British Expeditionary Force in Poland.

...I was heartily glad when my application for a transfer from the monotonous and dirty hedgerow warfare in Ireland was approved, but was hardly prepared to be sent to the other end of Europe in charge of a tank against the Soviets.

Indeed, if I had known in advance that the government intended sending the tank division, I should have thought that it savored of that Britannic arrogance of which we are always being accused. The date was the autumn of 1932 and our fortunes were at their lowest ebb. The immense conspiracy of the Soviets against the peace of the world had been attended by extraordinary success. For the first time since Prince Charlie's day, a British army was

fighting British subjects in the island of Britain (I refer of course to the trouble in the Grampians following the Glasgow shop revolt); London and Liverpool were in ashes ; Ireland was one vast flame of petty warfare and assassination. Egypt was gone; India and South Africa wavered, and of all the dominions only Canada and Australia stood firmly by the mother country.

In spite of these difficulties the cabinet thought it imperative that we help the Poles ; they were facing the main Russian armies, and had, I understand, asked us for a supply of tanks and men who understood these machines.

...We arrived at Dantzig on the cruiser "Cumberland" on a blowing night in November. Thanks to the heavy weather there was little danger from submarines, and when off the port we had been convoyed by a German air squadron which effectively protected us from Soviet air attacks.

My impression of Dantzig was that of a city at once splendid and depressing. Over the immense quays and establishments hung an air of loneliness and defeat. One seldom met civilians, and the Polish and German soldiers encountered were a dejected lot. I learned later that the Soviets had dumped a few phosgene bombs into the city in the early days of the war and nearly cleaned out the civilian population.

We arrived in time to meet the unwelcome news of the fall of Koenigsberg and the defeat of General Ruskiewicz's army before Thorn, which meant that the Soviets had succeeded in driving a wedge between the Germans in the north and the Poles before Warsaw, hurling the two back like a pair of folding doors and opening the way into the heart of old Brandenburg.

General Moorsom, the head of our mission, was all energy. In a day and a half he managed to get the tanks disembarked, and a number of them turned over to the German authorities as patterns for future manufacture. We hurried to the front at once with the

remainder, on a train intended to carry rations, which Moorsom boldly commandeered, on the authority that he was the personal representative of the Queen.

Just as we were ready to pull out a man in khaki came down the platform. He proved to be an American, just off one of their ships, which had arrived with a load of Adams anti-explosive ray tubes, a new wonder-working device from the States. He was all for throwing us off the train and holding it while he loaded up. General Moorsom would hear of nothing of the kind, of course, and off we went.

We got to Chojnice on the left bank of the Vistula that night, and began detraining at once. The town was full of Polish troops, most of them badly disorganized, and many walking gas cases. We had all we could do to get through the streets. Food was nowhere to be had, so after the tanks were parked in the grove of an estate near the station the officers of our division made the best cheer we could over hot tea and a few blocks of chocolate. Cavendish, my opposite number, spent most of the night trying to locate ammunition for our eight-pounders, as he spoke German fairly well. I wandered up to the chateau, but found it had been taken over by a Polish divisional headquarters and after a rather idiotic attempt at conversation in sign language, went back to sleep with the men behind the tanks.

Toward dawn a German heavy battery located itself just behind us and began firing with an explosion of sound that made sleep impossible. We stood around the tanks waiting for orders and wishing we had something to eat. But the day was a total dud. The General took Cavendish with him on liaison and I took over his tank as well as my own. Having nothing in particular to occupy my mind I went down to the railroad station as the most likely covert for something to eat.

About noon a train came in loaded with the Americans and their ray apparatus, big things that looked like overgrown range finders, mounted on trucks. They were a cheery lot and seemed well provided with everything but tobacco, so I arranged an exchange with an

American major — Woodbines against tinned meats — and trotted back to my tanks followed by half a dozen orderlies laden with boxes. The American major was fussing around over the lack of electrical lines, a lot of current being necessary for the operation of his apparatus, it appeared. He had plenty in some Bell & Wyatt batteries, but wanted to save it for an emergency. It never seemed to occur to him that this was an emergency.

