government laboratories. The results, it was assumed, would provide incontestable evidence to prove or disprove the contention of many that Bhagwanji and Netaji were the same person.

The handwriting and DNA reports received by the commission in sealed covers were opened by Justice Mukherjee at a public hearing in Kolkata in 2004. The independent handwriting expert identified Bhagwanji as Netaji whereas Central and Bengal government experts ruled it out. One DNA report was negative and the other inconclusive. Based on these findings, Justice Mukherjee went on to write in his report made public in May 2006 that while there was ‘no reason for not acting or relying upon the evidence’ of certain witnesses ‘who had seen Netaji before 1945 and also met Bhagwanji/Gumnami Baba face to face on a number of occasions’, there were ‘other formidable facts and circumstances on record’ which stood in the way of this commission in arriving at a conclusive finding that Bhagwanji/Gumnami Baba was none other than Netaji’. The report then summarised the negative findings of the government DNA/handwriting experts and concluded that ‘in absence of any clinching evidence to prove that Bhagwanji/Gumnami Baba was Netaji, the question whether he (Netaji) died in Faizabad on September 16, 1985, as testified by some of the witnesses, need not be answered’.

In 2010, four years after his core finding that Subhas never perished in any air crash was dismissed by the Central Government, Justice Mukherjee burst out during a casual discussion while a documentary was being filmed. This was inadvertently recorded. A portion from this recording was then shown in the media. The authors chanced to see the entire recording. Blasting the Central
Government in language he could not have used in his report, Mukherjee could be heard hinting at a forensic fraud. He asserted more than once that he was ‘100 per cent sure’ that Bhagwanji was Subhas Bose, adding that he was not able to prove it due to the Government’s shenanigans. The retired judge has since then repeated his personal opinion in private conversations with the authors as well as some members of Netaji’s family.

Be that as it may, for many, the results of the DNA sealed the debate. While the report of the Centre for DNA Fingerprinting and Diagnostics (CDFD) in Hyderabad, which examined two out of the seven teeth, reached no finding, as the teeth ‘did not yield DNA suitable for complete analysis’,¹ a year later, the Kolkata-based Central Forensic Science Laboratory (CFSL) which examined the remaining five, categorically ruled out any match after comparing the DNA from the teeth with that obtained from Subhas Bose’s relatives.²

However, the foundation of the scientific certainty of these tests becomes highly questionable when the settings of the examinations are scrutinised and their relative placement is assessed vis-à-vis established judicial principles pronounced

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¹ Letter of S P R Prasad, Senior Technical Officer, Centre for DNA Fingerprinting and Diagnostics, Hyderabad to P K Sengupta, Secretary, Justice Mukherjee Commission of Inquiry, Kolkata, 23 June 2003. Samples were delivered to CDFD on 4 March 2003.

² DNA Profiling Test on Teeth: Genetic Identity of Alleged Source-Gumnami Baba, Report by the National DNA Analysis Centre, Central Forensic Science Laboratory, Kolkata, to The Secretary, Justice Mukherjee Commission of Inquiry, Kolkata, 11 June 2004. The teeth and three blood samples were delivered to CFSL on 15 October 2003 and two more blood samples in December 2003.
through judgements of the Supreme Court and a number of high courts. The lessons that can be drawn are comparable to international experience. In other words, the results produced by the government labs become untenable.

To start with, although all seven teeth were made available to the CDFD, for some inexplicable reasons, the five remaining teeth were not used for meeting the desired concentration of DNA. More so because this wasn’t a case of distributing the teeth between two laboratories. The decision to send the remaining teeth for a second round of tests was taken by the commission only after the receipt of the inconclusive report.\(^3\)

The commission formally asked the CFSL to conduct the DNA tests through a letter dated 22 December 2003. Strangely, a day before, on 21 December, Bengal’s top daily *Anandabazar Patrika (ABP)*, which had had a history of scoffing at the entire Bose mystery, published a report claiming that the results of the DNA test had proved that ‘Gumnami Baba was by no means Netaji’. The commission regarded the publication of this report as prejudicial ‘to the progress of the inquiry’ and complained to the Press Council of India. *Anandabazar Patrika* contested this through their legal cell head, who told the Press Council on record that the story represented what was ‘a scoop in journalistic parlance and they were satisfied about its genuineness’. It was submitted that ‘the information was substantiated by the official reports

\(^3\) Anuj Dhar, then a journalist, heard from the commission officials that there was a telephone call from the CDFD to the commission that the DNA had in fact matched. Since we cannot reveal the identity of the sources, this information is being placed here as a footnote only.
subsequently issued’ in June 2004 when Justice Mukherjee had made the DNA reports public. The Press Council consequently ruled in favour of Anandabazar Patrika: ‘To say that the press should not publish any information till it is officially released would militate against the spirit of investigative journalism and even to an extent the purpose of journalism.’

