

# Case Closed: The Identification of Rudolf Hess

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This paper refutes all objections to our DNA identification of Rudolf Hess.<sup>1</sup>  
*Inter alia* we will:

1. Reveal the reporting error prompting many false charges.
2. Explain how Hess's chest scars were overlooked.
3. Explain the true nature of Hess's exaggerated chest wound.
4. Disprove, from medical records, the story of Hess's dental extraction.
5. Show technical evidence that the Hess slide was prepared in a US military medical lab.
6. Prove, from technical evidence, that the Hess slide dates from his Spandau imprisonment.
7. Prove authenticity of the Hess slide from Spandau records in triplicate.

Our study has been highly incommensurate for at least five books purporting to show that Prisoner #7 was not Hess.<sup>2</sup> For technical details see our peer-reviewed scientific paper.<sup>3</sup>

To simplify language, I write in the first person, refer to collaborators as appropriate and to Hugh Thomas by his last name. He is styled Hugh Thomas MD, FRCS (Fellow of the Royal College of Surgeons). For non-British readers, physicians in the United Kingdom (UK) earn multiple Bachelor's degrees, but are called 'Doctor' by custom. In the UK, the MD is a research degree equivalent to an MD, PhD in North America. Thomas is entitled to the prefix Dr., but British surgeons take umbrage at this and are addressed as 'Mister'.<sup>4</sup> Debrett's rules that physicians with multiple credentials are addressed by area

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\* Author details are at the end of this essay.

<sup>1</sup> Rosthorn, A., 'Has a DNA test solved the Rudolf Hess doppelgänger mystery?' *Lobster 77* 2019. At <<https://www.lobster-magazine.co.uk/free/lobster77/lob77-dna-hess.pdf>>.

<sup>2</sup> Notably Thomas, W. H., *The Murder Of Rudolf Hess* (New York: Harper & Row, 1979) and Thomas, W. H., *Hess: A Tale of Two Murders* (London: Hodder & Stoughton, 1988).

<sup>3</sup> McCall, S., et al., 'Rudolf Hess – The Doppelgänger conspiracy theory disproved', *Forensic Science International: Genetics*, 2019. **40**(May): pp. 18-22

<sup>4</sup> Loudon, I., 'Why are (male) surgeons still addressed as Mr?', *British Medical Journal*, 2000, **321**(23-30 Dec), pp. 1589-1591.

of practice.<sup>5</sup> While correct, repetition of 'Mr. Thomas' would appear to slight his credentials and useful career.

This project was opportunistic. I heard of the Hess slide by chance and accordingly read Thomas's *The Murder of Rudolf Hess* at the turn of the millennium.<sup>6</sup> The *doppelgänger* theory was interesting because it was scientifically testable. The project had the virtues of no competition from other labs and either result being publishable. To his credit, Thomas had the courage to ask intelligent and politically incorrect questions. He chose to pose his questions publicly in a book which was provocative, *prima facie* and wrong. It would have been sensational to confirm his theory.

## **I know you think you understand what you thought I said, but I'm not sure you realize that what you heard is not what I meant – Robert McCloskey**

**W**e are very grateful for coverage by *New Scientist*.<sup>7</sup> This first and most detailed news report formed the basis for subsequent worldwide coverage. Regrettably, a reporting error crept in owing to communication delays and intense competitive pressure in news. I did not, as reported by *New Scientist*, begin by contacting Dr. Cemper-Kiesslich to analyze the Hess sample. This was futile without an appropriate family sample. There was also no need to test the freshly prepared blood smear sealed under cover slip. High-quality DNA was assured. Nor did I have possession of the Hess slide. With no reference sample, there was no need for Dr. Wahl to find and forward it. In 2002, the Hess family declined to participate. The project was dead and urgent work came with the Iraq War. Only in 2012, after the cremation of Hess's remains, did I receive an e-mail reversing the family position. I did not meet Dr. Cemper-Kiesslich until 2013. This inversion of events has fueled objections.

There are about 28,100 peer-reviewed journals, publishing nearly two million articles a year.<sup>8</sup> Half of academic papers are only read by their authors

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<sup>5</sup> Debrett's, *Correct Form* (New York: Arco Publishing Inc., 1977)

<sup>6</sup> Thomas, W. H., *The Murder Of Rudolf Hess* (New York: Harper & Row, 1979)

<sup>7</sup> Hooper, R., 'Exclusive: DNA solves Rudolf Hess doppelgänger conspiracy theory', *New Scientist*, January 2019, at <<https://tinyurl.com/y5b8qfo8>> or <<https://www.newscientist.com/article/2191462-exclusive-dna-solves-rudolf-hess-doppelganger-conspiracy-theory/>>.

<sup>8</sup> Ware, M. and M. Mabe, *The stm report: An overview of scientific and scholarly journal publishing* (The Hague: International Association of Scientific, Technical and Medical Publishers, 2012)

and journal editors.<sup>9</sup> Elsevier, publisher of *Forensic Science International: Genetics*, planned to promote this paper. When the article was posted on-line, the first press inquiry came promptly from *New Scientist* who were clearly alerted.

Delays in subsequent e-mail traffic were occasioned by forwarding queries from the corresponding author and time zone differences between US, UK and Austria. I was also away from home as my mother had emergency surgery. Further delay owed to courtesy vetting of replies with the Hess family. Fatally, *New Scientist* never showed us the story draft for correction. To his credit, the reporter asked a question about event sequence late in the process. By the time I received it, the article was already published online and going viral. Clearly delay could have cost *New Scientist* their exclusive. We didn't correct them on a point which then seemed trivial.

### **'Paris is well worth a mass' – Henri IV**

This is the complaint from Thomas concerning contacting David Irving:

'An ex-MI6 officer friend of mine was staggered to hear that despite the historian David Irving having been sent to prison in Austria in 2006 for denying the existence of gas chambers in Auschwitz and despite David Irving being permanently expelled from Austria, Jan Cemper-Kiesslich, at Salzburg in Austria, and the retired US Army doctor Sherman McCall in the USA, should have used the same David Irving as their adviser in the search for remaining members of the Hess family. They must have known that Irving had personally led a campaign to clear Rudolf Hess's name, to establish Hess's decency and uphold him as a martyr for peace. They say that Irving gave them a useless telephone number for Wolf Rüdiger Hess and that they were unaware that Wolf Rüdiger had died. Yet I have seen David Irving's genuinely moving letter to the family, sent from New Orleans as soon as he heard of the death. Wolf Rüdiger and David Irving shared right-wing nationalistic political views. I have only spoken to David Irving on a couple of occasions, but I know that he spent a huge amount of time with Wolf Rüdiger, cataloguing the very extensive Hess file.'<sup>10</sup>

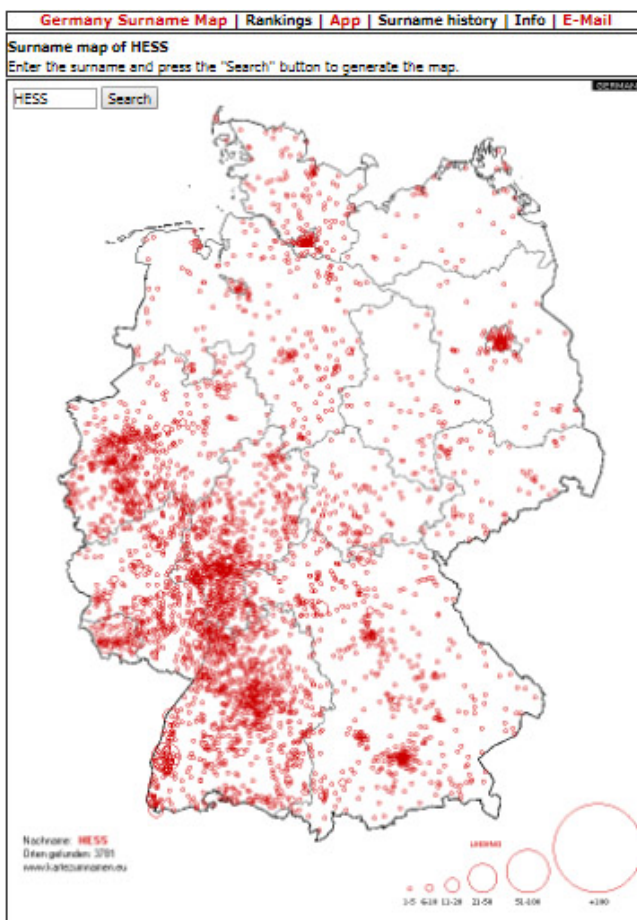
The family had to be involved – no reference sample, no study. First they had to be found. The name is geographical, referring to people from the Hesse

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<sup>9</sup> Eveleth, R., 'Academics Write Papers Arguing Over How Many People Read (And Cite) Their Papers', in *Smithsonian*, March 2014, at <<https://tinyurl.com/ycquwvxc>> or <<https://www.smithsonianmag.com/smart-news/half-academic-studies-are-never-read-more-three-people-180950222/>>.

<sup>10</sup> Thomas quoted in Rosthorn: see note 1.

region. This makes it common and used by a vast range of unrelated people from Deputy Führer Rudolf to Moshe, the founder of Labor Zionism. A census map shows thousands of Hesses all over Germany. See Fig. 1.



**Fig. 1** German distribution map of the surname Hess, legend relating cluster sizes.

I don't speak German and the Internet was still immature in 2001. In the USA, the Intellius address database did not begin until 2003. Mr. Irving's misadventures were largely in the future, he wrote a Hess biography and was absolutely the logical place to start. Thomas renders this objection ridiculous with his own admission that 'Irving's knowledge of the Hess family is unique.'<sup>11</sup> Rosthorn remarks:

'the involvement of the Nazi apologist David Irving and the participation of unnamed members of the Bavarian Hess family in this scientific project went unremarked by European reporters.'<sup>12</sup>

These facts were in both the technical paper and the *New Scientist* article. They went justly unremarked by dozens of objective journalists because they are quite irrelevant.