The streets of Chojnice were still full of Polish troops, all moving back toward Dantzig. A little later a Soviet airplane came over and dropped a bomb near the chateau that killed a man in the grounds. Then came a gas alarm, and we all got our masks on, but it was a washout. The bomb was preliminary to an artillery bombardment, however. Shells began falling around the chateau, which was evidently the target, and the Poles all came out and hurried away. I got the men into the tanks, which would at least protect them from splinters, and we waited for something to turn up.

The Ray Takes a Part

LATE in the afternoon, the Americans pushed right on through ahead of us. They were anxious to get up to the front lines, though nobody seemed to know where the front line was except the German artillery, which kept coming up on all sides. About seven in the evening the Soviets began to shell the town with gas, and the Germans woke up to a frenzy of activity in retaliation.

The tanks were cramped and the noise was terrific but I dropped off to sleep out of sheer boredom, to be wakened at midnight by an orderly. We had been given some supporting infantry and at dawn we were to attack toward a wood we could just make out at the foot of the long low hill on which we were located. We were warned to use gas masks as the Soviets were

drenching everything with a perfect flood of phosgene and gas Alpha. The German batteries were going full blast and I didn't get to sleep again.

A little later came a message from the Americans, warning us not to cross the field of action of their ray, as they might set off the ammunition in our tanks. Here was a pretty dilemma, and I went to rouse out Major Chamberlain.

Together we walked down to where the Americans had strung out their ray tubes behind a big brick wall that had edged the estate. From the little eminence where we stood, we could see the rolling down country stretching away at our feet into the starless night. A dim glow showed on the distant sky where something was burning, and there was an occasional rocket off to the west. The wood we were to attack made a dark mass, just visible. All about, the German artillery was making an irritating noise, shelling the Soviet roads intermittently.

We found the Americans beside their machines, dressed in shapeless hoods and tunics that made them look like spectres in the darkness. An officer handling a telephone set it down as we approached. Their technical service must have been wonderful to get a telephone line in so soon.

"We're going to let go now," he told us. "Oh, you're from the tanks. Stick around and watch the fun. Here, Post, see if you can find a couple of those insulating robes."

The man addressed as Post dug a pair of the shapeless vestments from some cranny and helped us into them. They were heavy and uncomfortable. Two of the Americans began making adjustments on their tube, and after a minute or two stood back. There was a little breathless silence as the officer who had been telephoning closed a switch.

A humming noise rose inside the tube, which swayed a little as a violet glow began to come from it, reflecting on the men about and adding to their ghost-like appearance.

I recall how skeptical I was over the performance. I did not realize that I was fortunate enough to witness a performance as epoch-making as the first gunpowder explosion until some

time later. For a few minutes, there was little or nothing to see. Then some flashes from the wood down in front and a sound of machine-gun firing reached us dimly over the noise of the German artillery.

I recall wondering what the Soviets thought they would hit with machine guns at that range and turning to Chamberlain to speak about it just as the first ammunition dump went off.

It was not very far behind the wood, and there was a perfect pyrotechnic display of rockets and shells soaring out of the piled up flames beneath, clearly visible from where we stood. A moment or two later there was a second burst like it further to the east and then another.

I turned wonderingly to the American officer. He was fairly dancing with a delight which at the time seemed exaggerated. "It works! It works!" he shouted, "All you fellows have to do is go down there and round 'em up."

The picture seemed a trifle overdrawn but I noted that the sound of the Soviet artillery was no longer perceptible. . .

Sure enough when zero hour came and we moved forward past the tubes, now fallen quiet, and down the slope, there was not even a machine gun burst to greet us. We found the wood half-full of dead men and a whole battalion of Soviet tanks was standing in a hollow, all of them simply blown to pieces. We pushed right on to the rums of a village I took to be KornowGallice, and seeing no sign of the enemy, Major Chamberlain halted us and sent runners back for instructions. We had reached our objective and beyond without a single casualty.

