Romanov Imperial Bones Revisited: why does doubt remain about who is buried in the St. Petersburg Fortress?

"*The truth about the death of the Tsar – will offer the truth about the suffering of Russia*."
N. Sokolov

Margarita Nelipa and Helen Azar

The household clock chimed the hour past midnight and soon the Commandant of the house on *Voznesenskii Prospekt,* methodically awoke the residents and requested that they dress and follow him downstairs. The sickly young boy racked by the pain of his congenital condition, now permanently disabled and unable to walk, had to be assisted by his father, who cautiously carried him down the dimly lit flight of stairs to the lower level of the residence. The rest of the family, accompanied by the boy's tired mother and four youthful sisters followed, as did the family's remaining staff. Escorted by the Chekist guards bearing weapons, none had any idea where this unexpected nocturnal journey would lead. Decades would pass before the world would learn about this Commandant and the role he was about to enact, ensuring that history will never forget the name of Yakov Yurovsky.

Within several minutes the deed was done, and the walls spattered with fresh blood and stray bullets became silent witnesses, which would give their testimony within days as to what had transpired whilst the town of Ekaterinburg slept in quiet oblivion. What was to follow descended into a cocktail of uncertainty, wild conjectures and speculations fueled by Soviet disinformation that served to confuse and deceive for decades. Had it not been for the occupying Admiral Kolchak's White Army appointment of Nikolai Sokolov in 1919 as the chief forensic investigator[1] to examine different crime scenes, the world might never have learnt what became of the Imperial Family and their loyal support staff for several decades. Sokolov's investigation, and subsequent report accompanied by pieces of evidentiary material, now proves especially crucial because the Ipatiev House, which Sokolov was able to meticulously examine and photograph, was leveled on the secret orders of the local party man - Boris Yeltsin, and duly sanctioned from Moscow. This destruction was carried out under the protection of the night's dark sky on 27th July, 1977.[2]

The world was forced to wait seventy years, when under the umbrella of Mikhail Gorbachev's *Glasnost'* (a policy of openness), the Soviet media announced via an interview with Geli Ryabov, in *Moskovskie Novosti* (Moscow News) [3] on 12 April, 1989, that the Imperial remains had been found. The official Soviet blackout for any public discussion of the real destiny of the last Russian Imperial Family was slowly melting away. Two years later, on 11 July 1991, after the collapse of the Soviet regime, Boris Yeltsin's government, at the request of the Ekaterinburg regional Governor, Edvard Rossel,[4] sanctioned that the discovery of these remains could come to light.

Clearly, years had to pass to ensure that Dr Alexander Avdonin and Geli Ryabov's mutual secret of the grave's location, which they originally found in 1978[5], could be safely revealed. It was time that the bone segments and partial skulls submerged in the murky depths of the mineshaft could receive the customary Orthodox funeral service and be reburied.

In 1998, Dr Avdonin facilitated the safe return of the skeletal remains back to St. Petersburg, to join in death the other Imperial remains traditionally interred in the St. Peter and St. Paul Cathedral[6].

It was exactly to the day eighty years after their assassination. The official mourners included members of the Romanov House and world dignitaries who witnessed the Orthodox blessing and burial customary for their Imperial status.[7]

No one could foresee at the time that the official forensic uplift in 1991 would signal not a journey towards closure, but instead a long tedious road that would begin to tumble into controversy.

Much of this controversy was led by a group of Russian descendants living outside of Russia, who proclaimed their displeasure about the authenticity of the Imperial remains, which continues to this day.

The following discussion shall address why we, as professional scientists, contend that the remains buried in St Peter and Paul Cathedral are indeed those of the last Russian Imperial Family, and that the objections brought forth to argue to the contrary are not scientifically valid.

Why is there still concern about the authenticity of the Imperial remains?

Almost ninety years have passed, and despite the series of confirmationary scientific and anthropologic assessments carefully conducted in various accredited laboratories around the world, doubt continues to be cast by a group of private individuals who reside outside of Russia. This special interest group, formed soon after Ryabov's public announcement in 1989, identify themselves as the "Russian Expert Committee Abroad" (RECA) and continuously proclaim, through the use of Russian and international media, that the remains found in Ekaterinburg could never belong to the last Imperial Family of Russia[8].

RECA's reasoning is not based on scientific merit but on political considerations. In one statement, one of its members, Peter Koltypin-Wallovsky claimed that "*the bones were part of a fabricated case concocted by the communist regime and perpetuated by Yeltsin's government. … they created these remains", he stated*.[9] The group strongly identifies with the Ural Romanov Center, presided by Vadim Viner, who openly claims that he is related to Nicholas II.[10] RECA uses the Center as a vehicle to transmit their information to the public.

In 1993, this émigré group, who it must be stressed, do not represent the Russian communities living in exile around the world, made their presence known in Russia, by sending a letter to the Deputy Premier of Russia, Yuri Yarov, stating that "*We suppose that the other bones were put there in 1979 so that it was possible to fake the recovery of the remains in July 1991*."[11] The logic of this presumption escapes comprehension. The head of the Russian Prosecutor's Office, Vladimir Soloviev, formerly head of the criminal juridical faculty of Moscow University, spoke with authority, when he disputed RECA's presumptions. Having access to all files, he found no evidence to support their claims.

RECA is convinced that the DNA analyses conducted by Dr Peter Gill of the U. K. Forensic Science Service (FSS) and his team of DNA experts, erred with their authentication procedure.[12] RECA reached this decision, based on the assertions that the "Yurovsky note of 1922" was created by another individual, Mikhail Pokrovsky.[13] It was believed that because Yurovsky was poorly educated he was incapable of writing the document attributed to him. We however contend that it is more than plausible that Yurovsky dictated what his participation was to Pokrovsky, to ensure that a permanent archival record would be preserved. Such a consideration is not an unrealistic scenario, because Pokrovsky who was appointed by Lenin to take charge of the Central Archives in Moscow from 1922 had previously held the position of Director of History Studies at a prestigious education facility.[14] Interestingly, many crucial details in the "Yurovsky Note" *coincide* with Sokolov's Report of 1919: most importantly that the bodies were discarded at the Four Brothers mineshaft,[15] located beyond Koptiaki village towards the *Verh-Isetskii* factory, at the railway track crossing.[16] Hence, RECA's contention that the entire content of this document was unreliable because it reflected "communist disinformation" cannot be supported. Furthermore, Avdonin and Ryabov relied on both Sokolov's Report and the Yurovsky note, and managed to locate the Imperial remains.