'As father figure to Wolf Rüdiger, Irving must have known why the

<sup>11</sup> Thomas quoted in Rosthorn: see note 1.

<sup>12</sup> Rosthorn: see note 1.



telephone line had ceased.’<sup>13</sup>

This charge also rests on the false timeline. To his credit, Mr. Irving obligingly tried to help. Neither of us yet knew of Wolf-Rüdiger’s death on 24 October 2001. He provided the phone number by e-mail. When it proved unsubscribed, he lacked another contact. Irving is not a co-author and had no further involvement in the study. By 2019, I was nervous about acknowledging him for fear of exactly the slur by association which has been made. Yet, it was the right and honorable thing to do. Mr. Irving was never duped by the *doppelgänger* fantasy. Rather, he provided handwriting evidence against it. He also tried, but was not allowed, to disprove it *via* dental records.<sup>14</sup>

## **Absence of evidence is not evidence of absence**

The ostensible absence of Hess’s World War I chest scar is at the heart of Thomas’s case. It is impossible to prove a negative. That scars were not noted on physical exam proves neither their absence at the time, nor in the past. Rosthorn cites an examination conducted during the Nuremberg trials.

‘A US Army doctor, Captain Ben Hurewitz, conducted a minute examination of the prisoner at Nuremberg, noting two very small scars incurred during captivity in Britain, but no scars whatsoever from a rifle shot through the lung in Romania in 1917.’<sup>15</sup>

These suicide scars were not ‘very small’. They were blatantly obvious, Hurewitz could not miss them. His examination was conducted on 10 Nov 1945. Those were scars from Hess’s suicide attempt just nine months before. They were an inch long each and 1/8 inch apart.<sup>16</sup> They were fresh, linear, in a pattern, over the heart, from a known suicide attempt and much larger than Hess’s punctuate World War I chest wounds. The incident would figure prominently when Hurewitz reviewed the medical records. As for the WWI wounds, Hurewitz probably neither knew about them, nor where to look. It is improbable that Hess’s World War I records, in old handwritten German and irrelevant for the trial, were available so early in the occupation. To his credit, Thomas tracked them down in Berlin.<sup>17</sup> In 1945, this was 437 km from

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<sup>13</sup> Thomas quoted in Rosthorn: see note 1.

<sup>14</sup> Irving, D., *Hess The Missing Years 1941–1945* (London: MacMillan, 1987) p. 190.

<sup>15</sup> Rosthorn: see note 1.

<sup>16</sup> Irving: see note 14, p. 309.

<sup>17</sup> Thomas: see note 6, p. 26.

Nuremberg across a shattered transportation network and through the Soviet occupation zone.

The Nuremberg Trials began on 20 November 1945. Consider Hurewitz's purpose: Hess feigned amnesia and was undergoing psychiatric examination for fitness to stand trial. In this context, the knife wounds from a recent suicide attempt were germane. His current medical condition was germane. A catalog of 30-year old battle scars, however German, was ungermane.

Thomas's examination in the British Military Hospital was a follow-up of Hess's 1969 perforated ulcer. Thomas provides an uproarious account of the ensuing medical circus worthy of a Monty Python skit. There are the allied machinations and inevitable Soviet walkout. There is the two-mile route of Hess's cortege lined with a crush of gun-wielding soldiery and camera-wielding reporters. The latter circled in cars, crawled in underbrush and festooned from trees. In the most farcical bits, Thomas describes sneaking peaks at Hess during lulls in the proceedings whilst evading the Soviet minder. While not Thomas's fault, this was no proper examination.

All four occupying powers had to be represented at the parties cum examinations, all the specialists from the British hospital were present as well as a panoply of other hospital staff, commanders of other allied hospitals, members of the British Military Government, Spandau officials and the 'sinister and farcical' Russian Commandant Voitov. Over 20 were crowded into three small rooms with salmon sandwiches and alcohol.

With his single-button bright blue jacket stretched tight over a pot belly, Voitov constantly interrupted proceedings in Russian with screams of 'Stop! That is contrary to the Nuremberg agreement!' and 'No comfort! It is against the spirit of the convention!' The accompanying Russian doctor was hobbling about with a fractured leg in a badly set cast with 'his foot stuck out sideways at two o'clock.'<sup>18</sup>

Thomas describes a barium meal fluoroscopy. Spandau records reveal this was actually preceded by an intravenous pyelogram. Thomas hovered between the X-ray room and adjoining dark-room. Voitov scrutinized, but without a lead apron, retired intermittently to the vodka and whiskey sour 'for the safety of his reproductive organs'. At the end of the first exam 'Voitov hung around the X-ray room interminably, with jacket button straining at his stomach just as hard as he himself was straining to be officious. As long as he remained in sight, I could not even approach No. 7 closely, let alone get a look at him naked.'<sup>19</sup>

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<sup>18</sup> Thomas: see note 6, pp. 17-18.

<sup>19</sup> Thomas: see note 6, p. 20.

'My opportunity arose when Voitov vanished for a moment. I went across and stood close to No. 7 as he took off the shift forwards, sliding it away from his body, down his arms. For a few seconds he was stark naked, standing side-on to me. Then he reached his arm backwards, feeling for the sleeve of his dressing-gown. As he did that, he exposed the whole of his torso to my close-up scrutiny.'<sup>20</sup>

Weeks later, the second examination was a barium enema X-ray. Thomas recounts:

'I could not put the questions I would have liked, as Voitov was waiting to pounce on any irregularity.'

Again the room was darkened, when the lights were turned on Hess,

' . . . at once he slipped off his shift – still sitting on the edge of the table – and began to pull on the warmer dressing-gown. As he did so, I again had a clear view of his chest. I stepped forward and pointed at it, saying in a friendly, straightforward voice, "Was ist passiert met den Kriegsunfallen? Nicht hauttief?" ("What happened to your war-wounds? Not even skin-deep?")'

Thomas describes the transformation as Hess mutters in German 'Too late, too late' and scurried to the toilet leaving a trail of feces and barium. Thomas attributes this reaction to his question and was 'glad to escape into the anonymity of the dark-room'. However, Sergeant McClean, who was present, 'thought the words, "zu spat, zu spat" referred to the patient's need to reach the lavatory.'<sup>21</sup> Sergeant McClean was correct: fecal urgency is an expected side effect of barium enema, as noted in patient guides.<sup>22</sup>

## **Wound infection**

Thomas insists Hess had a wound infection producing a large scar. 'According to the record, he [Hess] was shot on August 8th but did not reach hospital until the 9th. . . If a patient has to wait a whole day for treatment, his wound will almost certainly become infected: either the track will suppurate, or an abscess called an empyema . . .'<sup>23</sup> Months later Hess's wounds were 'Three fingers above the left armpit, a pea-sized, blueish-coloured, non reactive scar

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<sup>20</sup> Thomas: see note 6, p. 20-21.

<sup>21</sup> Thomas: see note 6, p. 25.

<sup>22</sup> See, for example, *Barium enema*, 2019, at <<https://www.mayoclinic.org/tests-procedures/barium-enema/about/pac-20393008>>.

<sup>23</sup> Thomas: see note 6, p. 33.

from an entry wound. On the back, at the height of the fourth dorsal vertebra, two fingers from the spine, a non-reactive exit gunshot wound the size of a cherry stone. No ill effects.<sup>24</sup>

Description of Hess's wounds as 'non-reactive' and 'No ill effects' prove they were not chronically infected. The antiseptic, tincture of iodine, discovered in 1908 by Austro-Hungarian surgeon Antonio Grossich, was in worldwide use.<sup>25</sup> In World War I, surgeons learned delayed primary closure to fight infection and aid recovery.<sup>26</sup> Apropos of Hess's subtle scars, this 'late closure gave a surprisingly good cosmetic outcome'.<sup>27</sup>

Infection was not the foregone conclusion Thomas assumes. In 1915, a study was conducted at the Royal Naval Hospital, Plymouth. Being evacuated from field, to port, to ship, to hospital, these wounds were at least as old as Hess's and 'in many cases of several weeks duration'. Only 20% of chest rifle wounds and none of the chest shrapnel wounds were infected.<sup>28</sup> Wound infections were commonly iatrogenic. 'Unfingered' wounds had 50% of the mortality of 'fingered' wounds.<sup>29</sup>

Thomas also assumes Hess had a thoracotomy [incision in chest wall] scar, but none is recorded.<sup>30</sup> Such a scar could not be missed, it would be fresh, linear and much larger than the bullet wounds described in detail. The risk of thoracotomy in a World War I field hospital before modern ventilators, antibiotics and blood transfusion was large. 'Surgery on the organs within the chest was rarely attempted in humans or animals because of difficulties with anesthesia, since when the chest cavity was opened, the lung collapsed, and oxygenation failed. . . Any deep wounds to the chest and abdomen were not

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<sup>24</sup> Quoted in Rosthorn. See note 1.

<sup>25</sup> Gruber, F. and A. Skrobonja, 'Antonio Grossich – on the centenary of his introduction of iodine tincture painting in the preoperative infection control', *Acta Medico-Historica Adriatica*, 2009. **7**(1): pp. 83-90.

<sup>26</sup> Manring, M., et al., 'Treatment of War Wounds: A Historical Review', *Clinical Orthopaedics and Related Research*, 2009. **467**(8): pp. 2168–2191.

<sup>27</sup> Hamilton, D., *The First Transplant Surgeon: The Flawed Genius of Nobel Prize Winner, Alexis Carrel* (Singapore: World Scientific, 2017) p. 197.