Investigative journalism is a jolly good thing, but can one investigate something that’s yet to come into existence? Reports do get leaked out, findings of commissions are reported before they are made known officially, but only after they have been drafted or the conclusions have been reached. One cannot know
the findings of a DNA test before it is completed. It's an argument that no legal eagle can twist because the ‘secret’ DNA report that according to the newspaper justified their reporting was signed and sent to the commission by CFSL director Dr V K Kashyap on 6 June 2004—a full six months after the Anandabazar Patrika got what they thought was a ‘scoop’.4

From the morphological examination and analysis of SRY gene, mt DNA (HVS I & HVS II), and Y-STR loci in the forwarded Exhibits 1-10, it can be concluded that forwarded teeth – (Exhibits 2 to 4) belong to a single human aged male individual – (alleged Gumnami Baba). The individual – source of the teeth does not belong to either maternal or paternal DNA lineage of Netaji Subhash Chandra Bose, therefore, can not be of Netaji Subhash Chandra Bose.

The remnants of teeth (Exhibits 1-5) & blood samples (Exhibit 6-10) are returned in close sealed packet. The impression of specimen seal used in remnant packets is affixed below:

[Exhibit 222A, Mukherjee Commission]

4 ‘The respondent stated that Gumnami Baba’s DNA report was made public at Mukherjee Commission’s hearing on June 23, 2004 where the Commission’s Chairman, Hon’ble Justice Manoj Mukherjee unveiled the DNA report pointing out that Gumnami Baba and Netaji are two different persons and there is no match between the two. The content of the news item and the report which was made public on 23.6.2004 appeared to be identical.’ Decision rendered by the Press Council of India at its meeting held on June 28, 2005 at New Delhi, http://presscouncil.nic.in/OldWebsite/Decisions/decision05/41.htm.
The commission set aside the CDFD report because it was inconclusive but asked Kashyap to appear before it at its Kolkata office. Kashyap, also based in Kolkata, did so only after summons were served on him thrice. He had also ignored the commission’s repeated directions to let them know whether it was possible to lift latent fingerprints from Bhagwanji’s belongings. The little research that we did about this aspect tells us that it was possible. Dr G S Sodhi, coordinator of the Forensic Science Unit at SGTB Khalsa College, Delhi, elucidated the following on detecting fingerprints on old manuscripts:

Fingerprints are the crisscross lines on the bulbs of fingers and thumbs. The pattern of these lines on each finger of a person is so unique that it is not repeated on another finger of the same person or on the fingers of any other person. The crisscross lines, called ridges, are studded with small holes called sweat pores. As the name implies, sweat continuously oozes out of these holes. When fingers touch any surface (like paper, glass, plastic, metal, etc.), the sweat from these pores is deposited, providing a mirror-image of the ridge pattern. However, we cannot see the ridge pattern because sweat is colourless. Hence this deposition is called latent (meaning hidden) fingerprint. Sweat is composed mainly of water, but has a host of other chemicals too. Some of these may be transformed into coloured derivatives by treating the latent fingerprint with specific reagents. The fingerprint then becomes visible or—in technical language—developed. Amino acids are an important class of chemicals present in sweat. These react with a reagent called ninhydrin to produce a purple coloured derivative named Ruhemann’s purple (named after the scientist who first standardised this reaction). Thus, the colourless amino acids in a latent fingerprint are converted into purple colour
and become visible. This is the best method for detecting fingerprints on paper and paper items. Amino acids neither react with chemicals present in paper, nor do these diffuse within the capillaries of paper. Therefore, ninhydrin method allows for the detection of latent fingerprints which are many years or even many decades old. In fact, this technique is recommended to a person who wishes to know whether or not a particular notebook/book belonged to or has been handled by his father or even by his grandfather. Even after years, the fingerprints come out intense and clear. In case these are faint, they may be rendered sharp by further chemical treatment. This is a non-destructive method, meaning that the paper of the manuscript does not degrade though it may acquire a light background colour.\(^5\)

Not just that, Kashyap was quite gung-ho about the feasibility of a DNA test on the presumptive remains of Subhas Bose kept at Tokyo’s Renkoji temple. This was something that the other top experts—from Sir Alec Jeffreys (a pioneer of forensic use of DNA) to Lalji Singh—had ruled out completely. Amazingly enough, as early as 2000, Kashyap was talking of a scientific ‘breakthrough’. According to a *Times of India* report, ‘the scientists here [at CFSL] claim to have hit upon a more sophisticated version of DNA testing, which, they said, could help them prove conclusively if the remains kept at the Renkoji temple in Japan are actually of Netaji Subhas Chandra Bose’.

‘Recently we have mastered the technology, and with this breakthrough we are now able to do what forensic centres

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5 Personal communication to Anuj Dhar.
in Washington in US or Birmingham in UK are doing,’ was Kashyap’s tall claim.\textsuperscript{6}

**CFSL scientists claim breakthrough in DNA**

**New test could identify Netaji’s ashes**

By Saikat Ray

CALCUTTA: Scientists here claim to have hit upon a more sophisticated version of DNA testing, which, they said, could help them prove conclusively if the remains kept at the Renkoji temple in Japan are actually of Netaji Subhas Chandra Bose. Dr V.K. Kashyap, deputy director at the Central Forensic Science Laboratory, said that the CFSL achieved the breakthrough during the last six months after unsuccessful attempts to develop the technology since 1997. The new “mitochondrial DNA test” for a mitochondrial DNA testing,” he added.

Kashyap, assistant director Rajni Trivedi and a team of scientists consisting Ranjan Dutta and Prabir Chatterjee inspired by encouraging results of mitochondrial DNA testing produced in the US and the UK, started researching in CFSL, Calcutta, to develop the same kind of testing.

