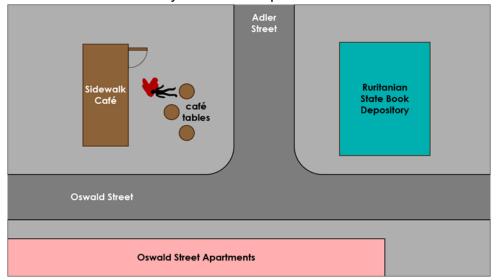
Count Sturgkh's Assassination: An analysis

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Citizens of Ruritania are shocked to hear the news of the assassination of their beloved Prime Minister, Count Sturgkh. He was shot (presumably) by the Goyles as he had breakfast at the Sidewalk Café, near the junction of Adler and Oswald Streets, in Elberthal. A map of the area is given below. The terrible event is initially investigated by the Municipal Police, but, due to the seriousness of the crime, a second investigation is carried out by the Security Police. Curiously, the two investigations reach different conclusions and identify different suspects.



The waiter gives the following statement to the Police: "It was just after 9 a.m. I know that because I had just heard the time signal on the radio. I was standing in the café doorway. He turned towards me to order another café latte and, as he was speaking, there was a terrible noise and he fell backwards to the ground."

At the autopsy, it is noted that there is a bullet entry wound on the right side of Count Sturgkh's head, 8 cm above the ear, and an exit wound just below the left ear. Three bullet fragments (numbered 1, 2 and 3) are extracted from the Count's head. Two deformed bullet fragment (numbers 4 and 5) are also found embedded in the table. Trace element analysis of the bullet fragments gives the results shown in the table below:

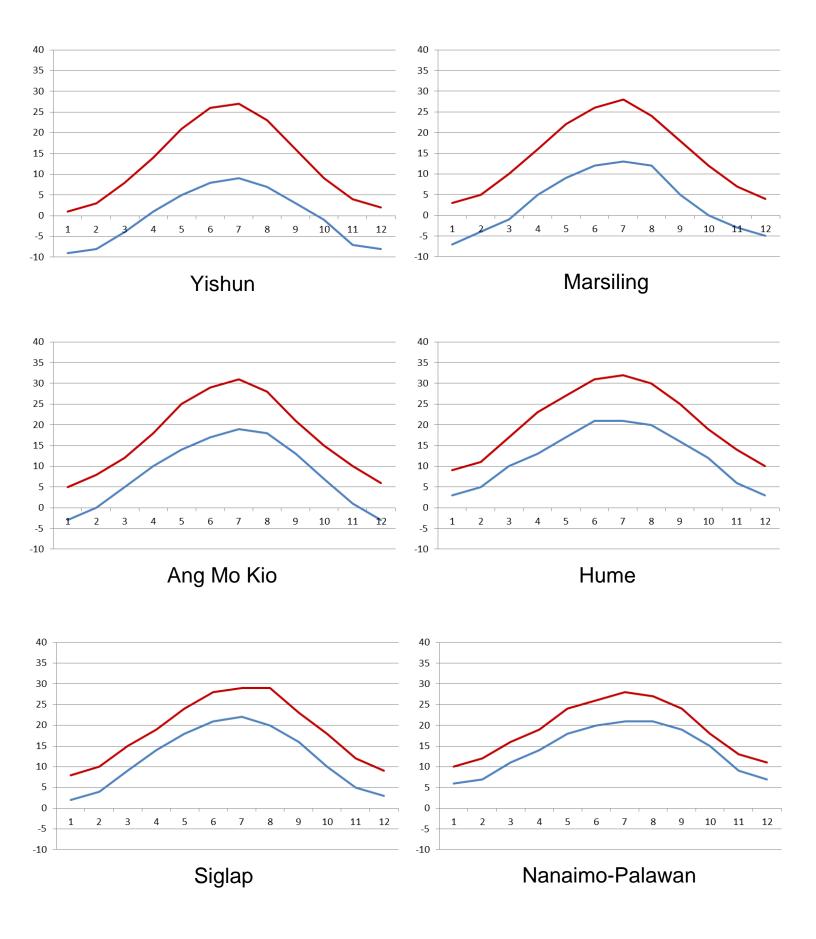
Fragment	Antimony (Sb) / ppm	Silver (Ag) / ppm
1	8.9	715
2	9.3	695
3	6.9	712
4	9.5	811
5	9.1	799