<sup>28</sup> Lambert, A., 'Commentary on "Wounded treated at the Royal Naval Hospital, Plymouth"'. *Journal of the Royal Naval Medical Service*, 2014. **100**(2): pp. 148-51.

<sup>29</sup> Bellamy, R. and R. Zajtchuk, 'The Evolution of Wound Ballistics: A Brief History', in *Conventional Warfare, Ballistic, Blast, and Burn Injuries*, R. Bellamy and R. Zajtchuk, Editors, 1991. Department of the Army, Office of the Surgeon General: Washington, DC., at <[https://ke.army.mil/bordeninstitute/published\\_volumes/conventional\\_warfare/ch03.pdf](https://ke.army.mil/bordeninstitute/published_volumes/conventional_warfare/ch03.pdf)>.

<sup>30</sup> Thomas: see note 6, pp. 33-34.

routinely explored surgically, and an “expectant” strategy was used instead.<sup>31</sup> In the US army, the 1918 Empyema Commission found that thoracotomy had 30% mortality even in fixed-facility US base hospitals. Death resulted ‘quite regularly about half an hour after the operation’.<sup>32</sup>

Ferdinand Sauerbruch invented a negative pressure room for thoracic surgery, installing one at the Rockefeller Institute in 1908.<sup>33</sup> Alexis Carrel, the institute’s Nobel Prize-winning surgeon, deemed it ‘useless’. Modern positive pressure intubation techniques developed at the Institute in this period, ‘only slowly entered into the anaesthetic practice for human chest surgery from the 1920s onwards’.<sup>34</sup> Until he was drafted into the French army in 1914, Carrel was still doing animal experiments on thoracic surgery in which he ‘found that more stringent aseptic techniques were needed in the chest to avoid postoperative infection’.<sup>35</sup> Stringent asepsis was difficult in World War I field hospitals.

Modern experience is skewed by more destructive weapons *versus* air evacuation, paved roads, motorized transport and elaborate casualty evacuation systems. Massively traumatized patients are quickly delivered to hospital. In World War I, they died on the field. Hess was wounded on 8 Aug 1917, only reaching hospital the next day. Romanian roads were shockingly bad.<sup>36</sup> That Hess survived day-long evacuation on a lurching mountain road without surgical intervention proves he was medically stable. This rules out the main indications for emergent thoracotomy, e.g. airway compromise and major blood vessel disruption. Clots were already formed and there was risk in disturbing them. Surgeons now had three years experience and outcomes were improved from early in the war.<sup>37</sup> Sauerbruch, now Hess’s surgeon, and without his eponymous negative pressure chamber, rightly judged surgery was

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<sup>31</sup> Hamilton: see note 27, p. 17.

<sup>32</sup> Tung, J., D. Carter, and J. Rappold, ‘Empyema commission of 1918—Impact on acute care surgery 100 years later’, *Journal of Trauma and Acute Care Surgery*, 2019. **86**(2): p. 321–325.

<sup>33</sup> Sauerbruch, T. and A. Hofmann, ‘Impressions of a Young German Surgeon on American Surgery a Century ago with special emphasis on the Brothers Mayo’, in Mayo Alumni Association, Rochester, 2015, at <<https://alumniassociation.mayo.edu/wp-content/uploads/2016/05/Hofmann-Manuscript.pdf>>

<sup>34</sup> Hamilton: see note 27, p. 172.

<sup>35</sup> Hamilton: see note 27, p. 174.

<sup>36</sup> See Sass, E., ‘Germans Storm Romanian Passes’, 2016. At <<https://tinyurl.com/wdq375o>> or <<http://mentalfloss.com/article/87950/wwi-centennial-germans-storm-romanian-passes>>.

<sup>37</sup> Bellamy and Zajtchuk: see note 29.

not indicated in this stable patient. 'Good surgeons know how to operate, better ones when to operate, and the best when not to operate.'<sup>38</sup>

## ***Coup d'œil***

Thomas asserts 'One can read at a cursory glance the injuries and operations a person has had.' The fact he missed two small punctuate scars is no impeachment of his medical skill. The glance of a 'few seconds' he was allowed was grossly inadequate. Hess's healed chest wounds were already small in 1917. 'Pea-sized' is commonly reckoned to be 5-10 mm, consistent with an entry wound from most of Romania's foreign rifles. The wounds scarred down greatly from their maximum size in 1917. 'Wound contraction is one of the most powerful mechanical forces in the body.'<sup>39</sup> Twenty-eight years passed before Dr. Hurewitz's examination and 56 years before Thomas.

Dr. Pittman describes his own examinations coming after publication of Thomas's book:

'I was essentially ordered on the first visit that I was not to look for or ask him about or write about that history. Actually I thought that was part of the reason the medic was always there listening and watching my every move! There were faded areas [consistent with his World War I wounds] that looked insignificant at the time.'

Dr. Pittman recalls Hess was hairy chested, obscuring his scars. Hirsutism is expected since Hess had synophrys (unibrow) and photos consistently show his five o'clock shadow.

Thomas had no natural light. The first encounter in September 1973, began about 17:00. Hess spent three-quarters of an hour with an ophthalmologist before his barium meal and upper GI series. Dr. Thomas could not sneak a peak until just before Hess was driven back at 20:45 – definitely after sunset. On the second occasion 25 September 1973, Hess arrived about 17:30. Again the encounter was shortly before Hess left, at about 19:00.<sup>40</sup> Sunset is 18:58 in Berlin on September 25th.<sup>41</sup>

These encounters were in the radiology department. These are notoriously

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<sup>38</sup> Editor, 'Knowing when not to operate', *British Medical Journal*, 1999; p. 318. At <<https://www.bmj.com/content/318/7180/0.1>>.

<sup>39</sup> Atiyeh, B., et al., 'Improving Scar Quality: A Prospective Clinical Study', *Aesthetic Plastic Surgery*, 2002. **26**: pp. 470–476.

<sup>40</sup> Thomas: see note 6, pp. 21 and 25.

<sup>41</sup> Date, T.a. *September 2019 – Sun in Berlin*. At <<https://www.timeanddate.com/sun/germany/berlin?month=9&year=2019>>.

dark places, jokingly dubbed 'the black hole'. This is especially so during a flouroscopy exam. Thomas describes that 'As usual, the examination was conducted in darkness, with Leach wearing his infrared eye-shield between screening sessions, to keep his eyes acclimatized to the dark so he could see into the machine with better definition'. Thomas recounts his viewings as shortly after the lights were switched on.<sup>42</sup> This perhaps left him dazzled and unable to see clearly.

On the first occasion, Thomas viewed Hess side-on, we are not told which side. Even if on the correct (left) side, he would see nothing as the scars were on the front chest and back. From the description of the second encounter he was in front of Hess, where the smaller wound was. Thomas did see the two suicidal chest scars noted by Hurewitz. He would know these from prison medical records. Thomas consulted a biography recounting Hess was 'seriously injured in the lung', but not the exact locations. Thomas did not find Hess's Imperial medical records until after his casual encounters. His mistake could have been avoided if he had been able to make a proper examination armed with this exact information. 'I did not see No. 7 again during the rest of my two-year tour.'<sup>43</sup>

## **Battle-scarred veterans**

The point has been frequently made that Thomas was an army surgeon during the Northern Ireland troubles. The service of a war surgeon is essential and arduous. With respect, however, it is not pertinent. Also unhelpful is my own experience with gun shot wounds in the emergency room and at autopsy, or as the Battalion Surgeon, 4/6th Infantry (Mech) managing the largest mass casualty in the Panama war (the battle of *El Chorrillo*), or as Director of the Deployed Combat Casualty Research Team in Iraq. Fresh battle wounds are not subtle old scars. Old scars are not a medical research problem, so the literature is mute. Personal experience is the only guide. Due to large differences in military history and medical systems, Britain affords little specific experience. The UK maintains a much smaller, tactically-oriented military medical establishment. Veteran care was dispersed in the National Health Service after 1948. By the 2000s the last military hospitals in the UK were closed.<sup>44</sup>

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<sup>42</sup> Thomas: see note 6, pp. 19-24.

<sup>43</sup> Thomas: see note 6, p. 26.

<sup>44</sup> Davies, C., 'The military hospitals that have closed', in *The Telegraph*, 3 October 2006, London, at <<https://tinyurl.com/s3y32ub>> or <<https://www.telegraph.co.uk/news/uknews/1530398/The-military-hospitals-that-have-closed.html>>.

In contrast, the large US military medical system maintains specialty training programs. Partly to meet demographic requirements for Graduate Medical Education certification, military retirees are cared for on a space-available basis. I was privileged to care for many World War II, Korea and Vietnam veterans. Fortunately, Britain has no Vietnam and few Korea veterans. The US had separate Veterans hospitals even before the formation of the Veterans Administration (V.A.) in 1930. Veterans hospitals were formerly affiliated with medical schools from 1945. Many of my clinical rotations were in a V.A. hospital. These were days of compulsive graded medical school histories and physicals. It was not uncommon to have to ask where a veteran's combat scars were. An informal poll of classmates proved this a shared experience. Not to prejudice responses, I queried without context:

'At the VA hospital or elsewhere did you ever have a hard time finding an old war scar or have to ask where it was? Did you see any scars that were healed to the point of invisibility?'

An Emergency Medicine specialist replied:

'Why the question? Yes to both. Significant factors: wound site/scar exposure to sunlight and personal habits [e.g., smoking cigarettes] . . . Hard to find scars ranged between a few years to decades in age.'

Upon providing the context and 1917 description of Hess's wounds, he commented further:

'Excellent location for scars to vanish over time. The key wording here is "non-reactive". The scars in the area described would be almost always covered against sunlight with natural body oils to hydrate, etc.'