First Stage: Authentication of the Romanov Bones – The Macroscopic Examination

Initially, the skulls were examined by Dr Sergei **Abramov** - a Moscow-based forensic anthropologist. Using complex computer superimposition imagery he compared each skull with enlarged imperial facial photographs, which allowed him to confirm in 1992 that the skulls belonged to Emperor Nicholas II, his wife, the *Tsaritsa* Alexandra Fedorovna and three of their daughters, Grand Duchesses – Anastasia, Tatyana and Olga. Abramov with his colleagues published their results in English in *Anatomical Record* in 2001.[17]

During the morphologic phase of their study, they compared 60 unrelated skulls (controls) to verify that the mathematical models employed would differentiate the different cranioscopic characteristics that define the skull contours and lines. Four of the skulls showed "*remarkable stable similarity*."[18] By the use of photographic superimposition as a second identification process; Nicholas II and Alexandra Fedorovna were identified by both methods.[19]

To ensure global acceptance of these remains, a team lead by the American forensic anthropologist, Dr William **Maples** arrived in Ekaterinburg by invitation of the Russians, and examined each of the nine skeletons laid out in the town morgue. Dr Maples and his team quickly confirmed that the skeletal remains bearing gunshot wounds, tagged by number ID only, were authentic.[20]

The physical human determinants: gender, age, weight, height and facial bone structures matched exactly. In addition, the teeth embedded in the skulls conformed to the type of dental treatment that was afforded to persons of aristocratic status. Some of the teeth contained gold and platinum dental work,[21] – a luxury that would have been impossible for random murdered victims in a distant Siberian town. Another telling aspect that helped to confirm that the scientists had the correct set of remains was that one of the skulls had no teeth. Sokolov's Report revealed that Dr Evgenii Botkin's dentures were found in the Four Brothers field by the first investigator back in 1919,[22] which was confirmed at the time of the find by Pierre Gillard[23], one of the tutors to the Imperial children. The absence of dentition on one of the adult skulls immediately signaled to Dr Maples that it belonged to *Lieb-Medik* Botkin.[24] The skeletal remains of one of the younger grand duchesses and the *Tsesarevich* Alexei were not among the remains exhumed in 1991.[25]

Both the Russians and the independent U. S. experts agreed that the remains belonged to the Romanovs and their support staff using macroscopic techniques.

Clearly, the nine skeletons correlate exactly with the profile of the individual Imperial family members and their staff found in a single grave proximate to the place of execution, and logic tells us that it would be impossible to duplicate the same physical criteria artificially. RECA's later public statement that the remains buried in the Fortress belong to "*unknown victims of the Russian Civil War*,"[26] was clearly misguided.

But the most important aspect of the identification process at this stage was to conduct DNA profiles and compare them with living relatives of the assassinated Imperial family.

Second Stage: Authentication of the Romanov Remains – The First DNA Analysis

Background Information

Briefly mtDNA analyses examine DNA extracted from cellular organelles called mitochondria. Since older biological forensic samples may often lack nucleated cellular material, bones, hair and teeth can be analyzed using mtDNA profiles.[27] DNA analysis is a powerful diagnostic tool that is used to identify individuals as well as familial relationships. Equally it is perfect for forensic investigations and is the standard procedure to identify victims of disasters such as World Trade Center victims, where skeletal fragments have been severely fragmented.[28]

The human mitochondrial genome contains 16,569 nucleotide pairs, which was been completely mapped and sequenced in 2003.[29] The sequences of nucleotide bases are

classed as amino acids: adenine, cytosine, guanine and thymine, and are commonly abbreviated: **A**, **C**, **G** and **T**. A few mutations that include single base changes (or point mutations) have been described in scientific literature. Obviously, if the mtDNA mutation is rare it will enhance the authentication inquiry. It was fortuitous that the Romanov case did demonstrate a rare mutation and that the same mutation was observed in three living relatives.

The Molecular Investigation Begins

The Russian forensic medical geneticist and Director of the Russian DNA Finger Printing Center,[30] Professor Pavel **Ivanov**, was given consent by Russia's Chief Medical Examiner, Dr Vladislav Plaskin to take the Romanov tissue samples to England where the technology to perform sophisticated mtDNA tests was available. This was in September, 1992. Jointly with Dr Peter **Gill**, and Dr Erica **Hagelberg**, a Norwegian specializing in molecular genetics of ancient bones; they spent over 10 months analyzing the bone tissue at molecular level.[31] During the course of their extensive studies on 29 September 1993 it was announced in *Russkaya Meditsinskaya Gazeta* (Russian Medical Newspaper) that the bone fragments which Professor Pavel Ivanov took to England belonged to the Russia's last Imperial family.[32]

In 1994 the international team were in the position to formally publish their laboratory results in *Nature Genetics*,[33] one of the most prestigious independently peer reviewed journals in the scientific world. These results conclusively confirmed that the DNA profiles extracted from the femurs matched exactly the DNA profiles assessed from blood samples donated from living descendants that included the Duke of Edinburgh[34] from Alexandra Fedorovna's side; and Countess Ksenia Sheremetyeva-Sfiris (Nicholas' sister Ksenia's great-granddaughter), from Nicholas II's side of the family.[35] Curiously at the time, the Emperor's nephew, Tihon Kulikovskii (the son of Nikolai's other sister Olga), categorically refused to donate his blood or hair samples to either Dr Gill or Professor Ivanov on "*political grounds*",[36] which related to his belief that a "*Russian man …working in England, which was so cruel to the Tsar*", was not compatible with his own philosophy.[37] Later his widow added that only a Russian Orthodox Commission would be acceptable to her.[38] Shortly before Tihon's death from a cardiac condition he did offer a blood sample to the Toronto hospital for preservation – but only after he learnt that a hospital tissue sample was used to discount Mrs. Manahan's (also known as Anna Anderson) claim that she was the Grand Duchess Anastasia by the use of exclusionary DNA analysis.[39]

The Romanov study was conducted in two stages: first from 15 September 1992 to 1993 with Gill in England at the Forensic Science Services Laboratory (FSS), while the second stage was conducted in United States by Dr Thomas **Parsons** at the U. S. Armed Forces DNA Identification Laboratory (AFDIL) jointly with Professor Ivanov, from 4 June to 9 September 1995.[40] [Table 1] Between August 1993 and January 1998 all analyses were under the control of the Soloviev Commission (see below).

The Second Stage of the DNA Analyses

Additional tests were performed at this second stage to compare mtDNA derived from the putative remains of Emperor Nicholas II, to that of his brother, Grand Duke George Alexandrovich, who died in 1899 at the age of 28.[41] It took almost two years to receive permission from the St. Petersburg Orthodox Church to exhume George's remains in order to gain "*further insight into the occurrence of the mutational variance of the Emperor's maternal lineage*". His remains were finally exhumed, in July 1994, under the authority of the late St. Petersburg Mayor, Anatoli Sobchak,[42] against Mrs. Kulikovskii's wishes.[43] Fundamentally the latter was annoyed that no Romanov family member was asked to attend the exhumation. She expressed distrust of Dr Ivanov "*Did he take the bones from Ekaterinburg to compare to the Grand Duke's, or did he take* ***another*** *bone of George's and claim it was the Ekaterinburg remains?*[44]

With this second strand of investigations, Ivanov was able to advance his DNA assessment, and in 1996 he co-authored a second article in *Nature Genetics*.[45] This publication discussed the comparative DNA profile analyses between the exhumed remains of Grand Duke George and Nicholas II. In this laboratory study, the mtDNA from the same left femur and tibia bone samples that were used previously in England were re-assayed, in America, independently, using this second laboratory's own set of protocols and resources. The advance here was that the American team was now able to correlate the mtDNA profiles between George's left femur and tibia to the second set of bones putatively belonging to his brother, Nicholas II. This careful process also excluded all possibility of using bones from the same individual.[46] [See Table 1]