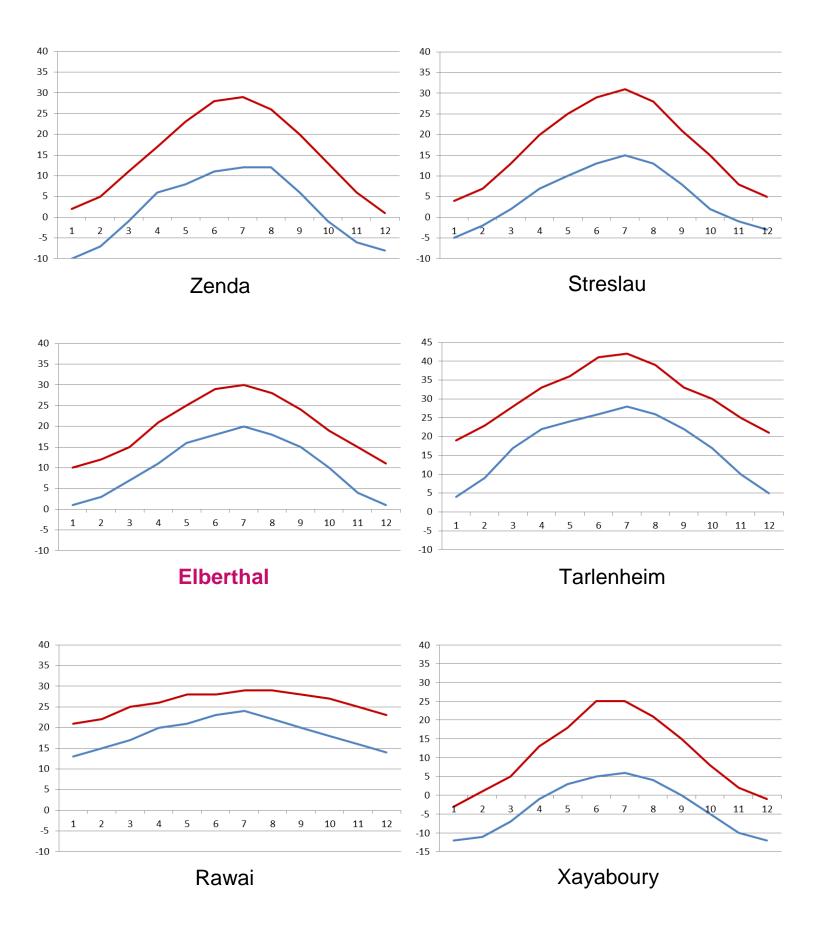
The Municipal Police conclude that there was only one gunman. They suspect Peter. He was arrested by a traffic policeman after exiting a back door of the Ruritanian State Book Depository shortly after the incident. The policeman observed him dropping an object into a garbage bin. He was observed to be in an agitated state and his jacket was torn, but he claims that he had just been looking for some books on the ground floor when he heard a noise that scared him. A search of the book depository focused on a store room on the third floor. Three cartridge cases are found in this room. Fibres, bright yellow in colour, are found attached to a loose nail by the door. Using IR spectroscopy, the Municipal Police forensic scientists find that the fibres are identical to the fibres of Peter's jacket. A firearm is found in the garbage bin. Back at their Forensic Laboratory, the Municipal Police test fire a bullet from this gun. They claim that the striations on the cartridge cases, caused by the rifling, found at the book depository match the striations on the cartridge case from their test firing.