## **Scarred perception**

The ease of recognizing linear features is a truism of camouflage and aerial photo interpretation: '. . . linear features are remarkably visible upon photography of even the smallest scales.'<sup>45</sup> However, even linear surgical scars are frequently missed on physical examination. Thomas himself provides the example that Hess's autopsy, conducted for hours under bright light, missed one of his attempted suicide chest scars.<sup>46</sup> A study of 208 missed physical exam findings producing medical errors and adverse events provides statistics.

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<sup>45</sup> Newcomb, R., Symposium S 4a: 'Two Keys For The Historical Interpretation of Aerial Photographs', in *The Rural Landscape and its Evolution*, 1964. Birmingham, UK: 20th International Geographical Congress.

<sup>46</sup> Thomas, W.H., *Hess: A Tale of Two Murders* (London: Hodder and Stoughton, 1988) p. 185.



In 22 cases (10%), the finding was missed by six or more physicians. In 46 cases (22%), the finding was undiscovered for more than 20 days. Four errors (2%), were missed surgical scars. Some patients were examined by surgeons, who even performed unnecessary operations.<sup>47</sup>

These scars were missed notwithstanding adverse effects on ill patients. Old merely incidental scars are commonly missed. Since even linear scars are commonly missed, it is small wonder that Hess's small punctuate scars were missed after decades of contraction in a hirsute patient during hurried, poorly-lit, encounters of only 'a few seconds'.

## **Forensic autopsy of Rudolf Hess**

'Two post mortems found no trace of any gunshot wounds, even using multiple soft tissue X-rays, extensive microscopic examination of the lungs, and specialist techniques to look for minute metallic residue.'<sup>48</sup>

No metal fragments were found because the bullet exited intact as was typical for contemporary ammunition. However, the autopsy did find battle wounds strongly supporting Hess's identity:

'Arms: No fractures were detected in either forearm, hand, or right humerus (upper arm), whilst the left humerus (upper arm) revealed two radio-opaque foreign bodies near the mid to upper shaft suggestive of an old gunshot wound. No recent injuries were detected.'<sup>49</sup>

These 'foreign bodies' *exactly* accord with his medical records. Hess was twice wounded in the upper left arm.

'12.6.16 Wounded near Douaumont [Verdun], artillery missile left hand and upper arm.'

'27.7.17 Wounded in the hills between Ojtoztal and Slanic (left upper arm). Remained with Unit.'<sup>50</sup>

Thomas missed both these arm wounds. 'The absence of scars proved that No. 7 had never been wounded in the chest on this scale. Nor had he been wounded in the upper arm.'<sup>51</sup> These documented oversights provide no

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<sup>47</sup> Vergheese, A., et al., 'Inadequacies of Physical Examination as a Cause of Medical Errors and Adverse Events: A Collection of Vignettes', *American Journal of Medicine*, 2015. 128 (12), pp. 1322-4.

<sup>48</sup> Rosthorn: see note 1.

<sup>49</sup> Cameron, J. M., *Autopsy Report on Allied Prisoner No. 7* (The London Hospital Medical College, University of London, 1987) p. 8.

<sup>50</sup> Thomas: see note 6, p. 28.

<sup>51</sup> Thomas: see note 6, p. 30.

confidence in his claim Hess lacked a chest scar. Thomas does helpfully confirm Hess's hand wound from Verdun. 'I saw at once the two small linear scars reported by Hurewitz, and also a small scar on one wrist.'<sup>52</sup>

'Pelvis: The presence of opaque foreign bodies – possibly old gut-shot residue – were observed in the soft tissues of the lower pelvic region and thighs.'<sup>53</sup>

These are not in Hess's records. The fragments could be due to Hess's artillery wounding at Ft. Douaumont, Verdun. Multiple shrapnel wounds were the norm in World War I.<sup>54</sup> Thomas provides a simpler explanation. The X-rays were taken with his clothing still on. Thomas concludes metal flakes were picked up on Hess's pants from the floor of the garden shed where he was found.<sup>55</sup> No lateral X-ray was performed to resolve this.

Thomas relies on the apparent lack of a chest wound at autopsy. As with Hurewitz's examination we must ask: What was the purpose of the autopsy? Obviously, it was to determine the cause of death. It was not to examine 70 year-old war wounds or to settle the identity issue. Thomas confirms this in hurt tones:

' . . . Dr. Cameron arrived in Berlin without having read the first edition of this book, and without even knowing what I had claimed in it. . . . How could Cameron possibly refute my theory if he did not know what I had said?'<sup>56</sup>

Indeed.

Physicians must focus on the task at hand. This was especially so in the scrum of military brass at the autopsy described by Thomas. There were four allied Prison Governors each with a medical representative, the Commander of the British Military Hospital, and five investigators. This intimidating crowd of at least 14 rather outnumbered the lone pathologist. Thomas goes on 'But everyone concerned was so keyed-up by the highly-charged atmosphere, and so nervous of making a mistake . . .'<sup>57</sup>

Indeed.

It is untrue to say the autopsy lacked evidence of Hess's chest wound. The report notes:

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<sup>52</sup> Thomas: see note 6, p. 21.

<sup>53</sup> Cameron: see note 49.

<sup>54</sup> Chase, C., 'Notes on Service in the French Army Medical Corps', *Annals of Surgery*, 1917. **LXVI**(1): pp. 1-12.

<sup>55</sup> Thomas: see note 46, p. 183.

<sup>56</sup> Thomas: see note 46, pp. 182-3.

<sup>57</sup> Thomas: see note 46, p. 183.

'Chest: Elevation of the left dome of the diaphragm with adhesions to the left chest were noted. . . . The right chest cavity was clear, there being no adhesions on the right side of the chest, with minimal sub-pleural (lung lining) petechiae (haemorrhagic spots) being detected. There was no evidence of natural disease, to the naked eye, other than congestion and minimal oedema affecting the right lung. The left lung, however, was firmly adherent to the chest wall and diaphragm with extensive old adhesions and resulting elevation of the left dome of the diaphragm. The left lung was X-rayed (five (5) blank test films and one (1) soft tissue X-ray plate) before being retained for fixation in formalin, revealed slight old scarring but no definite radio-opaque opacities. After fixation the lung (Exhibit No. NL/16) on examination apart from congestion. Merely confirmed old pleural and diaphragmatic adhesions.'<sup>58</sup>

This careful examination shows Cameron tried to document Hess's chest wound. The extensive adhesions on the left lung and not the right are probably due to that wound.

### **'It Ain't Necessarily So.' – George Gershwin**

Thomas makes silos of hay from Hess's apparent lack of rib fractures.<sup>59</sup> Any healed fractured ribs would probably not be visible after many decades. We have statistics for non-displaced rib fractures. Half of them are not acutely visible on X-ray and all have complete radiological healing by 12 weeks.<sup>60</sup>

Thomas posits massive lung damage to insist on visible sequelae on X-ray and autopsy.

'The missile itself destroys the lung-tissue in its path, and the accompanying kinetic energy destroys or severely bruises the tissue surrounding the actual track. The diameter of the core destroyed by a high-velocity bullet is generally about two inches, and the old fashioned bullets such as those used in First World War tended to cause greater disruption than modern ones. When the lung heals, the dead matter is replaced by fibrous tissue. Both this and the pneumonic consolidation left by the collapse of the surrounding part of the lung show up clearly on X-rays.'<sup>61</sup>

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<sup>58</sup> Cameron: see note 49.

<sup>59</sup> Thomas: see note 6, pp. 31-32.

<sup>60</sup> Herring, W. *Healing Rib Fractures*, 2019. At <http://www.learningradiology.com/notes/bonenotes/healingribfxs.htm>.

<sup>61</sup> Thomas: see note 6, pp. 31-2

This misstates wound ballistics and the history of small arms. Jacketed bullets were invented in 1882. They have hard metal covering lead cores to increase muzzle velocity and range and prevent fouling and feed problems. Jacketed bullets were far less destructive than traditional soft lead bullets which deformed and often fragmented.<sup>62</sup> To forestall any inadvertent humanity, the British cut tips off metal-jacketed Mark II .303 ammunition. This improvisation by the Dum-dum arsenal led to the world's first hollow point ammunition, the Mark III. The 1899 Hague Convention banned such expanding bullets.<sup>63</sup>

Even after advent of spitzer bullets, jacketed ammunition in this period was far less destructive than what preceded or followed. The real target ballistics experts are large game hunters. I know three avid generations of them in my rural family. They routinely use a variety of ammunition and dissect kills for subsistence. While military surplus rifles began the supplanting of shotguns amongst US deer hunters after the world wars, full metal jacket (FMJ) ammunition was soon abandoned. It lacks stopping power to prevent animals running where they can't be found. Lists of favored deer ammunition feature expanding bullets, FMJ ammunition being notably absent.<sup>64</sup> Low lethality is viewed as animal cruelty. Review of 11 state hunting laws found that Illinois and Indiana ban hunting with FMJ ammunition.<sup>65</sup> Spot checks of additional game laws found this prohibition extends to at least Arkansas, Nevada, Tennessee and Oregon. South Carolina, one of the most permissive jurisdictions, nonetheless discourages FMJ ammunition.<sup>66</sup>

Unless a critical structure was hit, the effect of FMJ ammunition is surprisingly mild.

'Wounds of the lungs caused by the 2 types of bullet, old and new, were strikingly different, and the mortality from the Mauser [jacketed] type was very low indeed. The wounded recovered from these in a manner which

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<sup>62</sup> Bellamy and Zajtchuk: see note 29.

<sup>63</sup> Wikipedia, *Full metal jacket bullet*. At <[https://en.wikipedia.org/wiki/Full\\_metal\\_jacket\\_bullet](https://en.wikipedia.org/wiki/Full_metal_jacket_bullet)>. Geneva Academy of International Humanitarian Law and Human Rights, *Weapons Law Encyclopedia*, 2017. At <<http://www.weaponslaw.org/instruments/1899-hague-declaration>>.