Table 1: Rare heteroplasmy mutations in the Romanov Family and their relatives

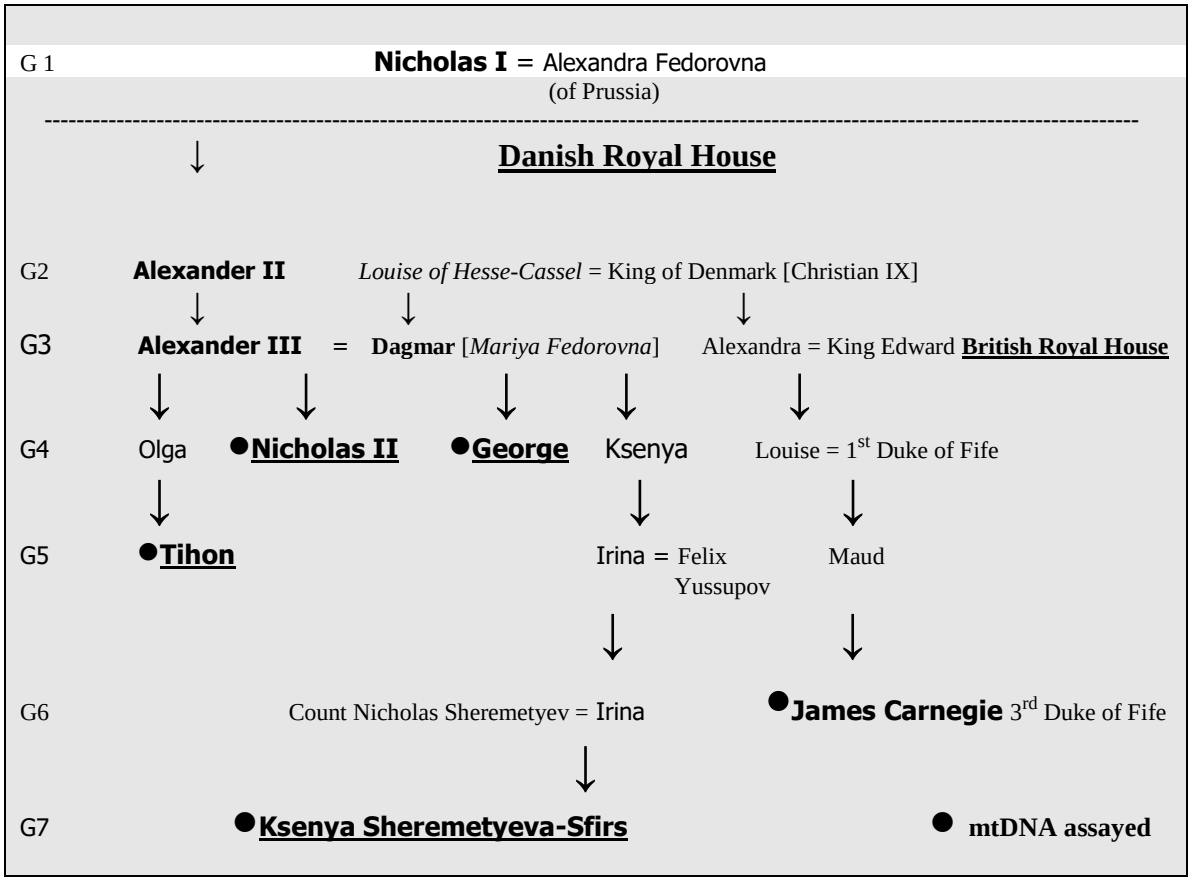
Donor tissue samples analyzed independently by FSS in England and AFDIL in the United States	**Heteroplasmy or fixation at 16169 position on mtDNA sequence**
Nicholas II	Cytosine/Thymine
Ksenya Sheremetyeva-Sfiris	Thymine
Duke of Fife	Thymine
Grand Duke George	Cytosine/Thymine
Ksenya Sheremetyeva-Sfiris [*repeat*]	*Thymine*
Nicholas II [*repeat*]	*Cytosine/Thymine*

Ivanov identified and confirmed that both the males had "*absolute positional identity of mtDNA*" that demonstrated a rare genetic mutation referred to as heteroplasmy, this time by an independent laboratory that confirmed the same exact sequences which the Gill laboratory obtained in 1994.

According to Gill, an expert in heteroplasmy, this condition is "*a transient event*" in genetic terms[47]. Gill expected that a fixation (i.e. with the loss of one or the other of the fluctuating bases it will become either a permanent "C", or a permanent "T" at that genomic position) would occur in a couple of generations. If the mutation did not skip a generation then all of human population would demonstrate heteroplasmy, which in reality is not the case.

Professor Ivanov's finding was important for a second reason, in that the heteroplasmy was not simply a random event; but was shown to run through the maternal line on Nicholas' side.[48] In other words, the brothers demonstrated the same heteroplasmic mutation in exactly the same position of their individual DNA sequences. From an analytical point of view - this type of identification application was demonstrated for the very first time to the world.[49] [See Table 2]

Table 2: Romanov Familial Relationships



Combining the DNA profiles and the rare heteroplasmy chromatographic sequencing with all the previous scientific endeavors conducted earlier in Russia, Professor Ivanov

had indisputably confirmed beyond reasonable doubt the authenticity of the Ekaterinburg skeletal remains that were exhumed in 1991.

It is noteworthy to mention that both strands of the DNA investigations of the Imperial remains were assayed and **independently** identified by two of the most internationally acclaimed DNA facilities in the world. Their collaboration added strength to the veracity of the final result.

Ivanov also brought a fragment of the bloodstained handkerchief, (not a bandage as Mrs. Kulikovskaya described[50]) that originated from Nicholas' visit to Otsu (see below), but because they found traces of foreign DNA they concluded that this fragment was compromised when too many unknown persons came into contact with the handkerchief during the period of its handling and later preservation as a museum exhibit. On this basis the sample was excluded from further research.[51] RECA was quick to proclaim that the size of the sample must have been inadequate in that: "*If he was a professional scientist used to doing DNA testing, why would they have taken too small a sample*?"[52] This handkerchief would cause enormous controversy in a few years, when it came into the hands of RECA (see below).

One would have expected that this would have been the end of the investigative journey, but as it turned out there was more to come to impede the Imperial Family from being buried in St. Petersburg.

The Russian Government Commission Assumes Control

Vladimir Soloviev from the Public Prosecutor's Office assumed control of the Romanov investigation in August 1993 as if it was a criminal investigation.[53] His task was to co-ordinate activities from Moscow, which a reasonable expectation. Remains were transferred to the Moscow Forensic Medical Center to enable additional anthropologic assessment using the latest techniques and innovations.[54] The Commission was involved in reconstructing the crime, ballistic studies, referring to witness accounts and additional analytical studies that included model reconstruction of all nine skulls by Sergei Nikitin.[55] This work was carried out in 1995.

The Commission also authorized the exhumation of Grand Duke George in St. Petersburg in the previous year, in July 1994,[56] [57] and also gave permission for an outside organization (RECA), which were not affiliated directly with the Russian Commission, to facilitate an independent analysis to be conducted by Professor Rogaev in Canada (see below) in 1995.