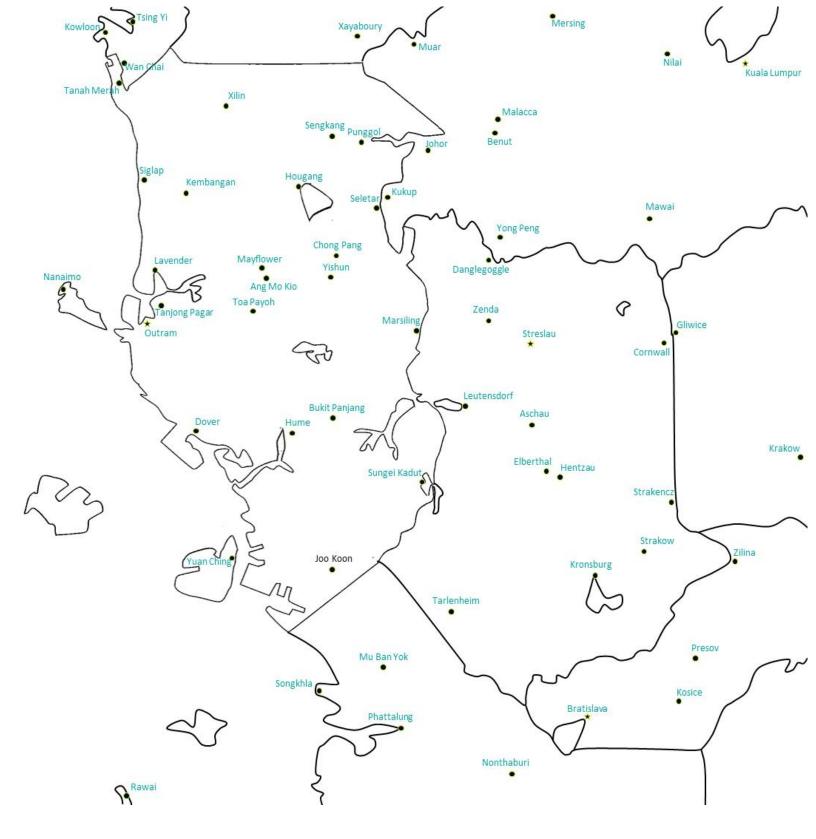
The following day, Peter is handed over to the Security Police. At their Forensic Laboratory, his hands are tested for GSR. The test is negative and Peter is released. The Security Police choose to investigate the Oswald Street Apartments Building, as a rear window is observed to have been smashed. It is known that this building has been unoccupied for some time. Upon entry, broken glass is found on the floor inside. An almost empty bottle of a soft drink is found inside the back door. A partial fingerprint is found on the bottle. They search the apartments and their search focuses on Apartment 03-01 from where there is a good view of the café. CCTV footage recorded at the back of the Oswald Street Apartments shows a man leaving the building. From this footage, the Security Police identify Gregory as the suspect. They claim that the partial print from the bottle matches one of the fingerprints of Gregory.

IR spectrum analysis shows that <u>Peter's jacket</u>, the <u>fibres from the nail</u> and the <u>cotton sample</u> have the same spectra. Other spectra shown are <u>Acrylic</u>, <u>Nylon</u>, <u>Polyamide</u>, <u>Silk</u> and Wool.

See the Singapore-Ruritania map and climographs below.







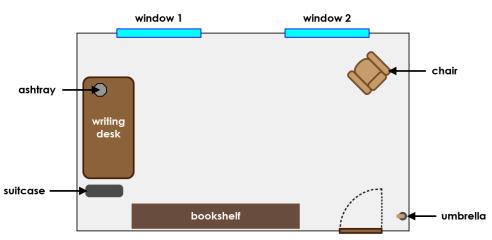
Ang Mo Kio/Mayflower (including the Jurong Point there) is the site of the first murder. K&K Country Club, 45km east of Zenda, is the site of the second murder.