<sup>64</sup> Massaro, P., 'Top 5 Deer Bullets', *American Hunter*, 2015. At <<https://www.americanhunter.org/articles/2015/12/16/top-5-deer-bullets/>>. Johnston, J. and L. Pyne, '11 Best Rifle Cartridges for Whitetail Deer', *Field and Stream*, 2019. At <<https://www.fieldandstream.com/11-best-cartidges-for-whitetail-deer/>>.

<sup>65</sup> Machine, M.G., *State Laws for Hunting*, 2019. At <<https://matchgrademachine.com/state-laws-for-hunting/>>.

<sup>66</sup> LAWS, *South Carolina Hunting Laws*, 2019. At <<https://gun.laws.com/state-hunting-laws/south-carolina-hunting-laws>>.

previously was not possible. The external wounds appeared like small incisions rather than contused lacerations, and they closed very rapidly. The absence of any explosive effects and the great infrequency with which bits of clothing or any other foreign material was carried into the wound was noteworthy and contributed to the remarkable healing.

An example is given to illustrate this: a Boer shot through the lung smoked his pipe comfortably the next day and on the one following he insisted on going home to his wife. Penetration of both lungs at times scarcely showed, and then only by evidence of slight superficial bleeding, although a degree of haemothorax was not uncommon. Of 154 men shot through the chest, 73 were returned to the front line.'<sup>67</sup>

This was confirmed in World War I.

'The remarkable absence of symptoms often observed in cases in which a rifle bullet has traversed important structures is well known. In one Belgian soldier a bullet entered the chest at the level of the ninth rib in the left mid-axillary line, and was removed from beneath the skin over the ninth rib on the right side, at a point rather anterior to that of entry. The bullet must thus have passed through the pleura, liver, stomach, and probably the spleen. No ill results followed . . .'<sup>68</sup>

Jacketed bullets transfer a small fraction (8%-19%) of their kinetic energy traversing soft tissue.<sup>69</sup> Hess's lack of retained metal fragments in the lung, proves the bullet exited intact carrying most energy with it. This is the expected result: X-ray examination of 180 World War I combat wounds found retained metal of any type (including whole bullets, bullet fragments and shrapnel) in only in 29%. Bullet fragments were only found in 25 cases.<sup>70</sup>

Modern bullets effectively evade the Hague Convention *via* high velocity and by tumbling and fragmenting on impact. This transfers more energy and causes more damage than bullets in the world wars which were relatively stable and remained intact.

'Projectiles with lower absolute kinetic energy sometimes transfer more kinetic energy to than do more energetic projectiles. In these instances, energy transfer by the less energetic projectile is more complete. For example, the bullet of the M16 assault rifle frequently transferred more

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<sup>67</sup> James, T., 'Gunshot Wounds of the South African War', *South African Medical Journal*, 1971 pp. 1089-94.

<sup>68</sup> Lambert: see note 28.

<sup>69</sup> Bellamy and Zajtchuk: see note 29.

<sup>70</sup> Lambert: see note 28.

kinetic energy than the 7.62-mm bullet of the AK47 assault rifle did (424 J versus 153 J) even though the latter fired a much more energetic bullet (1,919 J versus 1,543 J).<sup>71</sup>

Lung is the most resilient tissue to ballistic injury.

'Lung tissue has very low density compared to other organs in the body (that is, 0.2 g/ml<sup>3</sup>; other organs' density is about 1.0 g/ml<sup>3</sup> and the density of bone is about 2.0 g/ml<sup>3</sup>). According to the drag equation, resistance offered to the passage of a projectile will be low if the target's density is low; thus, energy transfer and tissue damage may be correspondingly small. Lung is also easily stretched compared to other organs. As a result of these physical properties, lung has considerable tolerance to the stretch and shear of temporary cavitation.'

An example is provided:

'This casualty was killed by an AK47 wound of the skull, but he also sustained the lung wound shown in this photo. There is little evidence of hemorrhage or ecchymosis around the probe, which delineates the permanent cavity.'<sup>72</sup>

## **Phrenic nerve palsy**

**H**emidiaphragm elevation often indicates pathology in the overlying lung. Hess's extensive lung adhesions to chest wall and diaphragm were exclusively on the left side. They could result from an old inflammatory process like pneumonia, but is the probable sequela of his bullet wound. Thomas blames this left diaphragm elevation on Hess's perforated ulcer.<sup>73</sup> This is implausible since the duodenum is anatomically right of the midline. Abdominal pain can be misleading, but this anatomy and the spread of gastric fluid is reflected in symptomatology. Duodenal ulcer pain is classically mid line epigastric (61%), when it does lateralize it is usually to the Right Upper Quadrant (17%) with pain in the Left Upper Quadrant being rare (only 3%).<sup>74</sup> The fact Hess recovered from his ulcer perforation without surgery argues against gastric

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<sup>71</sup> Bellamy and Zajtchuk: see note 29.

<sup>72</sup> Bellamy and Zajtchuk: see note 29.

<sup>73</sup> Thomas: see note 46, p. 186.

<sup>74</sup> Earlam, R., 'A Computerized Questionnaire Analysis of Duodenal Ulcer Symptoms', *Gastroenterology*, 1976. **71**(2): pp. 314-31

fluid dissemination.<sup>75</sup>

The radiographic record does not reveal the reason for his diaphragmatic elevation. Published films stem from Hess's hospitalizations.<sup>76</sup> Hess's earlier X-rays are not in the Spandau record. Therefore, we cannot rule out diaphragmatic elevation being present already. Dr. Pittman recalls the Spandau X-ray facility as rudimentary, the films were poor and not read by radiologists. Records note that 'Chest X-ray taken two days ago was worthless because of technician's error'. There are many useless descriptions such as 'Repeat chest X-ray today' or 'Chest X-ray taken showed no change from previous films.' By the 1960s, Hess refused X-rays at Spandau.<sup>77</sup>

'Nerves and vessels are often relatively fixed anatomically and therefore are vulnerable to the temporary distorting effect of cavitation. They can remain macroscopically intact away from the permanent cavity; however, intimal damage in vessels and axonal damage in nerves can result in functional failure even some distance from the path of the bullet.'<sup>78</sup>

Hess's bullet passed near the left phrenic nerve controlling the left diaphragm.<sup>79</sup> Its injury produces left diaphragmatic paralysis. This condition is often asymptomatic, but produces chronic diaphragmatic elevation on X-ray.<sup>80</sup>

Hess's chest wound ended his infantry career and led him to pilot training. Disability evaluation best accounts for his long hospitalization, not the severe wound Thomas assumes. '[Hess was]. . . left permanently short of breath while climbing hills in later life. Obviously the injury caused substantial damage to the left lung.'<sup>81</sup> Phrenic nerve injury, likewise, '. . . does however leave a significant degree of respiratory handicap. This would be consistent with the symptoms of breathlessness on exertion or walking up hills.'<sup>82</sup> Hess's

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<sup>75</sup> Moulya, C., et al., 'Therapeutic management of perforated gastro-duodenal ulcer: Literature review', *Journal of Visceral Surgery*, 2013. **150**: pp. 333–340.

<sup>76</sup> Thomas: see note 46, figure after p. 160.

<sup>77</sup> Army, U., *Records of US Army Commands: Records Relating to Spandau Prison, 1947-1987.*, DOD, Editor. 1987, National Archives and Records Administration, Tapes 1-36

<sup>78</sup> Penn-Barwell, J., K. Brown, and C. Fries, 'High velocity gunshot injuries to the extremities: management on and off the battlefield', *Current Reviews in Musculoskeletal Medicine*, 2015. **8**: pp. 312–317.

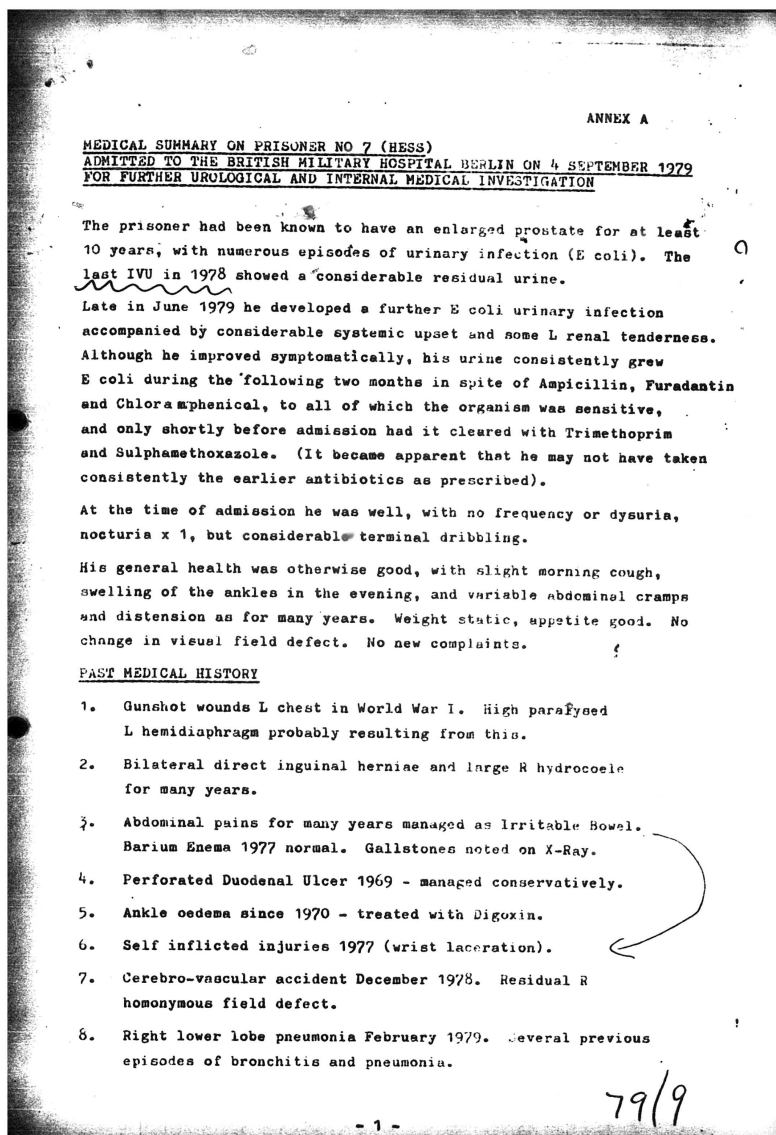
<sup>79</sup> Aquino, S., G. Duncan, and L. Hayman, 'Nerves of the thorax: atlas of normal and pathologic findings', *Radiographics*, 2001. **21**(5): pp. 1275-81

<sup>80</sup> mactheknife.org/, 'Paralysis of the diaphragm following blunt trauma', 2019. At <[https://www.mactheknife.org/Cases\\_trauma/Paralysed\\_diaphragm.html](https://www.mactheknife.org/Cases_trauma/Paralysed_diaphragm.html)>.