Essentially the Commission's brief was to collate and weigh all the investigative evidence before them, and then present its Report to the President of Russia.[58] The Commission comprised all interested parties, including Dr Avdonin, the playwright Edvard Radzinsky, Prince A. Golitsyn (President of the Moscow Nobility Association[59]), Sergei Mironenko (the chief Archivist of the Russian Federation) and also representatives of the Russian Orthodox Church.[60] In all some 100 experts were involved for a period of

five years of the life of the Commission,[61] of whom 50 dealt exclusively with the forensic medical aspects of the case. These experts were commissioned from Moscow, St. Petersburg, Kiev and other cities in the Russian Federation.[62]

The goal of the Commission was to authenticate the Ekaterinburg remains for the specific purpose that the Imperial Family and their staff could be re-buried.

At this point, controversy arose as to who should test the Grand Duke George's remains. Soloviev desired that Dr Gill carry out the analysis, but in the end Ivanov had to go to America to continue his DNA work (see above).

RECA aggressively challenged the investigative efforts of Soloviev's Commission. All their arguments were centered not on the results obtained, but on their steadfast political ideology, or as Massie eluded, – based on personality clashes and their hatred of the previous Soviet government.[63] Kulikovskaya complained that no Romanovs were represented[64] and thus RECA established themselves as the global monitor in connection to all decisions that emanated from Russia about the Ekaterinburg remains.

Thus, to appease RECA, Soloviev asked Mrs. Kulikovskaya which DNA specialist she wished to nominate so that she could be convinced that the remains were authentic. She chose Dr Evgenii Rogaev,[65] who was at the time undertaking research into Alzheimer's disease as a visiting professor at the Toronto Hospital in her home, Canada.

The Third DNA Analysis: on behalf of RECA for the Soloviev Commission

Thus the Commission appointed Professor Evgenii **Rogaev**, a molecular geneticist at the Psychiatric Health Center (RAMN) to conduct an independent analysis on Tihon Kulikovskii's blood sample.

Evgenii Rogaev and his team analyzed polymorphic regions of mtDNA obtained from the blood sample of Tihon Kulikovskii. He also looked at the mtDNA sequences of other matrilineal descendants of Louise Hesse-Cassel (great-great-grandson and great-great-granddaughter).

Previously, Dr Peter Gill observed a C/T polymorphism at position 16169 in the mtDNA sequence of Nicholas that proved to be an identical condition later seen in the mtDNA of his brother George**.** This sequence was compared to the mtDNA from two modern day descendants of the same maternal line: the Duke of Fife and Countess Ksenia. The mtDNA of both of these individuals exhibited fixation ("C") at position 16169. Tihon Kulikovskii - the son of the Nicholas' sister, had an identical mtDNA sequence except that the fixation at 16169 was with the base "T".[66] This would be expected with the C/T heteroplasmy present in Nicholas and George. The obvious conclusion is that independent mutations at 16169, initially exhibited as heteroplasmy, occurred in the lineage of Louise Hesse-Cassel.

The mtDNA sequence from Kulikovskii showed an "almost complete match" with the mtDNA sequences obtained by Gill from the putative remains of Nicholas II. The difference was a single nucleotide at the position 16169. At this position, a "C" was found in mtDNA of Kulikovskii, where a C/T was in the mtDNA from the putative remains of Nicholas II. In the mtDNA sequence from two other descendants of Louise Hesse-Cassel (the great-great-grandson and the great-great-granddaughter) a "T" was found in the same position (16169). These data confirmed that independent mutations took place in the maternal lineage of Louise Hesse-Cassel's descendants, and/or a mutation leading to heteroplasmy in the said lineage.

Since all the Ekaterinburg remains were secured in Russia, Rogaev was only able to compare Tihon's DNA profile with previously published DNA sequences first identified by Dr Gill and Professor Ivanov in England in 1993. Rogaev performed his analysis at the direction of RECA who requested that he conduct a profile on Tihon's blood only.[67] Those results were submitted to the Commission in 1995,[68] and he published them in *Genetika* in 1996.[69]

The Fourth DNA Analysis: on behalf of the Russian Government Commission

On 29 January 1998, Rogaev submitted a second report to the Commission,[70] except this time he was given the opportunity to re-assess Kulikovskii's blood sample back in Russia. This time he was able to correlate his results directly with the femur from skeleton # 4.[71] This analysis was conducted in December 1997 to January 1998 at the Psychiatric Health Center in Moscow. His results showed "*complete coincidence*" of mtDNA profiles between the bone fragment of skeleton # 4 and Tikhon's blood. This was a blind assay, to eliminate any possibility of bias on the part of the investigators. Plainly speaking, Rogaev identified that Tihon was maternally related to the # 4 skeletal remains. Abramov and his anthropological team had previously identified that skeleton # 4 belonged to Nicholas II.

Rogaev's analysis once again confirmed the results of Dr Gill and Professor Ivanov, in that the remains were those of the Romanov Imperial Family.

Thus, in a short space of time, Rogaev's definitive findings became part of the Commission's final report to Yeltsin; just months before the re-burial was take place. The Soloviev Commission wanted to ensure that every possible avenue was examined and verified before submitting their final unanimous recommendation to the government.

The Commission's work is complete

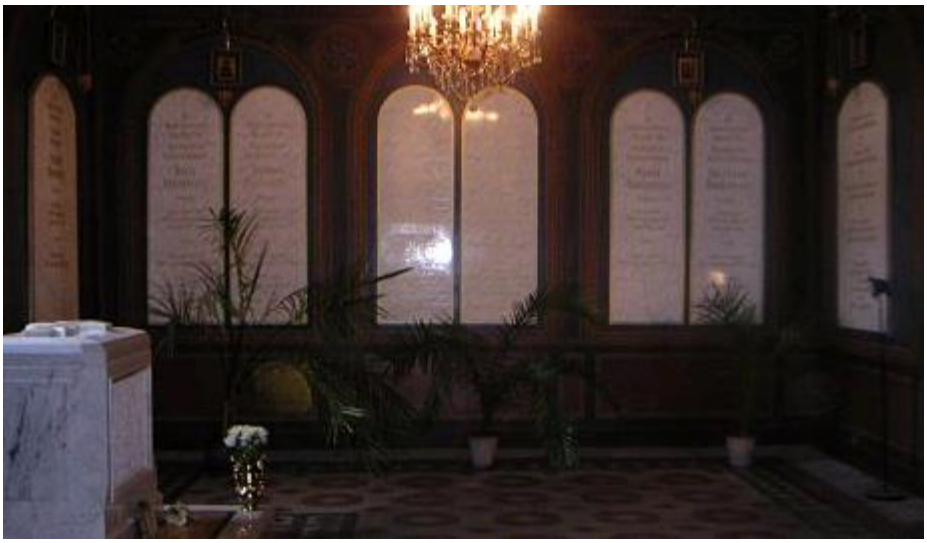
The Commission confirmed that five of the skeletal remains found in Ekaterinburg in a common grave belonged to the same family – a father, mother and three daughters. Those remains were established without reservation to be those of the Imperial Family, who's DNA was analyzed by numerous accredited laboratories around the world. Their only goal was the provision of all results of their five-year analyses without favor or prejudice.