Downtown Elberthal is the site of this murder.

The straight-line distance between Ang Mo Kio and Zenda is 340km.



CCTV footage of Gregory Goyle

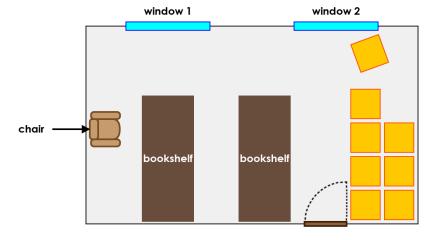


The front room of apartment 03-01 in the Oswald Street Apartments (windows face Oswald Street).

- Window 1 is locked.
- Window 2 is partially open.



The partial fingerprint



crate of books

The third floor storeroom in the Book Depository
(windows face Adler Street).



Gregory's fingerprint

This scene takes the Goyles' atrocities to a new level, considering how this is their third murder in the same year. However, due to flaws in the Municipal and Security Police's work, it has allowed them to be on the loose again despite Peter being captured (briefly) by the Municipal Police. Of course, this case is to be analyzed.

Why they chose Elberthal:

Zenda was near the location of the previous murder, which happened in August. This was the one at K&K Country Club where they (or at least Peter) framed their murder case as a suicide (through a well forged suicide note, among other things).

Looking at the climographs, it can be seen that the cities of Zenda, Marsiling, Yishun, Streslau and other cities on Kovan and Woodlands plateaus are cold enough that there can be significant snow cover at this time of year (late November) which would make it harder for them to cover their tracks. This is probably pre-meditated as well, since Elberthal is a large city (likewise for Ang Mo Kio) which means they could make off more easily through the dense crowds. It is also unlikely for Count Sturgkh and them to just coincidentally happen to be there at the same time; after they pulled off two murders, they decided that this one should be on some very important person, hence the choice for them to head to Elberthal knowing that Count Sturgkh was there.

Mistakes by the Municipal Police:

Analysis of the IR spectra of the fibre in the storeroom does match that of those of Peter's jacket. However, this fibre is found to be cotton, which is too common to be individualized (all cotton fibres are entirely cellulose and look similar, barring the dye) and hence it is a mistake to simply assume that it is indeed from his jacket. They also claim that striations on the catridge case are caused by the rifling. However, the striations from rifling are observed on the bullet, not on the cartridge case.

Mistakes by the Security Police:

Testing Peter's hand for GSR may help detect whether he was within a metre of the gun when it was fired (and hence whether he was holding it or not); however GSR lasts on the order of a few hours, but he was tested only the day after the shooting, meaning that the negative result could well be due to the loss of GSR after this length of time. They also claim that the man (Gregory) leaving Oswald Street Apartments is a suspect upon the grounds of CCTV footage. While there may well be a firearm in the suitcase, the timing of him leaving the building is at 8.52am, before the time of the shooting which is determined accurately from the radio time signal.

Evidence from the Book Depository:

Cotton fibres largely differ only in terms of the dye that is used, so the dye in the fibre of Peter's jacket and that of the fibre left in the storeroom can be compared. A match would increase the evidence that Peter was indeed at the crime scene.

Alternatively (since only one piece of evidence could be used), checking the firearm for fingerprints/glove residue/DNA can allow for potential suspects to be found. Glove residue in the case that Peter somehow managed to use and hide the gloves before getting caught.

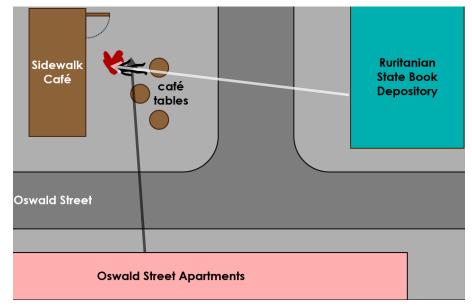
Further evidence would come in the form of fingerprints on the window (as it is not shattered or opened, it would need to be opened and closed again, hence necessitating contact with the window if he was to fire a shot from that room) or from the crate of books with the yellow cloth (as the crate has clearly been moved, implying that someone was there and probably touched it).