PART III - Prefaratory Note

THUS far we have attempted to present, not the usual historical narrative of external events and superficial causes, but a reconstruction of the underlying incidents centering around the discovery of the Adams Ray as they appeared to the actors in that drama. The Adams Ray

is the central pivot on which the War of the Northern Alliance turned. To a less degree, the Soviet desire for conquest and the invention of the Wagstaff (which has had so profound an influence on modern society as a means of communication) were the prime movers. Behind all three, the figures of the sinister Stenoff and the lonely Adams loom as the true architects of the fortunes of nations.

The President of the United States, Zinovieff, General Hauschildt, Lord Melton— these men are in the foreground and would., have been written down in the older histories as the protagonists of the war that changed history. But in reality they were little more than eminently correct and proper marionettes, who played their parts as leaders unconscious of the strings that controlled their actions. If Bob Adams in the background had pulled another set of strings, they would have played other roles equally well. Their calculations were forever being upset by some scientist in a garret (himself perhaps the puppet of higher forces) injecting a new element into the arts of politics and war.

To us today, it similarly seems that the heroes of the previous war (that of 1914) were not Foch and Hindenburg, Tirpitz and Allenby, but the obscure Austrian captain who invented the torpedo, the singular British archaeologist who roused the Arabs and the literary colonel whose mind gave birth to the tank. The scientific age had come to the world, and whether the science made war with mechanics, ballistics or psychology, it could be answered only by science. Military skill from 1914 on became no more important than skill at chess. Only now do we realize that the great men of those days were often very small and that we must search among the laboratory workers and technicians to find the true arbiters of destiny.

The intrusion of such a lay figure as Jim Blunt into a narrative dealing with basic causes needs, perhaps, some apology. Blunt gave the Wagstaff to the world; he ultimately rose to the president's chair in a great industry and a seat in the Senate of the United States (where he was distinguished for the grave emptiness of his every utterance) but he remained throughout one

of those men who is controlled by, rather than controlling, events. The justification for his admission to these pages lies in the act that he was the connecting link between Stensoff and Hamilton, even as Abe Epstein was the connecting link between Adams and Stensoff.

In this way, we have carried the narrative down to the first use of the Adams Ray in actual warfare and the delivery of the first Wagstaff (as the ornithopter on which Hamilton worked came to be called) to the American authorities. These occurrences were nearly contemporaneous in time.

From this point on our story can be no longer one of interior causes. Our prime movers have passed from the stage. Robert Adams was not to come from the sanitarium in Michigan where he had been taken for some time, when he emerged as a middle-aged man to find himself famous in a world that bore little relation to the one he had known. Hamilton was dead; Epstein lost to sight; Jim Blunt, on recovering his health after a doubtful battle with the effects of the ray to which he had been subjected, became an instructor in and constructor of the machines he had brought to prominence. Stensoff was pursuing his usual tortuous and mole-like course in the background of Soviet diplomacy but he had unleashed the whirlwind and men of action rather than of thought were required to guide it. He appears only once more in history, as a partizan leader in the Lake Baikal region following the fall of Tula. Then he too is lost to sight forever.

But the snowball had started rolling down the hill, gathering more and ever more consequences to itself. If Stensoff and Hamilton, Bob Adams and Jim Blunt no longer hold our interest from the historical point of view (for they affect the course of history no more), we must at least show the working out of the chain of events they set in motion, for only by this means can we tell how the stage was cleared for the next set of actors. It is incumbent upon the historian to show not only incident and character but the milieu in which they operated. For world conditions following the War of the Northern Alliance were so different from those

preceding it that some description of that conflict is necessary if only to show the state of affairs under which the following generation of scientists had to work.

CHAPTER I - The Hounds Are Unleashed - (Time— 1932)

THE defect of the science of the early years of the twentieth century lay in emphasizing the mechanical at the expense of the psychological — or perhaps we should call it the moral. Science had taught its children to walk without teaching them where to walk, and stood for a moment, helpless, while they walked to the edge of an abyss. With the discovery of the airplane, of high explosives and of poisonous gases, it had placed tremendous forces at the disposal of whoever cared to make use of them and (to change the figure) like a man who presents an idiot with a revolver, stood in danger of being annihilated by its own gifts.

The opportunity seized by Stenoff lay within the reach of any leader of his day. He was merely the child of the age — the scientific age; who had added a knowledge of the power of modern weapons to the ability and moral obliquity of a politician of the old school.