According to "Protocol # 9", dated 30 January, 1998, each member of that Commission (22 persons) endorsed the re-burial, of which 16 members gave their preference for the re-burial to be the traditional St. Petersburg Fortress Cathedral, rather than Ekaterinburg (4 votes) or the *Novospassky* Monastery (1 vote).[72]

Boris Nemtsov presiding over the Government Commission for the Identification and Re-burial of the remains of the Imperial Family affirmed the Commission's findings on 30 January, 1998, and directed its recommendation to the Russian President Boris Yeltsin to facilitate their re-burial in the Fortress Cathedral.[73] On 27 February, 1998, the Russian Government unanimously ratified the Commission's decision to conduct a re-burial.[74]

Finally, over the objections of the Moscow Orthodox Church, the decision was announced that the Imperial family and their loyal staff could be re-buried in St. Petersburg on July 17 – eighty years after their assassination. On this basis, the Russian government was able to issue death certificates for each of the identified remains. Curiously, the Moscow Patriarchy, at no time desired to "view" the Imperial remains and thus silently proclaiming their political standing on this matter.[75]

The present head of the Romanov family (*en exile*), Prince Nicholas, insisted that all remains, not just the Romanovs had to be buried together in the Fortress Cathedral,[76] which although against past imperial tradition, the circumstances were extraordinary. It was a gesture to demonstrate a measure of respect towards the faithful staff who not only voluntarily chose to follow the Imperial family into exile, but also died with them. This wish was granted. It was to be the end of a long journey home, but the political rumblings were only beginning.



Tombs of the last Russian Imperial Family and their retainers inside the St Peter and Paul Cathedral, St. Petersburg (Photo by Helen Azar)



Plaques for Nicholas II and Alexandra Fedorovna
(Photo by Margarita Nelipa)

Certainty Begins to Crumble

Any reasonable observer might believe that Rogaev's analysis would have allayed RECA's concerns, but this was no so. Before the Russian Government Commission, Mrs. Kulikovskaya announced that Rogaev's results did not correlate with the Ekaterinburg remains![77] This declaration was made despite Rogaev's publication in the Russian genetics journal *Genetika*, in 1996, which agreed with the original results obtained by Dr Gill and Professor Ivanov. Mrs. Kulikovskaya expanded why she considered that there was incompatibility of results in her interview to a Russian Orthodox magazine.[78] She stated that "Ivanov's word "*mutation … was simply his personal theory*" and that "Tihon's blood was "*one figure off, and lacking one figure means that it is not a match*." It must be emphasized that Mrs. Kulikovskaya is not a scientist. Rogaev actually said that "*one nucleotide*", which is a single amino acid (an organic compound), that "*differed from the profile of Nicholas II*." [Table 3]

Skeptical RECA challenged the Commission head on by responding that there were scientists who questioned the manner of the DNA tests. They questioned why either the Dowager Empress, who was buried in Roskilde, Denmark, or Alexandra's sister Elizabeth, presumed to be interred in Jerusalem were not considered for DNA comparison.[79] But why was RECA so adamant that they were correct and all the medical scientists were so wrong?

Part of the answer lies in two conflicting assumptions:

1. When Nicholas was *Tsesarevich*, during his visit to Japan in 1891, he was injured by a samurai sword in Otsu. The injury was superficial, and only caused *minor* trauma to the side of his head. To stem the blood flow, a piece of cloth was used (which is now a museum exhibit in Japan). Despite the medical report that was presented to Alexander III,

RECA however contend that the injury *had* impacted his cranial tissue. According to one of the RECA members, Dr Vyacheslav Popov - a theoretical forensic specialist - the cranial bone attributed to belong to the Emperor showed no sign of scarring on the right side of the skull.[80] Popov was one of the experts present at both imperial exhumations - first in Ekaterinburg in 1991, and then in 1995, as a representative member of the Government Commission for Grand Duke George in St. Petersburg.[81] Later, however Popov would switch his allegiance and seek out Professor Nagai to help him discredit all previous forensic investigations: specifically to undermine the belief that the Imperial remains were authentic.[82]

According to Alexander Bokhanov's recent biography of Nicholas II – the event at Otsu was "*minor*".[83] The incident is described in more detail by the "Times" Tokyo correspondent in this way:

> "*The Prince's wounds - **two** were effected by the one cut - were fortunately very slight. His hat and hair saved him by so deadening the blow that the sword edge **did not harm the bone**, merely inflicting on the side of the head **two shallow cuts** about three inches long, of not at all a serious kind, and producing neither faintness nor suffering*. [84]

Now let us examine the **Medical Report**[85] of the incident that was received by Alexander III on 29 April (Old Style) 1891:

> "*The lesions sustained are as follows: The first, or occipital-parietal, wound is linear in form, measuring nine centimeters, with torn edges, and has penetrated the whole thickness of the skin down **to the bone**; it is situated in the area of the right parietal bone six centimeters from the upper edge of the ear, extending slightly downwards. Furthermore, vessels of the nape and temporal arteries have been cut. At the rear of the wound, the parietal bone has lost about a centimeter of periosteum, consistent with a blow from a sharp saber. The second, or front parietal, wound is situated some six centimeters higher than the first and runs almost parallel, being ten centimeters in length; it has penetrated right through the skin down **to the bone**, and occupies the area of the parietal and part of the frontal bone.*
> *… While cleaning the second would, I removed a wedge-shaped fragment, about two and a half centimeters long, which was in the clots of blood. The fragment was of the thickness of ordinary writing paper*."

The incident did not necessitate hospitalization as would have been expected had the sword penetrated the cranium – an injury that would have exposed Nicholas' brain. Such a scenario would have proved fatal in the absence of ongoing medical attention in the days when antibiotics were unavailable. In fact, the *Tsesarevich* unperturbed went on to catch the train soon after.[86] Clearly the injury was nothing more than minor and was confirmed by the Medical Report of 1891, which specifically stated that both wounds went "*to the bone*".

Soloviev made a very prudent observation, in that the resultant trauma to the skull only affected the periosteum – which was the "*fragment*" described when the wound was cleaned.[87] The peritoneum is a fibrous protective membrane, which is highly vascularized

and forms the external layer covering the cranium.[88] It certainly is not bone! The periosteum, because it is soft tissue, would have not been preserved for eighty years.[89] It would have degraded – initially because of the sulfuric acid that was poured over all the faces[90] and secondly, as a consequence of natural postmortem decomposition of all soft tissue. The fact that it was a paper thin "*fragment*" excludes it to be anything other than a membrane, because the normal cranium has an average thickness of 4.0 mm.[91] What this all clearly means is that Nicholas' skull would not have any evidence of past bone repair caused by the Otsu incident.