Evidence from Oswald Street Apartments:

The partial fingerprint does match that of Gregory's fingerprint. The soft drink bottle could be analyzed for DNA, which can then place him or someone else at the crime scene.

Further evidence would come in the form of checking for markings in the dust. As Oswald Street Apartments has remained unoccupied for some time, it means that there would not be anyone there to clean the place, hence allowing for dust to accumulate. By finding shoeprints, it means someone was in the building recently; it will allow them to be linked to potential suspects.

Less reliably (and if more than one further piece of evidence could be used) would be to check the chair and window for fingerprints/glove residue as these may have been moved by Gregory such that he could watch the Sidewalk Cafe area and prepare to fire at Count Sturgkh. Thereby linking him to the crime scene.

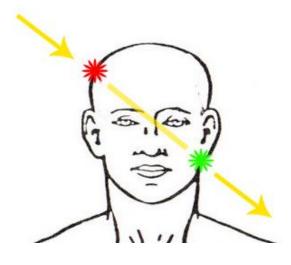


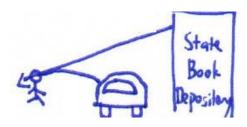
The Bullet that claimed Count Sturgkh's life:

Probably from the Book Depository. The likely shot from Peter would follow the white arrow in the image above; the likely shot from Gregory would follow the black arrow. If it was from Oswald State Apartments, the entry wound would have been at the back of the head and the exit wound at the front. This is due to him looking in the direction of the open door of Sidewalk Cafe at the time when he was shot, leaving the Book Depository on the right side relative to his head. This would be consistent with a gunshot from there, leaving the entry wound on the right side of his head.

Gunman in a passing vehicle:

The entry wound is 8cm above the right side, ~10cm above the exit wound on the left. This would imply that the gun was shot from a higher elevation to create this inclination. This would rule out the gunman in a passing car as it should make the entry and exit wounds more level. While there are double-decker buses in Elberthal, it would be more difficult for the Goyles (or anyone else for that matter) to pull it off if they were to do so in such a bus.





Where the Goyles went off to afterwards:

As Gregory knew that Peter got caught, he got into the landrover and drove off via a back alley from Oswald Street Apartments, avoiding the attention of the crowd. He then waited some distance away to avoid getting caught; once Peter was released, they then got acquainted again and headed to the forest east of Hentzau.

Who is the most probable Gunman?

Neither Goyle, if based on this case alone. Gregory was probably not the gunman as he was in the wrong place and had left the building by the time Count Sturgkh was shot. Peter may have been in the right building at the right time to conduct the shooting, but there is no solid evidence to place him at the crime scene and/or link him to the firearm that was used, so on the grounds of this case alone, it may be neither of the Goyles. However, do bear in mind that Peter was the murderer in the previous two cases (although Gregory did support him), which means he is likely to be the gunman once again, just that the Police's mistakes enabled him to make a getaway.

The Sectumsempra-Repello Muggletum possibility:

While no wands, vials or cauldrons were found in the vicinity, there is the possibility that magic has been used in this murder. On a most rudimentary level, it could have been a simple Reparo spell right after Peter fired his shot from the inside of Ruritania State Depository (with the closed window), which would remove much of the evidence that could be worked with instantly so that he would be less likely to be suspected. Alternatively, he may have brought along a gun just to pretend that the gun was his weapon, while his true weapon was his wand. Gregory may have used Repello Muggletum or some other spell to make Count Sturgkh and the Café owner unaware of them so that Peter could take aim accurately and kill him, be it through a gunshot or Sectumsempra. In this case, Gregory would probably have Apparated after leaving Oswald Street Apartments but Peter did not since he was caught at the entrance of Ruritania State Depository.



Thanks! Long live the Gem Box!