But to Stenoff, Commissar of the Eschgan, his actions did not seem those of moral obliquity. He was dominated by a single idea — that of a workers' civilization, in which the proletariat should be not merely the ruling, but the only force. He believed that even the arts and sciences of the older nations were tainted with a subtle capitalistic poison and contemplated nothing less than the destruction of the whole edifice, which he regarded as too rotten to endure.

All Russia was with him in believing that the condition which allowed the Soviet to exist beside the “capitalist nations” was one of unstable equilibrium. All Russia regarded a conflict as inevitable, and agreed with Stenoff that it would be a holy war in which any means would be justifiable.

But Stensoff went beyond this. He was aiming at destruction; he realized that a war conducted under the old forms and courtesies would place the odds against his country, and he had grasped the immense power of modern weapons for striking a sudden and crushing blow.

As head of the Eschgan (the War Preparations Committee) he had planned_ for the blow to be struck at a moment of his own choosing, when he had first made use of every factor in the Soviet's favor. His plans had a grand sweep. The Communists of the world were to gather in certain cities and there foment labor agitation of all types, ending in vast strikes wherever they could be brought about. At the time of the strikes (the labor agitators knew just this much of his plan and no more) a certain few implicitly trusted by Moscow, were assigned for "direct action" consisting of sabotage, tying up means of transport, bombing government buildings and officials.

Simultaneously a propaganda drive of an intensity never seen before was to be launched. The workers of the world were to be urged to rise against their "oppressors" and disaffected elements in all countries (the Tyrol, Sicily, the Phillippines, Ireland, for instance) were to be persuaded and helped in the direction of armed rebellion.

When these ferments had worked to the proper point, Stensoff was to launch his great blow. The Soviet was to begin the war by attacking the capitals of the larger countries on the same day and by the same means — squadrons of aeroplanes rising from apparently innocent merchant ships in a time of profound peace and unsuspection, loaded with gas and incendiary bombs for the purpose of destroying every living thing in the selected cities. With the governments of the world thus disorganized and paralyzed, Stensoff counted not unjustly on pouring the Soviet armies over Europe and America, with little opposition, nay even with the aid of the insurgent elements he had roused.

Fortunately for the world the blow had to be struck before preparations were complete. The escape of Robert Adams and the sure knowledge that the Adams Ray in the hands of the

American government, would render these wide-reaching plans abortive by demodging the then-known weapons of war, made it necessary for Stensoff to launch his thunderbolt before the ray could be produced in appreciable quantity. The highest tribute to his acumen is that the blow came perilously near to success, prematurely though it was delivered.

The very confusion of the existing records of that time is the best proof of how successful was Stensoff's plan. In America, as we know, Washington was utterly destroyed, with the Congress of the United States, the President and all the members of his Cabinet with the exception of Admiral de Roebuck, the acting Secretary of the Navy who, seriously injured as he was, found himself suddenly elevated to the presidency. Hundreds of people perished in New York where the direct action committees bombed the subways and many buildings and made a strong effort to seize the city. Chicago, Boston, Philadelphia and Detroit were the scenes of violent street fighting; there was a railroad strike and St. Louis and San Francisco had disastrous race riots to face.

In Europe, the Irish Republic was proclaimed and a Republican air force bombed Liverpool out of existence. The ship workers of the Clyde and the miners of Cornwall attempted to organize Soviets, and the hills of Scotland rang with battle. In France and Spain there were obscure and savage social wars. Paris was half-ruined by the few Soviet bombers that reached it and Communists and Whites waged a wolf-like conflict among the ruins. Berlin blazed to the skies under the impact of the Russian bombs, and the Rumanian peasants joined the Soviet armies in their march on Bucharest.

Only in Italy, where it was least expected, did Stensoff's first effort meet with complete failure. Mussolini gripped the Tyrol with an iron hand and extinguished the Sicilian troubles in a stream of blood. Engine trouble delayed the ship that carried the Soviet bombers destined for Rome. They attempted to fly the longer distance from a point near Naples and were met by an Italian air squadron. The Italians appear to have mistaken them for a French air squadron from

Morocco, and were bent on escorting them to Rome. The Russian air commander lost his head and opened fire on them; the Italians promptly summoned help by radio, and being light fighting planes, speedily shot every one of the heavily-laden bombers into the sea.