2. RECA firmly believes that Nicholas was beheaded at some point during the disposal of Nicholas' corpse, and that the head was taken to Yakov Sverdlov in Moscow. This detail was found in Dietrich's assessment,[92] which was not contained in Soloviev's original forensic report on the investigation of the events surrounding the imperial murder. RECA illogically continues to presume that the skull must have been returned later "*under someone's direction… to fake the recovery of the remains*".[93] With this improbable scenario they are actually admitting that the skull is authentic! Soloviev's Commission Report confirmed that no evidence existed that Nicholas's skull was ever sent to Moscow.[94] The Soloviev Commission Report also affirmed that there was no anthropologic evidence to suggest that any of the heads were severed (Question # 10 presented by the Synod of the Russian Orthodox Church to the Commission in 1996).[95] One may ask the obvious then: *if the heads were severed as RECA claims, then why does the Moscow Patriarchy remain silent and not be insistent on the security of those remains to ensure an Orthodox burial?*

Another part of the answer was provided by the criminologist Vladimir Soloviev,[96] who believed that RECA was misguided in believing Sokolov's 1919 forensic investigations that stipulated that all the corpses were "*totally burned and destroyed*."[97] Since Sokolov never found any bodies, and in view of the fact that the only human remains he managed to find was a "severed middle-aged female manicured finger",[98] he was not in the investigative position to contemplate the real circumstances of their death.

It is obvious that RECA is very confused; maintaining their misguided presumption that any decisions emanating out of Russia must be ignored.[99] They discounted all the findings of the Soloviev Commission, despite nominating Rogaev to conduct those additional assessments. Clearly his results were misread to uphold their ongoing battle to remove the Imperial Family from the Fortress Cathedral.

What are the Scientific Contradictions?

Meanwhile, to obtain results that accorded with their own philosophy, RECA privately sought and employed selected laboratory personnel to provide contradictory evidence, alleging it to be more scientifically valid than the results obtained by Gill and his team of experts, and the more recent results provided by Pavel Ivanov.

Following the ratification of the Russian Commission's report, Olga Kulikovskaya decided that only a judicial court had the legal authority to determine the authenticity of the bones, and not the Russian Procurator.[100]

Outside the Russian Government Commission – Privacy is assured

In 1997 Professor Tatsuo Nagai apparently examined the *Otsu* handkerchief (Japanese museum relic) against the bone fragment presumed to belong to Nicholas II.[101] His examination occurred two years after Ivanov attempted to do the same but he decided against using a sample that was compromised through innocent handling (see Ivanov above) of the "relic" for at least a century. Since there is no mention of Nagai, or any of his results or of his experimental work in the Soloviev Commission 1998 Report, we must believe that Nagai conducted his assessment privately and *not* as an adjunct to the Russian government's authorized forensic investigations. Nor were we able to locate any publications of Nagai's results on the handkerchief during our extensive library searches.

The Imperial family was authenticated and buried but, Popov, after meeting Nagai at a conference, in direct contravention of the Procurator's authority; suggested that Nagai collaborate with him to reassess the Imperial remains. This mutual agreement transpired soon after all the Soloviev investigations were completed.[102]

In Japan, Nagai received some hair samples from Popov (notably not from the legal Russian government custodian of the remains Vladimir Soloviev) and proceeded to extract mtDNA from the sample. The profile he obtained was matched against Ivanov's published photographic mtDNA profiles, and was not directly compared in parallel with a real mtDNA profile, as would have been the accepted standard protocol.

The paper that Nagai and Popov published jointly in 1999 in a Japanese journal called "*Igaku to Seibutsugaku*"[103] was never translated into either English or Russian, which would have been prudent, since their results affected Russian and English speaking investigators. This data remains obscure since it was only published in Japanese hence is not readily searchable in scientific databases (which can only sense Latin characters). Therefore it also continues to be unavailable to a wider audience. We had this paper translated into English (with thanks to Mr. Junichi Hayashi) and will summarize it here.

The first thing that was pointed out to us by our Japanese translator was that there was a discrepancy between the Japanese title and the English translation. The Japanese title reads: "*DNA identification of Georgij Romanov, a direct [genetic] elder brother of Nicholas II, the last Russian Tsar: Sequence of mitochondrial DNA"* [See Figure 1]. The English title, significantly, does not use the term "elder brother": "*DNA identification of Georgij Romanovs, a direct brother of the Russian Tsar Nicolas II: Sequence of mitochondrial DNA.*" In the Japanese language, unlike in English and most other languages, the terms for "younger brother" and "older brother" are completely different from each other. The Japanese title in this case specifically refers to the "elder brother". In fact, the very first sentence states that: "*Georgij* [sic] *Romanov was the real elder brother of the Russian Empire's last Tsar Nicholas II, but he had tuberculosis and was*

sick and weak, so his real younger brother Nicholas II became the Russian Tsar". This historic inaccuracy is a minor point indeed but it did set the tone of their investigations with such an unfortunate start.

The first paragraph introduces the reader to the belief that although George was the elder brother, he didn't become Tsar [Emperor] because "*he had tuberculos*is *and was feeble*". The historic truth was that Nicholas was the elder brother (born in 1867), and George was the younger brother (born in 1871). Nicholas as the eldest son was always heir to the Russian throne. Russian history in fact has proven in the past that no matter how "*feeble*" a Tsar was he still reigned until his death.



Figure 1: The Japanese title of the Nagai/Popov 1999 paper. The title clearly includes the Japanese words "real elder brother Georgij [sic] Romanov". Popov's name appears in English while Nagai's is in Japanese characters (rendering it unsearchable under the latter's name).

For the scientific aspects of this study, the Nagai/Popov team analyzed the mtDNA sequence from a sample of hair, allegedly extracted from "Georgij [sic] Romanov". They compared their results to those published by Ivanov in 1995, and observed "significant differences" at 13 positions: 320, 16093, 16126, 16169, 16223, 16278, 16294, 16296, 16298, 16325, 16327, 16356, and 16362. At all other positions their data matched Ivanov's profiles. They did not find C/T heteroplasmy at the position 16169, but did find

it instead at 7 other positions: 16093, 16278, 16298, 16325, 16327, 16356, and 16362. They were unable to propose the cause for this discrepancy.

Overall, Nagai and Popov's results make very little scientific sense, which may explain why they were never publicized and/or submitted for peer review for possible publication and translation in any international scientific journals that are accessible to the global scientific community. Such a standard expectation is the normal outcome for all legitimate scientific endeavors. It not only facilitates exposure of laboratory research conducted around the world, but promotes the evaluation of those results, especially if they may appear controversial. Essentially peer review is a technique that allows critical scrutiny of any investigator's sampling, methodology and the conclusions reached, by a panel of experts in the field. Once the article is accepted for publication it then permits others to repeat or question the published results. We contend that such an evaluation would not have been in the best interest of Drs Nagai and Popov, for reasons, which will become more apparent in our discussions below.

What Nagai and Popov's work actually revealed to us was that the samples they used were either contaminated with foreign DNA, (introduced by inappropriate handling of the tissue prior to any evaluation) - or that the samples belonged to an unknown individual. Furthermore, since there was no "chain of custody" described in their discussion, the question about the authenticity of their sample is open to doubt.

This second comment embedded in their introduction we found to be rather puzzling, and we shall allow you to judge the quality of their presentation:

"*… Many still doubt the authenticity of the results. Because of this, Tsar Nicholas II, and his family, and the doctor's remains were interred in Peter and Paul Cathedra (St. Petersburg) on July 17, 1998, but in the front room, not in the main room, as the Tsar instructed*."