“Recently we have mastered the technology and with this breakthrough we are now able to do what forensic centres in Washington in US or Birmingham in UK are doing,” Kashyap said.

[The Times of India on 14 April 2000]

There is no doubt that the process of DNA testing is scientific and beyond reproach. But humans can err, or pull wool over others’ eyes or can become a victim of trickery. Moreover, a verifiable track record of suppressing matters related to the Subhas Bose mystery does not merit any official claim to be accepted at face value. Both the CFSL and CDFD labs work under the government. The credibility of DNA testing process in India itself has been called into question over matters nowhere as politically significant as the Bose mystery. For example, in 2003, three police officers and two doctors were found guilty of ‘fudging the DNA

\textsuperscript{6} Saikat Ray, ‘CFSL scientists claim breakthrough in DNA,’ The Times of India (Kolkata), 14 April 2000.
samples of five innocent civilians’ killed in a ‘fake encounter’ in Jammu and Kashmir in 2000.7

Two unimpeachable authorities testified that we have little to tomtom about our state-controlled forensic labs. A secret April 2006 US government record leaked by Wikileaks said: ‘Forensics is weak in India—only two DNA labs service the entire country.’8 Our Government is aware of that. On 1 February 2010, Home Minister P Chidambaram admitted that the ‘state of forensic science as well as the state of the Central and State Forensic Science Laboratories “leave much to be desired”’.9 An illustration of it appeared in an article titled “Could better DNA testing facilities in India have saved the Talwars?” in Firstpost.com:

Over the last decade, the use of DNA tests to solve crimes has seen a significant rise in crime investigation in India. But forensic experts warn that the absence of standard practices, quality checks and regulation has resulted in irresponsible and inaccurate application of the technology. The use of outdated technology and lack of expertise to competently collect and analyse DNA samples from the crime scene has compromised investigation and led to instances where courts have rejected DNA evidence as being unreliable or inconclusive.10

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7 "Fudged" DNA samples,' The Hindu, 24 July 2003.
G V Rao, DNA analyst and formerly chief staff scientist at CDFD, told the reporter that India was ‘very much behind the rest of the World in upgradation of technology as required’. He added: ‘The recent example of Bhanwari Devi case, where the CBI had to send the victim’s bones to FBI, USA for identification to get it identified. This is a sad reflection of the present status of DNA technology in India.’ Rao also pointed out that ‘No proper records of the tests conducted are being maintained for production in a court of law for its inspection.’

Leaving the tall claim of the CFSL director aside, Indian government forensic labs are certainly not in the league of the labs in the US or Europe that one can take their word as final on issues that have political ramifications. Around 1999, the CFSL performed a DNA test on the remains presumed to be of Paul Wells, a British national kidnapped along with others by terrorists in J&K. According to a report published in The Independent of London in January 2000, the J&K Police ‘announced that scientists in the Central Forensic Science Laboratories in New Delhi and Calcutta had confirmed through DNA testing of samples of bones and other body parts that this was indeed the body of Mr Wells’. To verify the claims made by the CFSL labs, the British carried out their own tests. The Foreign and Commonwealth Office later announced that ‘British police forensic scientists had decided that the remains were neither those of Mr Wells nor of any of the other hostages.’

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11 Ibid.
As asked to choose between the Indian report and the one from London, ordinary citizens like us may want to pick our report out of a misplaced sense of patriotism, but throughout the world, everyone will go with the British report. Even our own elites—politicians, top bureaucrats, soldiers, intellectuals, journalists, spooks, just about everyone—whose children’s favourite destination for study, work and permanent domicile is more likely to be London or New York than Mumbai and New Delhi—won’t give a fig for a report from an Indian lab when another one from the West is at hand. Every time there is some forensic test involved in some high profile contentious matter in India, the parties involved try to seek opinion from foreign experts as they are regarded not only as more learned but also far more credible considering the high corruption levels in India. That’s the reason why in the recent Sunanda Pushkar case, such tests were carried out in the UK and in America.

Recall the Bhanwari Devi murder case of 2012. This was about a woman who had disappeared after her extra-marital affair with a Rajasthan government minister became public knowledge. An inquiry was carried out in right earnest. The CBI sleuths actually went all over Rajasthan with a fine tooth comb and managed to dig out from a remote village, pieces of bones thought to be hers. These bones were then sent all the way to the United States, so that the Federal Bureau of Investigation (FBI) could find out if these

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indeed were of the missing woman. The FBI later confirmed that
the remains were hers and the case was cracked. The very fact that
the authorities in India have moved heaven and earth for the sake
of truth and justice in cases involving ordinary mortals, but have
done nothing in the Subhas Bose matter speaks volumes about
their bona fides in the matter. Why didn’t we seek FBI help in
ascertaining if those really are Bose’s remains at the Renkoji temple?

Determined in our pursuit to take this matter to its end, we
revisited the issue of DNA and handwriting tests in the course of
writing this volume. First, we took up the CFSL and CDFD reports
with the DNA experts who had both professional knowhow to assess
them as well as sufficient inside knowledge of the workings of these
labs. The CDFD report was seen by Dr Maharshi Krishna Deb, a
scientific researcher at Stanford University, who works at Stanford
Institute for Stem Cell Biology and Regenerative Medicine in
California. Dr Deb felt somewhat amused. The test, to his mind,
was ‘most likely politically conjugated to truncate its normal
inference’ for reasons beyond his comprehension.