In Constantinople and Angora a Jihad was preached and a Moslem army joined the Egyptian insurgents that swept the British out of the valley of the Nile and the French out of Syria. India burst into smouldering revolt and black armies with Russian leaders began a devastating guerilla warfare in South Africa.

This is the thing in its main outlines. All the details are not now known and may never be known. The individual was lost in the mass; men who seemed fit to last against the ages disappeared, crushed by the press of events, or killed in the world-wide fighting. A wholly new generation of leaders took over the conduct of affairs, a generation that came to regard war as the natural state and peace as something almost unattainable.

Money and property lost, to a degree, their old significance. A curious anecdote floats on the surface of history, illustrating the completeness of the general overturn. A reporter for the Chicago newspaper, in the year after the war ended, recognized in the room clerk of a cheap lodging house a former governor of the state, famous for the huge fortune he had amassed and the skill with which he had avoided legal prosecution for his immense peculations. It appeared that he still possessed the money!

CHAPTER II - The Clash of Arms - (Time— 1932)

STENSOFF saw the first Red armies leave Moscow for the frontiers, and then retired to his cabinet to direct the service of supply. His work was done; at least so much of it as entitles him to a place in so general a history as this.

In the new Baltic states the Soviets won quick and facile success. Already half communistic, the change was one of name only for these countries. Their governments became

units in the federal system of Soviet Republics, their armies portions of the Red forces. Rumania also came in on the Red side. Communists joined with leaders of the peasant party to secure the person of young King Mihail by a surprise raid on his summer palace at Cetate Alba, and though the great Bratianu family made a gallant struggle, the ground had been cut from under their feet. Turkey, long since secretly allied with Moscow, now stood openly in arms by the side of the Reds.

Only in Poland was there a check. Stensoff had counted on the radicals there to effect such an overturn as they had in Rumania, but with the appearance of the Russian armies at the frontier the radical party disappeared. There was left only the remembrance of a thousand wrongs and that fierce light of Polish nationalism which always burns brightest in dark places.

The Russian army, unsuspecting of resistance, had merely rolled forward in railroad trains. Three whole divisions had met at Kowel when a hasty, but well-planned Polish attack was delivered. It wiped out the vanguard to a man before Bourdakoff, the Red commander, realized that the Poles meant to fight. He made a disastrous retreat to Kiev, calling frantically upon Rumanian and Lithuanian forces for aid.

When he fought his way across the borders again, he found himself committed to a warfare of extermination. His men were ambushed from every house and stabbed in the back at night to such an extent that almost as many perished in this hole-and-corner conflict as in the fighting at the front.

But as the pressure of the Russian armies, aided by Rumanian and Lithuanian blows from the flanks began to tell, Bourdakoff gained. He was aided powerfully by the resource the Reds adopted all through the early part of the war whenever they faced stiff resistance — huge quantities of poison gas. The Poles had gone to war relying on artillery, machine guns and men, and this constant gassing which wiped out every human being, soldier or civilian, in the path of the Red armies, left them shaken and unsettled.

Phosgene and the new and deadly "Gas Alpha," a product of the Soviet laboratories, appear to have been used in about equal quantities. The former attacked the lungs, producing intense agony and a lingering death. It was a legacy from the war of 1914. "Gas Alpha" was a solid at low temperatures, passing into the air from the shells that contained it in so finely divided a state as to be capable of entering any gas mask then known.

It produced violent sneezing, often forcing the victim to take off his gas mask, and thus exposing him to the effects of the quick-acting phosgene. Those who inhaled this compound and died at once were fortunate. The new gas produced little direct effect other than sneezing the first day. On the second, signs of putrefaction manifested themselves at every point where the individual had been touched by the gas, whether in the nasal passages or on the hands, and this living rot spread until the unfortunate who had been gassed literally melted away while still alive.