<sup>81</sup> Thomas: see note 6, p. 31.

<sup>82</sup> mactheknife.org: see footnote 80.

physicians attributed his diaphragmatic elevation to the World War I lung wound *via* this paralysis mechanism. See Fig 2.<sup>83</sup>



**Fig. 2.** Hess left hemidiaphragm elevation attributed to paralysis from bullet wound, Item #1

## Medical Privacy

Thomas continues: 'We are not told the identity of the member of the Hess family who supplied a matching sample of DNA . . . '84

This objection ignores our clear explanation.

'With respect to the privacy of the reference sample donor and the Hess family we did not include any genotype or haplotype as well as the precise degree of kin between Rudolf Hess and the reference sample donor not

<sup>83</sup> Army, U.: see note 77.

<sup>84</sup> Rosthorn: see note 1.



least because any male could engage commercial companies in order to compare his own DNA with the results of this study.<sup>85</sup>

This precaution was not 'the decision of the Austrian researchers'. Genetic privacy was a specific requirement of both the reference sample donor and ethics committee. Without this, the study could not be performed, nor published. The wisdom of this measure is already vindicated, as a Hess pretender has surfaced demanding testing.

The donor's concern is perfectly reasonable. The current family generation is very private. They bear an awful stigma making them a magnet for bad publicity and disturbed people. The family lost their church burial plot due to neo-Nazi pilgrimage.<sup>86</sup> Not only Rudolf, but all their remains were cremated. The precise information of pedigree and genotypes was provided to the two expert reviewers. It was closely examined and used in a lively debate about statistical calculations. Our estimate of the certainty of relatedness in the DNA match was somewhat higher than that published.

### **'Out damned spot, I say!' – Lady Macbeth**

**O**ur study is criticized because 'the new report lacks information on how, when and why the blood sample was drawn from the Prisoner in the tightly controlled prison at Spandau'.<sup>87</sup> Thomas is correct, we did not say 'routine health check'. This was the phrase of *New Scientist*. We actually said: 'The blood sample from prisoner Spandau #7 was taken by one of the authors during regular medical care measures (including the preparation of the slide sample and Coulter Counter® analysis) under US military jurisdiction.'

'We have not been told the date on which this thirty year old blood sample was drawn from the prisoner.'<sup>88</sup> Full marks to Thomas for observing the Heidelberg MEDDAC slide label. 'Reading between the lines', however, he then makes erroneous assumptions about delays in sample transport from Berlin to Heidelberg, resulting effects on DNA degradation and validity of the Coulter results. Even if true, the DNA degradation Thomas posits is immaterial. Polymerase Chain Reaction (PCR) amplifies genetic material millions of fold allowing successful sequencing even of ancient degraded samples.

We gave the date of the Coulter count, 15 Dec 1982. Coulter counts must

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<sup>85</sup> McCall et al: see note 3.

<sup>86</sup> 'Top Nazi Rudolf Hess exhumed from "pilgrimage" grave' at <<https://www.bbc.co.uk/news/world-europe-14232768>>.

<sup>87</sup> Rosthorn: see note 1.

<sup>88</sup> Rosthorn: see note 1.



hospital, but one was on call with regular lab visits. This duty was shared quarterly by four US army pathologists in Germany. Dr. Wahl, stationed in Heidelberg, was making a supervisory visit. He made the blood smear in Berlin, cover slipped it and hand-carried the now stable slide to Heidelberg, then affixing the paper label. Mystery solved. See Fig. 4.



**Fig. 4**

Hess slide  
front  
labeled  
with drying  
rings, slide  
back with  
grease  
pencil

### **The Dukes of Provenance**

'The whole "DNA results" depends on the Provenance of the DNA sample. In court cases, it is required that there be an impeccable "paper trail" for evidence. Ideally, every step in the collection of evidence is documented, with the evidence never being under the control of one individual or lying-around "loose". Contrast that with the Hess DNA sample. Yeah . . . '90

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<sup>90</sup> Farrell, J. 'The Hess DNA Thing', Giza Death Star, 2019. At <<https://gizadeathstar.com/2019/01/the-hess-dna-thing/>>.

This misstates legal procedure. 'Two commentators have written that the governing federal rule "can easily be read as doing away with any chain of custody requirement.'" <sup>91</sup> Examples of chains of custody show that sole custody is standard practice.<sup>92</sup> Chain of Custody is only required '. . . if the condition of the object, not merely its identity, is the relevant issue, a chain of custody may be required to establish that the object has not been altered during police custody. This requirement is a necessary safeguard for evidence that is susceptible to undetected contamination or deterioration, such as blood samples.'<sup>93</sup> The Hess slide is not subject to this requirement. Unlike a liquid blood sample, a dried cover-slipped smear is highly resistant to 'undetected contamination or deterioration'.

The slide was identified with the Spandau prisoner number in wax pencil on the glass, by the paper label and by the Coulter slip labeled '#7 Spandau. The wax pencil notation '#7 (illegible) Spandau' is visible in mirror image under the paper label. (See Fig. 4 above.) It is also identified as the smear of Hess's blood by Dr. Wahl who prepared and handled it personally. Such a sample requires no chain of custody. Federal case law establishes that 'The chain of custody is not relevant when a witness identifies the object as the actual object about which he has testified.'<sup>94</sup> 'The Federal Rules recognize this method of identification. Rule 901(b)(4), entitled "Distinctive characteristics and the like", provides that "appearance, contents, substance, internal patterns, or other distinctive characteristics, taken in conjunction with circumstances" may satisfy the authentication requirement.'<sup>95</sup>

A formal chain of custody would be ideal, but the study is unavoidably retrospective. The blood sample was drawn for clinical reasons and the slide kept for medical education. There was no thought in 1982 it would be used for identification as the technology did not exist. In addition to the Coulter counter slip and redundant slide labeling, we have a chain of physician custody and now confirmation from Spandau records.

Our study was published in *Forensic Science International: Genetics*, a

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<sup>91</sup> Giannelli, P., 'Chain of Custody', *Public Defender Reporter*, 1993. **16**(4)

<sup>92</sup> Dasugpta, A., 'Chain of Custody for Urine Drugs of Abuse Testing, Ask the Expert': in *Clinical Laboratory News* January/February 2019, at <<https://tinyurl.com/sl9d4hz>> or <<https://www.aacc.org/publications/cln/articles/2019/janfeb/chain-of-custody-for-urine-drugs-of-abuse-testing>>.

Bergman, P. "'Chain of Custody" for Evidence', NOLO 2019. At <<https://www.nolo.com/legal-encyclopedia/what-chain-custody.html>>.

<sup>93</sup> Giannelli: see note 91.

<sup>94</sup> Giannelli: see note 91.

<sup>95</sup> Giannelli: see note 91.

leading DNA identification journal. This paper received the most extensive peer review we have experienced. Intense scrutiny doubtless resulted from its newsworthiness. The publication process took over two years. None of the reviewers or editors, who are DNA experts, ever questioned sample provenance. On the contrary, Reviewer #2 stated: 'There seems little doubt about the authenticity of the biological sample from Spandau #7.'

Another attack by Thomas:

' . . . admit that their sample was for a time in the custody of the Hess family and delivered to the Austrian researchers by an unnamed member of that politically suspect family undermines the provenance of both samples. 'The Doppelgänger Conspiracy Theory Disproved' team have limited the information they give on how, where and why the blood sample to one sentence in a 22-page report.'<sup>96</sup>

The paper is not 22 pages as repeatedly stated. That was a differently formatted on-line early release version which also had separate pages for each illustration. The actual printed length is under five pages. No DNA journal would allow the space and figures necessary to present the case here. The accessible venue provided by the *Lobster* to discuss issues in adequate detail is an important public boon.

Secondly, pathology samples are seldom misattributed. A prostate cancer study of 18,000 surgical specimens prospectively and retrospectively confirmed sample identity by DNA genotype. The error rate was only 0.24% for tissue samples and 0.5% for blood samples.<sup>97</sup> This error rate was in the context of a large multi-center clinical trial. In this case, we have a single sample specially handled at all stages, an inherently more secure procedure.

Thomas's naive objections betray his training before the advent of DNA testing. Sample provenance would have been critical in the event of a non-match. Given our fact pattern, however, the perfect DNA match to a family member proves it is an authentic sample and not misattributed. Indeed, DNA genotyping is the gold standard for identifying mislabeled pathology samples and extraneous tissue fragments.<sup>98</sup>

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<sup>96</sup> Rosthorn: see note 1.