RECA steps in to contradict the Soloviev Commission and Russian Government

According to Mrs. Kulikovskaya, RECA appointed Tatsuo Nagai to conduct additional DNA tests after the Soloviev Commission released their Final Report in1998 to the Russian Government[104] because of his previous collaboration with Popov in St. Petersburg. Popov, as we mentioned earlier had switched his allegiances.

Kulikovskaya claimed that in February 2001, Nagai expressed interest in coming to Canada and collecting Tihon's blood to conduct a second independent analysis in Japan. His results supposedly revealed that there was no correlation between Tihon's blood and the Ekaterinburg remains, and it was those results that formed part of their presentation to a Genetics Conference in Muenster, Germany and Melbourne, Australia,[105] in abstract form which is customary at all conferences. Abstracts are not reviewed prior to their submission to any conference. They are separate narrow class of *private* publications structured specifically to interest only those attending the given venue. Abstracts by their

nature are always brief and constitute a broad statement, dispersed with hundreds of other abstracts in the Conference Handbook. It must be stressed from personal experience, that not all abstracts are verbally expanded before a random group of conferees and in the absence of a follow-up Q and A. session – any direct commentary by one's peers is absent. Such a follow-up session, which may be informative, is not subject to any publication *per se.*

According to their abstract (# 118), [106] Nagai and Popov used "*the usual methods*" to examine mtDNA sequence from a sample believed to be Nicholas II's perspiration stain (from his uniform), and from hair/nail/bone samples which belonged to Grand Duke George (Nicholas's brother), as well as a blood sample from Tihon Kulikovskii (Nicholas's and George's nephew). Important note: scientists do not accept the vague expression "*usual methods*". A complete description of the "Methodology" is normally mandatory. The reason for this information is very clear – it enables investigators critical information as to how a sample was processed in that laboratory. If there is a fundamental query, then the same methodology can be utilized by another laboratory to ensure repeatability of results. The results Nagai obtained were reported by him to be "*similar to those reported by Gill and Ivanov, except that heteroplasmy (C/T) was not found at the base position 16169*". Nagai seems to have attached great importance to the latter and goes on to state in the same abstract: "*thus arises [sic] the question of whose bone was examined by Pater [sic] Gill et al. and Pavel L. Ivanov et al. Who is buried in the grave of the Peter and Paul Cathedral at [sic] St. Petersburg?*"

One of the more disturbing aspects of this particular project was that nowhere in the abstract there was there any mention of the "*7 heteroplasmies*" or 13 other discrepancies in the mtDNA sequence previously "discovered" by Nagai and Popov in 1999!

Effectively, Nagai and Popov were not able to match their own previous results using the same hair sample, nor were they able to match their previous results to Tihon Kulikovskii's mtDNA. This should have alerted them that they had a problem with their analysis: either with the first (1999) or the second (2001) set of estimations. The hair sample allegedly removed from Grand Duke George offered contradictory results, and did not correlate with the mtDNA profiles of the Grand Duke, analyzed in the United States Armed Forces Institute of Pathology by Professor Ivanov. According to their 2001 results, the only discrepancy was that Nagai and Popov were unable to detect heteroplasmy at position 16169 during the course of their investigations.

Regardless of these intrinsic problems, the two sets of projects had enabled this panel of researchers to achieve their ultimate goal: to presume that the remains found in Ekaterinburg did not belong to the last Russian Imperial Family. Indeed, Mrs. Kulikovskaya, who funded the Nagai/Popov project, expressed that their result "*attaches great importance to their identification test*." [107] However, the broad scientific community remains unaware of these "identification tests."

Table 3: Summary of mtDNA results obtained by various laboratory investigators

Matrilineal descendants of Louise Hesse-Cassel	Heteroplasmy or fixation at 16169 position on mtDNA sequence	Principle Investigators and year of assessments
Nicholas II Duke of Fife Countess Ksenya Sfiris	Cytosine/Thymine Thymine Thymine	Gill and Ivanov } 1993
Grand Duke George Nicholas II [*repeat assay*] Ksenya Sfiris [*repeat assay*]	Cytosine/ Thymine Cytosine/Thymine Thymine	Ivanov } 1995
Tihon Kulikovskii Tihon Kulikovskii[*repeat*] Skeleton # 4 [Nicholas II: *Repeat assay*]	Cytosine *Cytosine* Cytosine/Thymine	Rogaev 1996 }1998
Grand Duke George *Nicholas II* *Grand Duke George* *Tihon Kulikovskii*	7 heteroplasmies - none at position 16169 *Cytosine* *Cytosine* *Cytosine*	Nagai/Popov 1999 Nagai/Popov } 2001

In 2004, Dr Kevin Sullivan, a member of Dr Gill's team which analyzed the Imperial remains at the British Forensic Laboratories,[108] stated:

"*We published* [in Nature Genetics] *that the remains were authentic, in that they correlated with the samples of DNA extracted from living relatives of the Imperial Family on the maternal side*."

Regrettably, the lack of understanding and "reading" DNA profiles triggered confusion among non-scientific circles. The declaration by Nagai before the local media in St. Petersburg in December, 2004, served to cast the seed of doubt in the minds of the unsuspecting public. It was so sensational that it reached all corners of the globe. Suitably armed with Nagai and Popov's unsubstantiated assertions – RECA now seek political intervention in Moscow to facilitate the removal of the remains from the St Peter and Paul Fortress Cathedral so they could be returned back to Ekaterinburg. However their temporary jubilation may be short-lived.

Romanov Family dismisses the Japanese findings.

In a recent interview to *Izvestiya* in 2005,[109] the Head of the Romanov Family, Prince Nicholas made a number of remarks about the course of recent events[110]. "*The final investigations which were headed by the investigator Soloviev were exhausted*" and that all the questions, which the Moscow Patriarchy posed, were answered. They continue to accept the forensic conclusions contained in the 1998 Soloviev Commission Report "*and*

all the technical information, which was printed and published. The conclusions were based on proof that was beyond absolute doubt …" [111] Thus after a few years, only serious concerns must be raised as to why the Japanese expert (whose broad profile included silkworms, hepatitis and epilepsy studies) became involved. Furthermore, Prince Nicholas contended that no one knew of Nagai's "*expertise*" - the very same person who used material with suspect preservation, with no guarantee that that it is genuine.

The Most Disturbing Controversy of All

During the course of our investigations we located an interview, which Soloviev gave to *Moscovskii Komsomolets* in February 2005,[112] which featured a number of very disturbing pieces of information. This senior Moscow criminologist from the Moscow Procurator's Office stated that during the course of the Commission's investigations, the Imperial remains were at all times held under his custody. Only Professor Ivanov was authorized to take custody Grand Duke George's remains outside of Russia, in 1995, for his collaborative studies in the United States.

What concerned Soloviev was how Dr Nagai received hair samples from Grand Duke George and a fragment of skeleton # 4 (Nicholas II). There was only one way, he asserted: " *…if they were stolen from the Military Medical Academy morgue*." According to a number of interviews that Nagai gave, he stated that "*the segments of the remains were handed over [to him] by Professor Popov*." Popov was present at George's exhumation. Soloviev asserted that only Popov, as part of the early investigation team, had access to both the Imperial remains and to Nagai. In his Japanese publication Nagai stated clearly that he received the hair samples from Dr Popov (see above).