Behind clouds of these gases the Russian attack began to break up the Polish forces. Bourdakoff took Lublin and the Lithuanians took Bialystok in August; both armies joined before Warsaw early in September, and it seemed certain that the northern Red forces would sweep across Germany with the same ease that the southern armies were swinging up the valley of the Danube.

Before Warsaw the Reds met their second check. At the beginning of the war a comparatively small force under General Tolovieff had been detached from the Lithuanian forces to overrun East Prussia, the little island of Germany beyond the Vistula. The German governor of East Prussia was a veteran who had seen service with Mackensen in the Balkans in 1915 and with Ludendorff on the Western Front in 1917, named General Hauschildt. Under his inspiration the defence of East Prussia became one of the heroic passages of the war.

With the ruthless spirit of a soldier of that earlier era, he commandeered everything in the province; men and women, money, factories, materials and provisions. Even the children

were set to work at light tasks in munitions factories. In fact he did on a more complete scale what Admiral de Roebuck brought about in America (though the latter probably drew his inspiration, from Hauschildt) — turned the whole of East Prussia into an armed camp behind the thin curtain of troops he was able to send to the front while he drilled his raw battalions and mobilized his munitions factories.

Hauschildt was fortunate in having within his armed camp some of the best chemists of the age. Set to work on the problem of the Russian gases which were causing almost as much panic among the Germans as among the Poles, they finally produced “Tetra,” a lithium compound analogous to sodium thiosulphate. It had the advantage of being gaseous while preserving hypo’s power of absorbing chlorine. With this new compound the Red phosgene attacks were met at the threshold. It was only necessary to open so many cylinders of the new “Tetra” and the phosgene upon which the Reds depended was reduced to impotence without even the necessity of putting on gas masks.

Stormy Days

AS Hauschildt’s shops began to get into operation, the Bolsheviks found themselves faced by an enemy better organized, better provided with artillery and aeroplanes and immune to their most effective weapon. Tolovieff was hurled back from Koenigsberg, and the force of the German rebound carried their advance right through to Memel.

But the effect of Stensoff’s first crushing blow against the enemies of the Red Republics was telling. Germany as a whole had been disorganized by the destruction of the heart of the government; there was little coordination between the Reich provisional government, the Poles and Hauschildt’s gallant but isolated effort. Indeed, the latter had been left rather severely alone by a government all too glad to have a portion of its embarrassing problems thus cared for. The result was that Hauschildt was taking Memel off at a tangent to the main field of the war while

Bourdakoff was beating the Poles back into Warsaw. Hauschildt finally realized the situation and hurried back. His small but well-led and well supplied force drove in on the flank of the Soviets at Mlawa; there was a sharp battle and the Reds were not only halted but thrust back some fifty miles.

If he had come sooner Hauschildt might have rolled the whole Red army right up to the Carpathians. He was now running short on manpower, and the brilliant victory at Mlawa was his last. While he was beating Bourdakoff there, the German defences broke under the heavy forces Tolovieff hurried up in the east, and Hauschildt had to abandon his advance and throw himself into Koenigsberg. In November, after an epic defence, the old lion surrendered the city on terms.

He had managed to delay the Soviet capture of Warsaw by two months and that of Koenigsberg by an even longer period — and in those all-important months the Americans arrived with the first of the Adams Ray tubes, just as the Poles finally broke at Thorn and the conquering Reds poured through the gap toward Frankfort and Breslau. But for Hauschildt's valiant defence the Americans would have come too late, for Bourdakoff's army would have been on the Elbe, perhaps on the Rhine in two months, and in the present condition of France this would have meant all continental Europe in Red hands.

Defeated in the end the veteran of 1914 held the enemy till the German-Polish army from Dantzig, headed by the invincible Adams Ray tubes, fell on the Russian flank and lines of supply, halting their advance and finally turning it into a retreat. Nor will the World forget in the greater glory accorded to the unknown chemists who took away the terrors of gas warfare, that it was through Hauschildt's conscriptive measures they were set to work on the problem.

The Polish front was the main theater of the war, but it went on with equal vindictiveness south of the Erzgebirge where the Red armies were sweeping almost unchecked

through the Balkan states that had resulted from the carving up of the old Austrian Empire. They succeeded in winning easy victories in Hungary, Rumania and Jugoslavia (following internal upheavals of so muddled a character that they defy the historian) but soon encountered strong Italian opposition.