No reason has been cited for not being able to amplify
other 6 loci. The Genescan Analysis lacks loading control. A
ubiquitously expressed gene like (GAPDH) should have been
used to rule-out any ambiguity towards the loading of equal
concentration of DNA for each sample. As such without a
loading control, change or lack of DNA band can potentiate a
dubious inference. The band intensity of Amelogenin in each
of the 5 lanes (samples) raises such conviction of scientific
misconduct. Amelogenin is a marker commonly used for sex
determination in forensic studies (although there are scientific
evidences that Amelogenin can’t unequivocally infer the sex of
an individual). In this study as all the 5 DNA samples were obtained from male (XY) individuals, the band intensity of Amelogenin should have been equal.

The Genotyping data shows that none of 9 microsatellites (STRs) could be amplified, besides the Amelogenin signal. Hence this sample holds no biological or experimental relevance. This implies that DNA sample from 1 tooth (of the concerned individual) has been used in this study making this entire episode highly unscrupulous as same sets of STR ought to be amplified from 2 DNA samples (2 teeth) at the minimum to draw a scientifically relevant conclusion, which otherwise should be refuted as baseless and thus cannot substantiate any evidence. [Emphasis added by authors]

This observation received supporting evidence from an unexpected quarter in October 2017 as the Allahabad High Court pronounced its judgment in the sensational Aarushi Talwar–Hemraj murder case. Coming down heavily on the CBI for deliberately tampering with a most crucial piece of evidence indicating who could have been the murderer, the court in its order recorded that a pillow was recovered from the house of Krishna, the Talwars’ compounder. This pillow bearing some suspicious-looking spots was sent to CDFD Hyderabad. CDFD returned a finding that DNA of Hemraj was found on the pillow. But three years later, CDFD stated that due to a typographic error, it had mistakenly reported this particular finding. The officer who reported this and the finding earlier was the same Senior Technical Examiner who had furnished the Gumnami Baba teeth report.

This officer’s, rather CDFD’s credibility over the Aarushi matter was blown to smithereens in the court order. ‘There was
no possibility of any mistake creeping in into the report,’ it stated. What had really happened was that a letter had been mysteriously handed over to CDFD by the CBI’s case investigating officer. ‘It was virtually suggested by the said letter of the Investigating Officer that there was a typographical error.’ The court further said that ‘the CDFD Hyderabad simply abided by the cryptic suggestion given by the Investigating Officer on 17.3.2011 and virtually satisfied his requirement.’

Earlier, a CBI Judge in Delhi awarded rigorous imprisonment to two former Principal Scientific Officers of CFSL Delhi in 2013 under the Prevention of Corruption Act.

The most damning indictment, however, came in August 2018, when the Delhi High Court ordered the CBI to conduct an inquiry into the working of the Forensic Science Laboratory in Delhi, particularly with respect to DNA tests. The Court suspected widespread commission of offences ‘under the Prevention of Corruption Act, Indian Penal Code, etc. if thoroughly investigated’. So much for scientific testing!

Skimming through the CFSL report about Gumnami Baba, another expert (who works in one of the CFSL labs and

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therefore cannot be named) noted that a most vital component of it was missing. ‘Where is the electropherogram?’ we were asked. An electropherogram is a chart depicting DNA analysis during the process of enabling the sorting of molecules. It is on the electropherogram that the DNA experts base their findings.

While the CDFD report contained an electropherogram, the CFSL report submitted to the Mukherjee Commission had none. It defied reason that it was not attached with the report, when CDFD had no problem in enclosing theirs with their report even though they claimed that they could not draw any conclusion.

So, as advised by the DNA expert consulted by us, we sought ‘certified copies of the Electropherogram of all the 8 analysed Exhibits used during the so-called ‘Operation Abhigyan’—the title given to Gumnam Baba test by CFSL, under the Right to Information Act. Since CFSL had concluded that Baba was not Netaji—which means he was a nobody—they should have had no hesitation in providing us the electropherogram as nobodies are of no consequence to anyone. However, CFSL refused to give us the copy of the elusive electropherogram saying they could not do so as it ‘pertains to a third party and is confidential in nature’. What ‘third party’ and what ‘confidential nature’? Finding no sense in the CFSL’s response, we filed an appeal as mandated by the RTI Act. CFSL Director Priyankar Ghosh this time himself answered to say that previous reply was ‘correct’. ‘The information sought by you cannot be disclosed as it comes under RTI Act Rule 11(1).’

The third party in this instance was the Mukherjee Commission to which the CFSL report was given. But the commission wound up more than a decade ago. Its report was made public in 2006.
All its records including the CFSL report were transferred to the National Archives in 2010 by the Ministry of Home Affairs under whose aegis the commission functioned. This made the MHA the successor third party. Clause 11(1) of the RTI Act reads that despite reservations from the third party, information can still be given ‘if the public interest in disclosure outweighs in importance any possible harm or injury to the interests of such third party’. The ‘third party’ in this case clearly faces no harm in case the disclosure is made—as long as everything is fine with the electropherogram and its reading.