<sup>97</sup> Marberger, M., et al., 'Biopsy Misidentification Identified by DNA Profiling in a Large Multicenter Trial', *Journal of Clinical Oncology*, 2011. **29**(13): pp. 1744-49.

<sup>98</sup> Marberger, M., et al., see note 97.

Gras, E., et al., 'Application of microsatellite PCR techniques in the identification of mixed up tissue specimens in surgical pathology', *Journal of Clinical Pathology*, 2000. **53**: pp. 238-240; Mariappan, M., et al., 'Identification of Mislabeled Specimen by Molecular Methods: Case Report and Review', *International Journal of Surgical Pathology*, 2005. **13**(3): p. 253-8.

The attack on the family is grasping at straws. Why would the 'politically suspect' Hess family refuse the study for a decade and then suddenly fabricate a sample to relieve the embarrassment of the evil Allies? It was unavoidable that the family handled the reference sample because the donor would not meet us and would not travel. It is also utterly irrelevant, because *the family never touched the Hess slide*. That sample was sent by Dr. Wahl to me by registered mail and then to Dr. Cemper-Kiesslich by registered mail, the most secure form of sealed, locked, signed chain of custody and delivery. The family DNA profile was determined *before* the Hess slide was sent to the lab. It was impossible to fake the family reference sample. If #7 was an impostor, they wouldn't know the DNA profile to fake, even if this was possible. Only an authentic family sample and authentic Hess sample could match.

Thomas: 'Consultants have pointed out to me that there was no three-point lab identification to enable the identification of the slide in the pathology laboratory and protect the patient identity.'<sup>99</sup>

The prisoner number exactly fulfils these purposes. We didn't chose the system, it was imposed by Spandau regulations. It was used to address prisoners and in official correspondence.<sup>100</sup> See Fig. 5.

Spandau Allied Prison US

26 February 1962

LIST OF PRISONERS' WEIGHTS DURING FEBRUARY 1962

No.	24 Jan 62	2 Feb 62	15 Feb 62	24 Feb 62	Difference
1	64,5 kg	64,7 kg	64,8 kg	64,6 kg	+ 0,1 kg
5	81,5 kg	80,8 kg	82,5 kg	83,1 kg	+ 1,6 kg
7	60,0 kg	59,5 kg	59,0 kg	59,2 kg	- 0,8 kg

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BLOOD PRESSURE READINGS DURING FEBRUARY 1962

No.	24 Jan 62	2 Feb 62	15 Feb 62	24 Feb 62
1	110/60	105/70	100/65	95/65
5	126/60	120/70	125/70	125/70
7	105/60	105/65	95/65	110/60

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**Fig. 5**  
Spandau Physicians Committee Minutes with prisoner numbers.

<sup>99</sup> Rosthorn: see note 1.

<sup>100</sup> Spandau Prison, B.G., 'Minutes of the meetings of the physicians of the Spandau Allied Prison, 1947-1987', D.o.t. Army, Editor. 1987, National Library of Medicine, History of Medicine Division.

It was even used in casual conversation: 'You don't understand,' the guard replies, 'it is one of Number 7's shirts!' – British Guard Long to Medical Orderly, 6 January 1950 on the market in Nazi relics.<sup>101</sup> Hess's medical notes after 1980 were not found, but some of the myriad lab slips labeled with his prisoner number are illustrated. See Fig. 6.

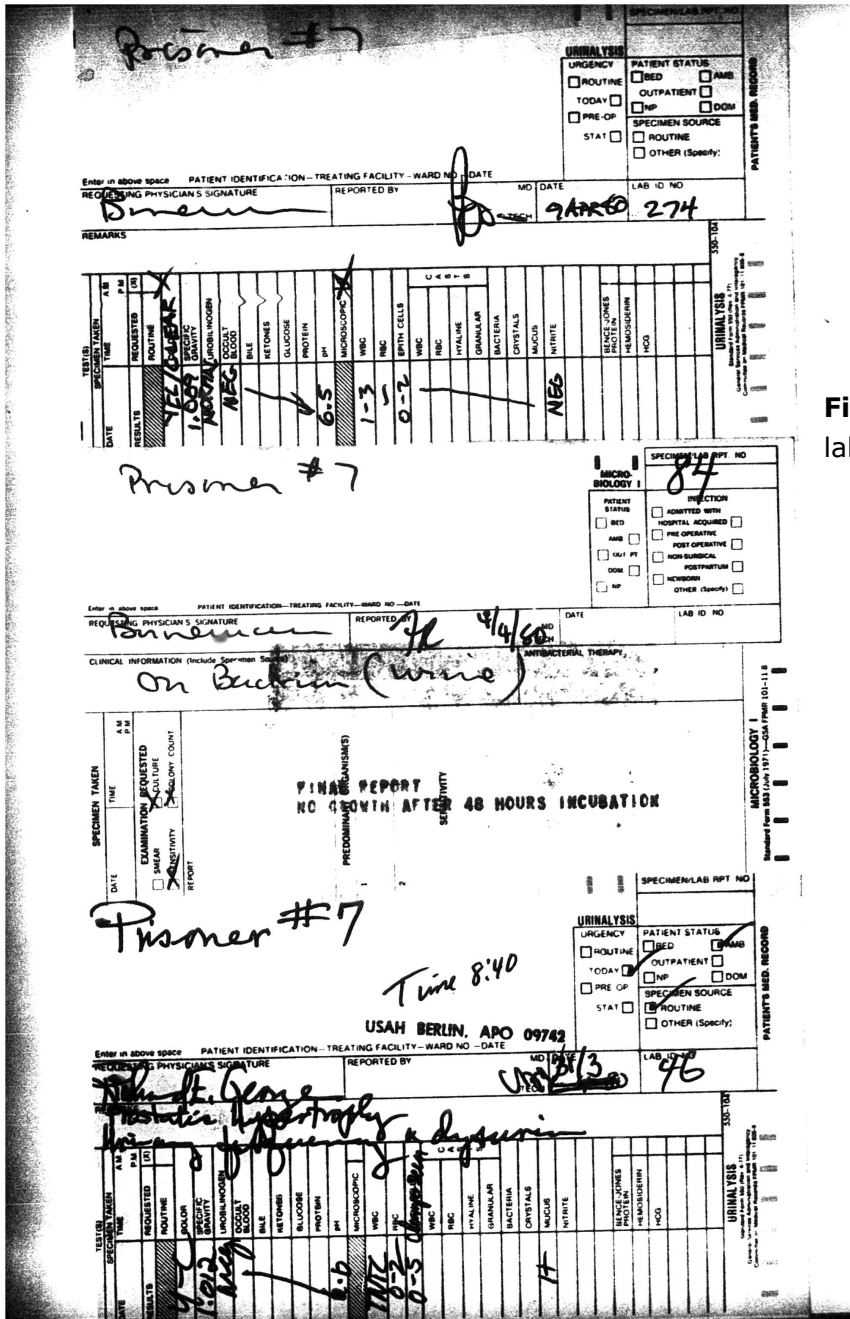


Fig. 6 Hess laboratory slips labeled "Prisoner #7."

Thomas: 'The undated, preprinted label prepared by the pathologist Rick Wahl "who interpreted the blood smear and maintained it under unbroken custody for teaching purposes" adds to doubts about its authenticity.'<sup>102</sup>

<sup>101</sup> Speer, A., *Spandau the Secret Diaries* (New York: Ishi Press, 2010)

<sup>102</sup> Rosthorn: see note 1.



There are no doubts. Slide labels have very limited space, so case numbers are normally used. Dates are superfluous for blood smears which are only normally retained for seven days.<sup>103</sup> The matching Coulter count was performed the same day. The Coulter slip was automatically dated at the top. Albeit faint, it clearly reads '15/12/82'.

Dr. Wahl explains:

'My interest was solely in identification of the specimen. I had previously lectured about the importance of exact identification of a specimen. This case provided a rare example of how a single number specified a unique specimen, as the "unit" (Spandau Prison) had only a solitary occupant.'

Thomas: 'The only practical importance of the air-dried slide from 1982 was that it happened to permit a DNA identity check, after the invention of DNA identity tests in 1984 and long after their first use in the UK in 1986 and in the USA in 1987.'<sup>104</sup>

What a bizarre thing for a physician to say.

'The diagnostic relevance of a PBF [Peripheral Blood Film] is enormous. The PBF exposes the morphology of peripheral blood cells, which ensures its place in the morphologic diagnosis of various primary and secondary blood and blood related diseases. Its diagnostic relevance has not been lessened by advances in haematology automation and molecular techniques.'<sup>105</sup>

The blood count was ordered as part of intensified medical surveillance as Hess became aged. That Coulter count showed anemia and the blood smear was performed in accordance with standards of care.<sup>106</sup> Even if a blood smear is not ordered by the attending physician, 'The laboratory may initiate peripheral blood film based on abnormal findings from an automated count.'<sup>107</sup>

Thomas concludes our study 'would not satisfy most 21st century coroners. As a former medico-legal adviser to Northern Ireland solicitors I

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<sup>103</sup> Pathologists, C.o.A. *College of American Pathologists (CAP) Retention of Laboratory Records and Materials*. 2010 at <<https://tinyurl.com/yf9m4zva>> or <<https://www.ncleg.gov/documentsites/committees/PMC-LRC2011/December%205,%202012/College%20of%20American%20Pathologist%20Retention%20Policy.pdf>>.

<sup>104</sup> Rosthorn: see note 1.

<sup>105</sup> Adewoyin, S. and B. Nwogoh, 'Peripheral Blood Film – A Review', *Ann. Ibd. Pg. Med.* 2014, **12**(2): pp. 71-79. At <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4415389/>>.

<sup>106</sup> Bain, B., 'Diagnosis from the Blood Smear', *New England Journal of Medicine*, 2005. **353**: pp. 498-507.