Even more disturbing was that there was no formal authorization to have any Russian samples to be removed to Japan. No permits were authorized by the Russian government, nor was there a formal request by the Japanese government to seek permission to test any tissue samples by their Japanese researchers. This matter becomes even more problematic because the Grand Duke's cause of death was tuberculosis. When these bones were imported into the United States, bilateral negotiations extended for a long period that involved Customs and the Health authorities from both nations. No such negotiations occurred between Russia and Japan.[113]

Professor Popov was given the opportunity for his right of reply to Soloviev's interview on 22 March, 2005.[114] The radio interviewer asked Popov "*By what method did the remains come to the Japanese geneticist Tatsuo Nagai…and Soloviev asserts that it was you who handed of the remains*?" Popov replied "*…why should he want to know about this*? *Now that the investigation is over*…" Popov stated that in spite of the fact that all excess samples were to be returned for re-burial some remnants remained in the "Nicholas II Memorial Foundation." Popov divulged at the same interview that Soloviev refused to part with any portion of the Ekaterinburg remains, outside the nominated experts. Then he just happened to meet Nagai and they mutually arranged to proceed to test those excess remains. [115] Not only did Popov indirectly admit that there was a problem of legitimate possession and transfer to another interested party, but that the

customary protocol - the "chain of custody" issue observed by accredited laboratories was compromised.

The "chain of custody" is a standard that becomes important when any sample is assessed to determine its authenticity and provides key information for other experts in the field when they read the published results. Popov also openly explained how he, in Nagai's presence removed a portion of scotch tape appended to Nicholas II's coat that was on exhibit at the Ekaterinburg Palace.[116] That tape was proximate to the perspiration stain and Nagai returned to Japan with the contaminated tape in his possession to analyze, without apparently declaring that he imported such an object to the Japanese authorities.

We were initially puzzled about one fundamental point. Why would Popov make such arrangements with Nagai? It seems he was aware of Nagai's results allegedly obtained from testing that *Otsu* national relic (in 1997). Popov's crusade to negate the Commission's findings had found a willing partner *outside* of Russia financed by the accommodating RECA members, which included him. The rest, as the common expression goes, "is history".[117]

Soloviev's well-informed public statement that the Imperial samples were "*stolen*" only reached Russian audiences. During his interview for *Strana,* Professor Ivanov stated that Popov "*just simply handed over this national property*" and generously predicted that "*…it shall remain on his conscience*".[118]

Clearly, under these circumstances no formal publication in any accredited journal such as *Nature* in English, or even any Russian publication, could ever be contemplated. It may equally explain why we encountered reluctance to offer any response when one of the authors (Helen Azar) contacted Dr Nagai's associate to discuss their results.

It does seem surprising that no foreign press picked up on this very important underlying story, assuming instead that everything was legitimate. The international media, including Russian émigré newspapers published in Australia,[119] during the first weeks of December 2004 preferred to tow RECA's line in featuring headlines, which questioned the authenticity of the Ekaterinburg remains.

Controversy within the Moscow Patriarchy

Under these circumstances it is very difficult to comprehend why Nagai was invited, in December 2004, to announce his results directly to the Moscow Patriarchate representative, Bishop Alexander Dmitrovskii, to whom he erroneously declared that those remains belonged not to Nicholas II and his family and retainers, but to other unknown individuals. Following that encounter, the Moscow Church published its own Press Release on the matter, [120] in which it declared: "*…the Russian Orthodox Church refrains from final judgment regarding the characteristics of the* ***so-called*** *Ekaterinburg remains*.[121] More dramatically, the Moscow Church announced that given Nagai's pronouncement, they "*refute the position of the government Commission, which in 1998 officially recognized the bones found in Ekaterinburg, as those of the Imperial Family*."[122] However, Bishop Alexander after his

meeting with Nagai divulged: "*Of course, we – are not academic- geneticists, to value the given* [Nagai's] *information*."[123]

Despite their admission, the Church preferred to believe this single unknown DNA "expert" from Japan over all the Russian medical forensic investigators, and including a panel of international medical scientists who worked tirelessly under the umbrella of the Commission, for five solid years! Equally curious, one of the Church representatives, Proto-bishop Vsevolod Chaplin claimed that because it "*did not receive answers to a whole row of principle questions* (there were 10*) placed before the government Commission, and for that reason no decision was taken to recognize that these remains belonged to the Imperial Family*."[124]

The Procurator and Commissioner, Soloviev disputed this point,[125] asserting that the Church did indeed receive replies to those 10 questions in the form of a consolidated publication of the Commission's Final Report titled *Pokayanie* (Repentance), which specifically addressed all the Church's concerns, including all letters, which we, the authors, also have in our possession. In fact it was Boris Nemtsov; the President of the Sokolov Commission who personally handed over the Final Report to Patriarch Alexei II. [126] Furthermore Nemtsov added that the Church never spoke about the Commission's work – not at their meetings nor at any government meetings.

Conclusion

RECA praised Professor Nagai for his work that disputed the authenticity of Imperial remains. To honor his efforts, they presented him with an icon from the Moscow Patriarch (the first foreigner to receive such a gift) and presented him with an honorable title of some kind. In response Nagai stated: "*I am so proud of this as a scientist who solved this mystery*." (Translation courtesy of Mr. Junichi Hayashi).[127]

During our investigation, the authors attempted to clarify Dr Nagai's data interpretation directly with him, but learned that he recently retired from the university and is no longer reachable by email. His associate, Dr Toshio Okazaki, with whom we communicated briefly (via email), declined to answer any questions about the Romanov study, even though he actively participated in it along with Dr Nagai. He insisted that we speak directly with Dr Nagai, who unfortunately was unreachable.

The President of the Russian Federation, Sergei Mironov took a peculiar middle road regarding the problems relating to the authenticity of the remains during his visit to the Fortress in 2005 in which he expressed the following opinion: "*There are different points of view …It is best to appear that no problems exist*."[128] We believe that this attitude is far from acceptable, and only evades some very serious issues of national importance that need to be addressed.

Dr Alexander Avdonin, one of the principles who facilitated that the Imperial remains be raised to the surface some fifteen years ago and now heads *Obretenye* Foundation believes that:

"*We are dealing with single-minded company* (RECA) *who under the guise of establishing historic truth … discredit the names of well known Russian politicians, entire government institutions of Russia - the President … the General Procurator, and lead the people of a great nation astray*." [129]

He asks: "*Interestingly, what kind of a reaction would those Japanese express if their museums were plundered of relics, and from their sacred graves the remains of their great compatriots were pilfered*?"[130]

Obretenye is waiting for the Russian people to "*actively react*" against those who want to damage not just Russia's living but her sacred dead as well.

Our investigation has unexpectedly identified an aspect of scientific research at its most distasteful level. We can only hope that these revelations will at least help you, the reader, understand that not all scientific endeavors advance medical science, nor in this case confirm historic truth.

To conclude our discussion on a more positive note, it is rather poignant that Tihon Kulikovsky did in fact help authenticate the Ekaterinburg remains in the very end, despite his earlier misgivings in doing so.



(Photo by Margarita Nelipa)

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