Following the lack of credibility and the apparent shortcomings in the DNA tests conducted on the seven teeth found at Faizabad, we need to look at how such evidence is treated at the courts in order to gain a fuller picture of the evidentiary value produced and claimed.

On the point of reliability of medical evidence when it contradicts ocular evidence, the Supreme Court in July 2009 upheld the verdict of the Karnataka High Court that ‘in a conflict between the ocular evidence and the medical evidence, if the testimony is acceptable, trustworthy and reliable, the same should be preferred to the medical evidence’. In another case in 2010, the Supreme Court held that:

where the medical evidence is at variance with ocular evidence, it has to be noted that it would be erroneous to accord undue

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primacy to the hypothetical answers of medical witnesses to exclude the eyewitnesses’ account which had to be tested independently and not treated as the ‘variable’ keeping the medical evidence as the ‘constant’. Where the eyewitnesses’ account is found credible and trustworthy, a medical opinion pointing to alternative possibilities cannot be accepted as conclusive.

However, where the medical evidence goes so far that it completely rules out all possibility of the ocular evidence being true, the ocular evidence may be disbelieved.18

Clearly, none of the DNA test results can be said to have completely ruled out ‘all possibility of the ocular evidence being true’ in this case. Rather, quite the opposite. The ocular evidence according to even Justice Mukherjee was reliable and consistent. According to the principle laid down by the Supreme Court, therefore, that evidence gains primacy over the doubtful medical evidence.

The observation of the Allahabad High Court in 2013 is also in line with this principle. While delivering its judgement on the cases filed by Lalita Bose in 1986 and Shakti Singh in 2010, Justices Devi Prasad Singh and Virendra Kumar Dixit observed:

> From the aforesaid material discussed by Mukherjee Commission, there appears to be no room for doubt that there was substantial oral and documentary evidence which prima facie makes out a case for scientific investigation with regard to identity of late Gumnaami Baba.

The Commission had disbelieved the theory on the ground

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that DNA test of five teeth found in Ram Bhawan could not tally with the DNA of blood collected from descendants of Netaji. . . .

After careful reading of the Commission’s report, it appears that the Commission has based its finding on the DNA test of five teeth out of nine found in Ram Bhawan, Faizabad. Commission has not discussed any evidence or recorded a finding that five teeth found in Ram Bhawan sent for DNA test were of Gumnami Baba or Bhagwan Ji and who were the persons who retained the teeth of Gumnami Baba after cremation. Even little doubt with regard to the veracity of teeth will compel a man of common prudence not to ignore the oral and other documentary evidence, that too when there was difference of opinion with regard to handwriting of Netaji compared by the experts. [Emphasis added by authors]

The DNA results from CFSL clearly did not pass muster according to the High Court judges.

A scrutiny of the results of handwriting analysis on which the commission based its findings also shows a similar pattern—an unusual haste by government experts to prove that the handwritings did not match.

Before taking up this scrutiny, it is important to understand the context—we are dealing with the handwriting of a person who was extra careful not to blow away the cover to his identity.

As his old faithfuls came in contact with him at Neemsar and the volume of letters written by him increased, his handwriting

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became his first point of attention. Although, by his own admission, he was writing in Bengali after nearly two decades, he received feedback from old colleagues that his writing style and usage of phrases were very much identifiable. Even his diction.

Soon after Leela Roy met Bhagwanji, he wrote to her:

Sometime back three people came to meet me, one after another. I don’t know how they got my contact information. Among them was one who was introduced by Deshbandhu [CR Das] himself in his drawing room when the ‘dead’ returned from England after becoming an ICS…They told me, ‘You have survived despite Shaulmari only because you are living in these conditions in UP. Had you been in Bengal it would have been 100% impossible to avoid being found out, even if you lived in a house protected by seven layers of walls. Your way of talking hasn’t changed a bit…Those who have been with you can never make a mistake…the way you speak Bengali with a lisp, prolonging the utterances, has remained exactly as before.’ I nearly stopped breathing on hearing this…Today you are also saying the same. Le style, C’est L’hommemême (The style is the man himself)—this French dictum is true. Therefore a change is absolutely essential. No chance, no risk, no failure. Please do something to help your ‘dead’—please write down along with your comments a number of long, long passages which are diametrically opposite to my manner of writing, use of language and talking. I will start thinking, talking and writing accordingly.20 (Bengali parts of this paragraph translated into English by Chandrachur Ghose)

It cannot be said with certainty, but most probably Roy did follow up on Bhagwanji’s request. One of the items recovered from

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Ram Bhawan was a notebook which had twenty-four different types of writing styles and handwriting patterns. In addition, Roy started writing even routine letters to him in different styles—parts in Bengali, parts in Bengali mixed with English.

So paranoid was he about his letters being intercepted by the government agencies that he wrote to everyone, including Leela Roy, in disguised handwriting. When he wrote in Bangla, he used Nagari script, and when he wrote in English, he used capital letters. Leela Roy wasn’t pleased. ‘Write the letters in English and Bangla. It is nearly impossible to read and understand your letters,’ she wrote back. But the practice continued. The only exception to this rule was Pabitra, to whom he wrote in flowing hand in Bangla and English from the beginning to the end. However, even to him, the style of writing was very different. Only the first few letters were written in the old Subhas Bose style, most of which were returned to Bhagwanji after copies by hand of the letters were made usually by the recipient.