Italy, the only nation that had not been paralyzed by the strikes and bombing raids, entered the war united and whole hearted, and its part was by no means small. Indeed, there is reason to believe that it was from Mussolini that the original suggestion for a conference at Munich came. That conference, as we all know today resulted in the binding together of England, Italy, the United States, Japan and the French Legitimists in what came to be known as the Northern Alliance.

A powerful Italian army was landed in Albania, and another struck through the mountains from Fiume. Both achieved considerable victories; the Russian gas tactics were not well adapted to mountain warfare, a species of combat for which the Italians were excellently prepared and equipped. By the middle of the summer Italy was talking of a new Roman Empire.

Then the blow fell. A huge Soviet air squadron, into which all the planes on the front had been ployed, started from the Soviet lines. Only two planes reached Rome (where they did considerable damage before being shot down) but the Italian general and divisional headquarters, of the location of which the Soviets seemed excellently informed, were visited by fleets. The whole directing force of the Italian army was blown to atoms; the new Roman Empire collapsed like a pricked balloon and the leaderless remnants of the Italian forces were left clinging desperately to the Adriatic coast line.

It was simply the utilization by the Bolsheviks of another possibility of modern warfare; of which, being free from tradition and formula, they were able to take the fullest advantage. In the war of 1914 no general would have dared thus to concentrate his air force; all clung to

the old formula of meeting the enemy effort at every point, oblivious of the fact that it was just by denuding one point to deliver a crushing blow at another that Napoleon won his victories.

The older type of generals overlooked the fact that one blow like this, despite the inevitable heavy losses, would make victory sure; and a blow delivered at one spot by the whole air force of a nation could hardly fail to overwhelm local defences, no matter how good.

CHAPTER III - The Ray in the Field - (Time— 1933-1934)

WITH the entry of the Adams Ray into the conflict, the War of the Northern Alliance enters a new phase, the first sign of which is a Soviet retreat in Poland. The great breach in their front made by the first use of the ray tubes was quickly closed by the Soviets, but to no purpose; for the ray destroyed successive contingents of artillery as fast as they were pushed in. Eventually the rallying Poles struck into the Bolshevik flank; Bourdakoff was driven back to a line resting on Bialystok and Kowel before he could halt.

For a time the two armies faced each other here in a state of coma, the Allies unwilling to attack without more ray tubes, the Soviets feverishly building up a system of defence and experimenting with counter-ray devices.

As it was used on the battlefield the value of the Adams Ray became manifest. It could explode any type of ammunition up to a distance of something over seven miles. As the ray traversed the air with the speed of electrical waves, attempts to shell out ray installations from distances outside their range was futile. The shells were exploded in the air long before reaching their objective by one or two tubes out of each ray battery, assigned to direct their emanations up at a high angle for this purpose.

To counter this the Soviets brought out (in the spring of 1933) a heavy gun firing a solid shot from a distance of fifteen miles, but the difficulty of hitting any mark accurately at such a distance without aeroplane spotting soon proved insuperable.

And aeroplane spotting was eliminated by the Adams Ray; it was speedily found that the ray set gasoline afire at a distance of over two miles and decomposed it into various tars and gases at a somewhat longer range, thus bringing down any aeroplane that ventured within range of the tubes. This forced aeroplanes to a height of over 38,000 feet for safety — an altitude that rendered them useless for military purposes. Rocket planes, which were tried by both sides, were found even more vulnerable, and the Diesel aeroplane and balloon motor did not come in till near the end of the war.

Attempts were made to sheath aeroplane motors, field guns and ammunition chambers in lead as a protection against the ray. These failed when it was found that the sheathing had to remain absolutely air tight, for the ether-borne rays penetrated the slightest interstice.