The first proper analysis of Bhagwanji’s writing was carried out in 2002 for *Hindustan Times* by B Lal, a former Additional Director of the National Institute of Criminology and Forensic Sciences, Ministry of Home Affairs. Co-author Anuj Dhar had approached Lal on behalf of the newspaper, where he was working at that time, after he gathered that Lal was India’s topmost handwriting expert.

During his service years, which included a stint as Chief Government Examiner of Questioned Documents, Lal had honed
his skills in several forensic labs in the US, the UK, Germany and Switzerland. Post-retirement, he was taken on the panels of several government departments and banks, such as the State Bank of India and Citibank. Post retirement, he continued to receive cases from the police. He also delivered lectures to security officials and even judges on the aspects of handwriting testing. At the 87th Indian Science Congress in 2000, he was awarded the lifetime achievement award in forensic sciences.

B Lal gave a positive report to *Hindustan Times*—a newspaper which had no axe to grind over the Subhas Bose disappearance matter. Following the publication of a news story in *HT* based on Lal’s report about Bhagwanji’s handwriting samples in English Dhar had obtained from Ashok Tandon and others, the Mukherjee Commission hired Lal’s services. Later, working on different sets of English and Bangla samples provided by the Commission, Lal produced two definitive reports stating that Bhagwanji and Bose were one person.

Applying the fundamentals of the forensic testing of questioned documents as enumerated by Albert S Osborn (the father of the science of questioned document examination) and Wildon R Harrison (another noted American expert), Lal concluded that the English samples picked up from Ram Bhawan (questioned documents) were ‘written by the same person’ who wrote the admitted handwritings of Subhas Bose. He found that ‘in spite of the time gap there are fundamental similarities’.

Through intense comparison of admitted writings of Netaji Subhas Chandra Bose…it has been shown that he is a skilful writer having at his command more than one variety of letters.
Such pattern...is also found in the relevant questioned English writings and such similarities are quite characteristic in nature and have great identifying value.

Regarding the Bangla handwritings, he wrote in a separate report:

The questioned Bengali writings are having a time gap of few years when compared with the date of execution of admitted Bengali writing. ...Even having time gap, the relevant questioned Bengali writings and relevant admitted Bengali writings are showing characteristic similarities with natural variations and the collective occurrence of such similarities may not be found in the writings of two different persons as a matter of chance. The collective occurrence of significant similarities can only be explained by the fact that both the writings belong to one and the same person.

He further pointed out that as in the English writings, in Bengali also, Bhagwanji was in the habit of writing in ‘small-size letters utilizing every available space’. This is a sort of idiosyncrasy, he added, which was evident in Subhas Bose’s writings as well. Lal further highlighted that both Bhagwanji and Bose were in the ‘habit of giving a peculiar sign when making insertion of certain words’. This peculiar caret was described by him as having a ‘very high identifying value’. The following combo image (next page) illustrates the point. First is a specimen of Bose’s writing in 1936, and below it is a portion from a letter Bhagwanji wrote in the 1970s:

Lal’s conclusion was not that of the government experts. They reported that Bhagwanji and Bose were two different persons. One report came from Dr S K Mandal, senior scientific officer at
the Forensic Science Laboratory, Kolkata. While giving a report, a handwriting expert is supposed to state reasons for drawing the conclusions. But Mandal’s report merely stated that the writings were of two different persons. Annoyed, Justice Mukherjee chided him, but was powerless to take any action as he was heading a commission of inquiry, not a court. To our mind, Justice Mukherjee would have nevertheless done well to bring on record the shoddy manner in which the government experts made their case, in stark contrast to the professionalism shown by B Lal.

The second report came from Amar Singh, Government Examiner of Questioned Documents, and M L Sharma, Deputy Government Examiner of Questioned Documents. ‘We have carefully and thoroughly examined the original documents of this case in all aspects of handwriting identification and detection
of forgery, with the scientific aids in the Government of India Laboratory at Shimla,’ they stated while explaining the reason for their opinion.

This Central government report admitted that Bhagwanji’s writings ‘do not show any sign of imitation or forgery in them’. This was the only common ground between them and B Lal. In his report to Hindustan Times, Lal had noted that Bhagwanji tried to conceal his identity by overwriting the strokes and writing in the capitals, but failed. It is not possible for a writer to change his writing habits completely, Lal explained. ‘Even in an effort to hide his identity, the writer is not able to leave his individual characteristics and other peculiarities found in his handwriting. There is such a faithful reproduction of some peculiarities that even a gap of time to the extent of decades cannot hide them.’

Lal’s conclusion on this point was that he found ‘no evidence… that the questioned writing has been made by a writer other than Shri Subhas Chandra Bose by imitating/copying the writing of Shri Subhas Chandra Bose’. But if you believe the Government of India laboratory report, the resemblance was merely cosmetic.

Both the handwritings in their pictorial appearance appear to
bear a marked resemblance to each other at the first instance, which is due to similar style and class of writing. However, the analysis of the structures of the letters, the study of the ‘master pattern’ of the letters, in words as well as range of variations on close observation shows that the two writings are quite distinctive and different in their origin and are written by two different authors.

The report gave some details and at the end showcased a ‘juxtaposition chart’ highlighting 24 instances of differences between the two handwritings.

That was not very impressive. Lal’s report was supported by 460 large size photographs accounting for each and every alphabetical letter appearing in the handwriting samples given to him. He also dwelt at length on the issue of ‘natural variation’ in handwriting.

Every genuine writing has got natural variation since the human hand is not an exact reproducing machine and it is very important to consider this natural variation for a correct conclusion regarding authorship of a writing. If natural variations are taken as differences then there would be error in the identification.

His finding was that Bhagwanji’s handwriting showed ‘natural variations which are additional symptoms of genuineness and there exists significant similarities’.

That the Central government experts were not confident of their report became clear when they chose to ignore the commission’s summons to appear before it in New Delhi. This was on the same day when B Lal was also to be examined. They lost their nerve,
probably at the prospect of being questioned in the presence of their former boss. Amar Singh never turned up before the commission. After skipping the Delhi hearing, M L Sharma went all the way to Kolkata from his office in Shimla to make the Government’s case. As state expert Mandal was being examined, Sharma, flouting the rules, sneaked into the venue and made a note of the questions Mandal was being asked by Justice Mukherjee.

Both the experts made contradictory statements during their examination. Mandal was asked by Justice Mukherjee: ‘Do you agree that to study the writing habits of the author of a document the shape of punctuation marks, their position and frequency, the choice of a peculiar punctuation sign, the mark of a caret, underscoring and bracketing need to be considered?’ He answered, ‘Yes.’ Then he was asked: ‘Did you consider all those factors before arriving at your conclusion and have those factors been reflected in your report?’ Mandal responded: ‘I considered all the above factors but none of those factors have been reflected in my report.’

M L Sharma too was asked by a deponent: ‘Do you agree that a mature writer can have a habit of using a peculiar or unique sign or insertion in a line, which is rare?’ He replied: ‘Yes, it may have.’ Later he was asked: ‘Do you agree that such a sign has a very high identifying value in examining a writing?’ Knowing the repercussions of answering in the affirmative, Sharma now said: ‘I do not agree.’ At the end of the examination, he could not conceal the truth. ‘Do you agree that such a sign falls within the category of individual characteristics?’ He said: ‘Yes.’ He was asked: ‘Do you agree that individual characteristics of a handwriting are the most
important factors to determine the authorship of a document?’
Answer: ‘Yes.’
A fresh DNA test outside India by an independent expert was not feasible for us, but a handwriting test was. It became possible when US citizens Deepak Nijhawan and Abhishek Bose offered to get it done during Anuj Dhar’s lecture tour in the US in September-October 2016. The tour was funded and organized by a group of Americans of Indian origin (Abhishek being the coordinator), some of whom were most eager to help in determining the truth. It was decided to let Deepak, a businessman in Kentucky, and Abhishek, a management consultant based out of Maryland, handle this particular matter.

Deepak and Abhishek shortlisted a few experts and eventually hired the services of Curt Baggett, a leading, independent handwriting expert in the US with over 40 years of experience. A skilled authority in document examination, Texas-based Baggett (picture) has completed over 5,000 cases. He has examined documents and/or testified in court cases as a handwriting expert in all fifty states in the US, Washington, Canada, England, Ireland, the Netherlands, New Zealand and other countries. Baggett has been a consultant as a forensic document examiner for the Number 1 rated television show, ‘CSI: Crime Scene Investigation’, and has appeared as a handwriting expert on CNN, CNBC, Inside Edition, CBS, NBC, FOX, and shows ‘Judge Alex’ and ‘Texas Justice’. Baggett’s education and training in document examination and psychology...
include the following: US Army, Military Police Officer’s School, BA and MEd from McNeese State University, Lake Charles, Louisiana, and postgraduate studies at the University of Houston.

On our part, for the test, we selected two specimens of Bhagwanji’s handwriting in English he had written to Pabitra Mohan Roy after their meeting in the late 1962. These were made available to us by Roy’s son Ranendra Mohan Roy, along with several other letters.

Copies of Subhas Bose’s handwriting came from different sources, including letters supplied to the Mukherjee Commission by the Netaji Research Bureau of Kolkata.

[Exhibit 102, Mukherjee Commission]
All these samples were then forwarded to Curt Baggett by Deepak Nijhawan. We did not figure in the picture as we did not want the expert to know what the test was all about. We ensured complete caution so that Baggett had no way of knowing that these samples were related to Subhas Chandra Bose. Nijhawan did not tell him either, and nor did Baggett ask anything. ‘This forensic document examiner was asked to conduct an examination of questioned handwriting of an Anonymous Author/Person to determine authenticity of the questioned handwriting by comparing the questioned handwriting to known,’ he wrote in his report. That Baggett did not know who the test was about placed him in a different league than the experts in India who examined the Bhagwanji samples knowing that the matter was about Subhas Bose. So, his impeccable reputation and professionalism notwithstanding, there was absolutely no chance of Baggett entertaining any pre-conceived notion or prejudice.