Later in the war the Soviets found it possible to use explosives to a limited extent by turning against their adversaries the very device upon which they so much depended. Lead sheathed shells were made in air-tight lead-lined rooms. These were placed in guns which allowed a spur to be pushed through the outer lead casing by means of a spring when the trigger was pulled. The omnipresent rays, entering the hole thus made, set off the driving charge and fired the gun. When the shell arrived at its objective, a concussion device pierced the bursting chamber of the shell in a similar manner and the ray set off the bursting charge.

This plan was never used to more than a limited extent. It was soon discovered that unless the driving charge in the shell were very small (thus giving low ranges) the soft lead sheath to the bursting charge was apt to be ruptured by the explosion of the driving charge, or pierced by the concussion, and the whole thing exploded in the gun with disastrous results. When this was remedied by giving the bursting chamber an additional steel sheath outside the lead coating, the concussion arrangement which should have pierced it could not be made to work. Eventually the arrangement had to be restricted to the firing of solid shot for small ranges,

and thus the reign of gunpowder, begun at the battle of Cressy, came to an abrupt and inconsequential end.

Up to half a mile the Adams Ray was discovered to produce blindness and severe burns in those not protected against its effects, and at close distances (two or three hundred yards) it brought about instant death by decomposition of the nerve cells. The general rule seemed to be that the more volatile and delicate the substance the more powerfully it was affected by the Adams Ray.

Back to the Middle Ages

DURING the summer of 1933 an ever-increasing quantity of these deadly tubes made themselves apparent on the battlefield, and small though the numbers of the Allied armies were, they were enabled to strike now here, now there, and drive the Bolshevik forces steadily before them. Vilna fell into their hands in August Kovno not long after, Riga and Petrograd in the early fall. In the south the Italians, heartened by the arrival of ray tubes and stiffened with German and Austrian forces, had again advanced and now continued the front across Europe in a long wavering line reaching through Tirana, Belgrade, Oradea Mare and Siret.

There the Allied advance slowed up and came to a standstill. The Soviets by surprise gas attacks, by desperate forlorn hopes and by the thousand and one accidents of warfare, had managed to possess themselves of enough Adams Ray tubes to have an appreciable effect. They were also building some of their own according to Adams' earlier formulas. Though they were, to the end, unable to unravel the formula for the improved tube, they did succeed in producing an impermanent type that with the captures they made, was quite capable of silencing the guns of the Allied powers and bringing their aeroplanes to earth.

Conceive the situation. Here were some hundreds of thousands of men who had come from their homes to kill each other, standing in muddy trenches and staring at the enemy

without any means of inflicting harm. The weapons had been struck from every hand; and the perplexity of rank and file was mirrored in the perplexity of the higher commands who thus saw their plans brought to nought.

For a few months indeed, there was almost universal torpor; a period of useless discussions at headquarters, of plans tried only to demonstrate their utter futility. To this time belongs the invention by the Soviets of the long-range solid shot gun, of the spur gun and similar devices. On the Allied side a hand grenade on the spur-piercing-a-lead-shell principle was tried (it failed when it was found that if the spot where the grenade fell was not at the moment bathed in rays, the grenade might not go off till the ground on which it lay was occupied by friendly troops); also various types of grenades contained in heavily-leaded glass which were to explode by chemical action — unreliable and ineffective weapons.

The realization that war had been pushed back to the middle ages came slowly; almost as slowly came the realization that further fighting would be necessary. There was a growing tendency in both groups of armies to regard the whole business as futile. Men began to straggle away to their homes, and had it not been for the ancient hatred between Teuton and Slav, it is likely that neither German discipline nor Communist fanaticism could have kept the flame alive.

This period was marked by sporadic and desperate hand-to-hand fighting around the points where some new weapon or invention was being tried; small battles that always ended in conflicts with bayonets fixed to the now useless rifles or held in the hand like a sword. As the autumn of 1932 progressed into winter, both sides began to drill and use cavalry in increasing proportions, for with the decline of missile weapons and gasoline traction came the knowledge that the horse was to be restored to his old place on the battlefield.

When the next year opened — the third of the war — we begin to see cavalry evolutions on a large scale and with them curious minglings of the old and new. Fortunately we have from

this period the testimony of a direct observer in the invaluable memoirs of Sir Evelyn Oldmixon who went to Poland as a member of the British tank corps.

To Be Concluded