All Baggett was told was that the matter pertained to a ‘highly successful politician’ in India a long time ago. Some background information was provided, such as the vintage of different handwriting samples. We thought it pertinent to inform him (through Deepak Nijhawan) that there was considerable time gap between the handwriting samples and the circumstances in which they were written by their respective writers. Our brief to him read:

The questioned writings were written in 1963 by a man in his mid or late sixties. He was living in isolation, constrained by lack of access to basic comforts of life, practically living a life
of an ascetic. He had very limited financial capability, would have been full of anxiety, troubled by physical illnesses such as severe arthritis in his knees and piles. He lived a secretive life, interacting with only a handful of people—very few of them literate and even fewer who could read or write proper English….The admitted writings are formal and carefully written as the writer knew they would be preserved; whereas the questioned writings formed letters written confidentially to someone who was not supposed to share them with anyone. On the contrary, these documents were supposed to be destroyed after being read.

Baggett provided us his expert opinion through a fifty-nine page report in February 2017. ‘I am willing to testify to facts herein stated in a court of law and I will provide to the Court exhibits to show that my testimony is based on sufficient facts or data and that my opinion is correct,’ he affirmed in a sworn statement before a Notary Public in the State of Texas.

Professionally written as it was, the report provided legal data, including quotes from court verdicts in the US, ‘to support accuracy of skilled handwriting experts at 93.5%’. For the test involving the samples sent by us, Baggett employed a methodology said to be used by the FBI. In addition to this, Baggett had a second independent examination done by a qualified handwriting expert. His report reads:

The scientific methodology used in this examination consists of the ‘ACE’ method, which means ‘Analyze, Compare, and Evaluate’. The FBI, US Treasury Department, and the US Postal Services reportedly use this reliable method in their questioned document laboratories.
ASTM recommends this method as the standard in this field. This method was also accepted and affirmed by the District of Columbia Court of Appeals in Case No 08-CF-1361, Pettus Vs United States. In addition, this examiner adds the Peer Review Methodology, which requests a second independent examination by a qualified handwriting expert. The State and Federal Court qualified expert I selected to peer review this case confirmed my opinion.

Baggett confirmed that the samples provided to him were genuine pieces of natural, free-flowing writing: ‘No indications of forgery were noted on the questioned handwriting….’ The process of handwriting identification was explained in Baggett’s report in these words:

Handwriting is not only handwriting, but also ‘brain’ writing. Handwriting is formed by repeated habits of writing by the author, which are created by neuron-pathways established in the brain. These neuron-pathways control muscular and nerve movement for writing, whether the writing done is by the hand, foot, or mouth. An examination of handwriting includes establishing patterns of writing habits to help identify the author.

The handwriting on the Q [questioned] documents were enlarged and examined scientifically in a side-by-side comparison to the known samples, under a microscope and on a light table. Measurements of letter height, lateral expansion, angles, slant and line quality were examined under a microscope. Significant similarities of the handwriting characteristics displayed in the questioned handwriting were revealed when compared to the known handwriting. The questioned handwriting, when compared to the known handwriting, displayed similar and
regular line quality, flow, size, shape, slants, positions of letters, stops and starts, end and beginning strokes.

Baggett added that his ‘examination revealed significant similarities, not likely seen by an untrained or poorly skilled examiner’. In substantiation, the report listed similarities between the two sets of handwritings. These thirty-four instances were supported by enlarged exhibits.

Before drawing his conclusion, Baggett emphasised that ‘the leading forefathers of document examination in the USA agree that one significant difference in the fundamental structure of a writing compared to another is enough to preclude common authorship’.

[Ordway] Hilton stated: ‘It is a basic axiom of identification in document problems that a limited number of basic differences, even in the face of numerous strong similarities, are controlling and accurately establish nonidentity.’

[Wilson R] Harrison made similar comments: ‘Whatever features two specimens of handwriting may have in common, they cannot be considered to be of common authorship if they display but a single consistent dissimilarity in any feature which is fundamental to the structure of the handwriting, and whose presence is not capable of reasonable explanation.’

[James VP] Conway expressed the same theme when he wrote: ‘A series of fundamental agreements in identifying individualities is requisite to the conclusion that two writings were authored by the same person, whereas a single fundamental difference in an identifying individuality between two writings precludes the conclusion that they were executed by the same person.’

[Albert S] Osborn and others have generally agreed that despite
numerous similarities in two sets of writings, a conclusion of identity cannot be made if there are one or more differences in fundamental features of the writings.

With this backdrop, Baggett wrote that Bhagwanji’s handwritings did not ‘display many distinguishable differences’ when compared to the known handwritings of Subhas Chandra Bose. ‘Normal variations exist in all handwriting,’ he clarified, adding that no ‘unexplainable significant differences’ were noted by him in the handwriting of Bhagwanji. Baggett’s final conclusion was:

Based on a significant number of similarities of identifiable handwriting characteristics among the questioned handwriting, it is my professional expert opinion that the same person authored the handwritings of the Anonymous Author/Person on the Q documents. (See extract from the report in the following pages.)

The US expert’s report hence exposed the forensic fraud perpetrated by the sarkari handwriting experts. Given the circumstantial data discussed in the foregoing paragraphs, it wouldn’t be unfair to conclude that the DNA tests performed at government-controlled labs were fudged too.