<sup>107</sup> Adewoyin and Nwogoh: see note 105.



can say that most coroners would today ask for an independent, monitored repeat of the DNA test using material that is readily available.<sup>108</sup>

This is extraordinary as Thomas contends the Allied investigation either misdiagnosed or covered up Hess's murder.<sup>109</sup> (To his credit, Thomas's concerns about the manner of death appear well founded.) Thomas's assertion that expensive duplicate testing is normative is false. Even in criminal cases, the American Bar Association does not call for independent testing, only that: 'When possible, a portion of the DNA evidence tested and, when possible, a portion of any extract from the DNA evidence should be preserved for further testing.'<sup>110</sup>

### **'Only make the rubble jump' – Winston Churchill**

To refute the charge of fraud, I extensively reviewed the voluminous Spandau records. They comprise 36 microfilm reels at the National Archives in College Park, MD and papers at the National Library of Medicine, History of Medicine Division in off-site storage.<sup>111</sup> This record proves authenticity of the Hess slide in triplicate. Given the fact pattern and perfect DNA match, this result is expected and superfluous save to refute conspiracy theories.

Unfortunately, we erred in assuming Dr. Pittman drew the Hess sample. This was due to medical cross coverage during the Christmas leave period. By 1982, a decade after the encounters described by Thomas, Hess was 88. Medical surveillance was intensified during American guard rotations. The United States Command Berlin (USCOB) Surgeon's report of 28 Apr 1983 explains: 'Prisoner #7 was examined at least weekly by Colonel White or by one of the American Military Internists.' This duty usually fell to either Dr. Paul Brooke, Chief of Internal Medicine at the US hospital or Dr. Pittman (stationed in Berlin from 1980-84) who succeeded him as Chief. One of Pittman's frequent attendances is documented in the Medical Committee minutes. See Fig. 7.

These visits were in addition to the routine four-power health checks Thomas recounts.

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<sup>108</sup> Rosthorn: see note 1.

<sup>109</sup> Thomas: see note 46, Foreword.

<sup>110</sup> Committee, C.J.S., *ABA Standards for Criminal Justice: DNA Evidence*. Third Edition ed. 2007, Washington, D.C: American Bar Association. p. 158.

<sup>111</sup> Army, U., *Records of US Army Commands: Records Relating to Spandau Prison, 1947-1987.*, DOD, Editor. 1987, National Archives and Records Administration. Tapes 1-36. Spandau Prison, B.G.: see note 100.

SPANDAU ALLIED PRISON  
BERLIN GERMANY

6 April 1983

MINUTES

of the meeting of the Physicians of the Allied Prison of Spandau held on  
6 April 1983 at 1100 hours.

Present: Colonel White USA Chairman  
Colonel Quin UK  
Colonel Regnault FR  
Lt Colonel Platonov USSR

ORDER OF BUSINESS:

1. MEDICAL VISIT TO PRISONER #7 (HESS).

Prior to visiting the prisoner, Colonel White told the colleagues that on 5 April 1983 the prisoner developed dysuria and urinary frequency, and because of this Septra and Pyridium were started and a urinalysis and urine culture and sensitivity were obtained. Colonel White reminded the colleagues that it had been, to the best of his recollection, the end of 1982 since the prisoner had had a flare-up of his cystitis. The command surgeons visited the prisoner and found that he was improved and he voluntarily stated that he was having no dysuria now. He did state that he had five times nocturia last night. Colonel White briefly examined the prisoner and found him to be in good health with the exception that he had a reddish papular somewhat pruritic rash on his lower bilateral forearms. It was the command surgeons' opinion that more than likely this was an acute allergy to Septra. It was noted that he had no rash on other parts of his body and that he had no swelling of his face, eyes or lips. Colonel White stopped the Septra immediately and told the colleagues that he would send some Calamine Lotion as well as a new antibiotic (probably Ampicillin) up to the prisoner later in the day. He will also be visited in the morning by Major Phillip Pittman, Chief Internist. It was also noted by the colleagues that today the prisoner had only 1+ ankle edema. Colonel White also called to the colleagues' attention that during the last month the prisoner had gained one kilogram of weight and was now stable at 66.8 kilograms.

2. CONFIRMATION AND SIGNATURE OF MINUTES OF THE PREVIOUS MEETING.

a. Colonel White asked Colonel Quin if he was prepared to sign the minutes

**Fig. 7** Spandau Physicians Committee Minutes, 6 April 1983, noting Dr. Pittman's attendance.

The printing on the Coulter slip is quite faint. An overexposed scan is provided for legibility. The sample was drawn on 15/12/82. (See Fig. 3) This is confirmed by the nurse's note for that date at the bottom of this log page. See Fig. 8.

DATE	VERORDNUNGEN
12.12.82	DAS PÖßERN SCHWISSEN DER BEINE VERWIRRT ER, UM DAS WIE ER SAGT, ES NICHT NÜTZLICH IST, ES HILFT IM NICHT. BRUCHBAND ANGELEGT. FÜSSE MIT ESSAVIN BEHANDELT. ELASTISCHE STRÜMPFE ANGEZOGEN UM 17.30 UHR BIS 16.30
12.12.82	BRUCHBAND ANGELEGT. FÜSSE MIT ESSAVIN BEHANDELT. ELASTISCHE STRÜMPFEN ANGEZOGEN.
U	URINTEST NACH MULTISTID, C PH 6.5 ALLE ANDER REAGENZEN Ø
S	STUHLTEST NACH S.K.D SYSTEM. NEG.
12.12.82	BRUCHBAND ANGELEGT. FÜSSE MIT ESSAVIN BEHANDELT. ELASTISCHE STRÜMPFEN ANGEZOGEN. FÜHRT SICH SCHWACH UND SCHWINDLICH. 10.55 UHR. PFT GEHT IHM GUT. KEINE SCHWINDEL GEFÜHLE MEHR. VERWEIGT BLUTDRUCK MESSUNG.
12.12.82	BRUCHBAND UMGEGLEGT. FÜSSE MIT ESSAVIN BEHANDELT. ELASTISCHE STRÜMPFEN ANGEZOGEN. SEHT IHM GUT NACH SEINEN ANGABEN!!! ELASTISCHE STRÜMPFEN AUSGEZOGEN UM 16.00
12.12.82	BRUCHBAND UMGEGLEGT, FÜSSE MIT ESSAVIN BEHANDELT. ELASTISCHE STRÜMPFE ANGEZOGEN, FÜHRT SICH GUT. RIR + PULS NORMAL. ST. ABGEZOGEN UM 16.20
12.12.82	BRUCHBAND ANGELEGT. FÜSSE MIT ESSAVIN MASSIERT. ELASTISCHE STRÜMPFE ANGEZOGEN.
U	URINTEST NACH N-MULTISTID, C PH 6.5 ALLERGIN + URIDILINOLIN ALLE ANDER REAGENZEN Ø STRÜMPFEN AUSGEZOGEN UM 16.10
12.12.82	BRUCHBAND ANGELEGT. FÜSSE MIT ESSAVIN MASSIERT. ELASTISCHE STRÜMPFE ANGEZOGEN.
S	STUHL NACH S.K.D SYSTEM. NEG. STRÜMPFE AUSGEZOGEN UM 16.10 UHR.
12.12.82	BRUCHBAND ANGELEGT. FÜSSE MIT ESSAVIN MASSIERT ELASTISCHE STRÜMPFE ANGEZOGEN NACH ANORDNUNG MALA BRUT-ABNAHME, MEDIKAMENTEN (MORGENS Med.) UND FRÜHSTÜCK SPÄTER. LANGZEIT ERG 24 STD. MONG

Fig. 8 Spandau nurse's note noting "Dr. Visite" on 15 Dec 1982.

It is written in German, presumably by his Tunisian nurse Abdallah Melaouhi. The date of 15-12-82, is poorly legible, but confirmed by preceding and subsequent entries. Prominently written at the bottom left edge is 'Dr. Visite', proving Hess had a doctor visit that day.

Second, this shift entry for '15 Dec 1982' from the Acting Chief Warder Log Book records the details of the medical visit. See Fig. 9.

'9.50 Dr. Brooke entered cell block. Prisoner to dispensary.

15 Dec 1982

Relieved Mr. Rokin of duty, 1 prisoner, 7 Keys, passes # 14088-14100, emergency pass # 14086, dispensary key and 2 ringed keys handed over.

Herr Boon left cell block, returned at 8<sup>12</sup>.

Herr Melaschke left cell block, returned at 9<sup>12</sup>.

Inspected outer prison area.

Dr Brooke entered cell block, Prisoner to dispensary.

Prisoner issued request paper, returned to office at 10<sup>30</sup>.

Dr Brooke left cell block.

Inspected kitchen, meal to be issued at 11<sup>15</sup> at prisoner's request.

Prisoner issued meal.

Mr. Keane entered cell block, left at 11<sup>23</sup>.

Warden meal relief started, finished at 13<sup>45</sup>.

Herr Boon & Herr Melaschke left cell.

To office: B/2 13.12.82, 8p - B/2 11/12.12.82, 16p - J. A.

11.12.82 74p - J. A. 13.12.82, 28p.

Pastor Habel to see prisoner, left at 15<sup>40</sup>.

From office: D.T.S, 15.12.82, 16p - B/2, 14.12.82 12p.

J. A. 15.12.82 34p - issued to prisoner.

Relieved of duty by UK A/Chief Warden as recorded above.

USA A/C Warden

Relieved of duty by John of duty.

Prisoner, 7 keys, passes # 14088-14100, emergency pass # 14086, dispensary key & 2 ringed keys taken over.

US Warden to take on duty in cell block.

Warden to remain on duty at 10<sup>30</sup>.

Prisoner served evening meal.

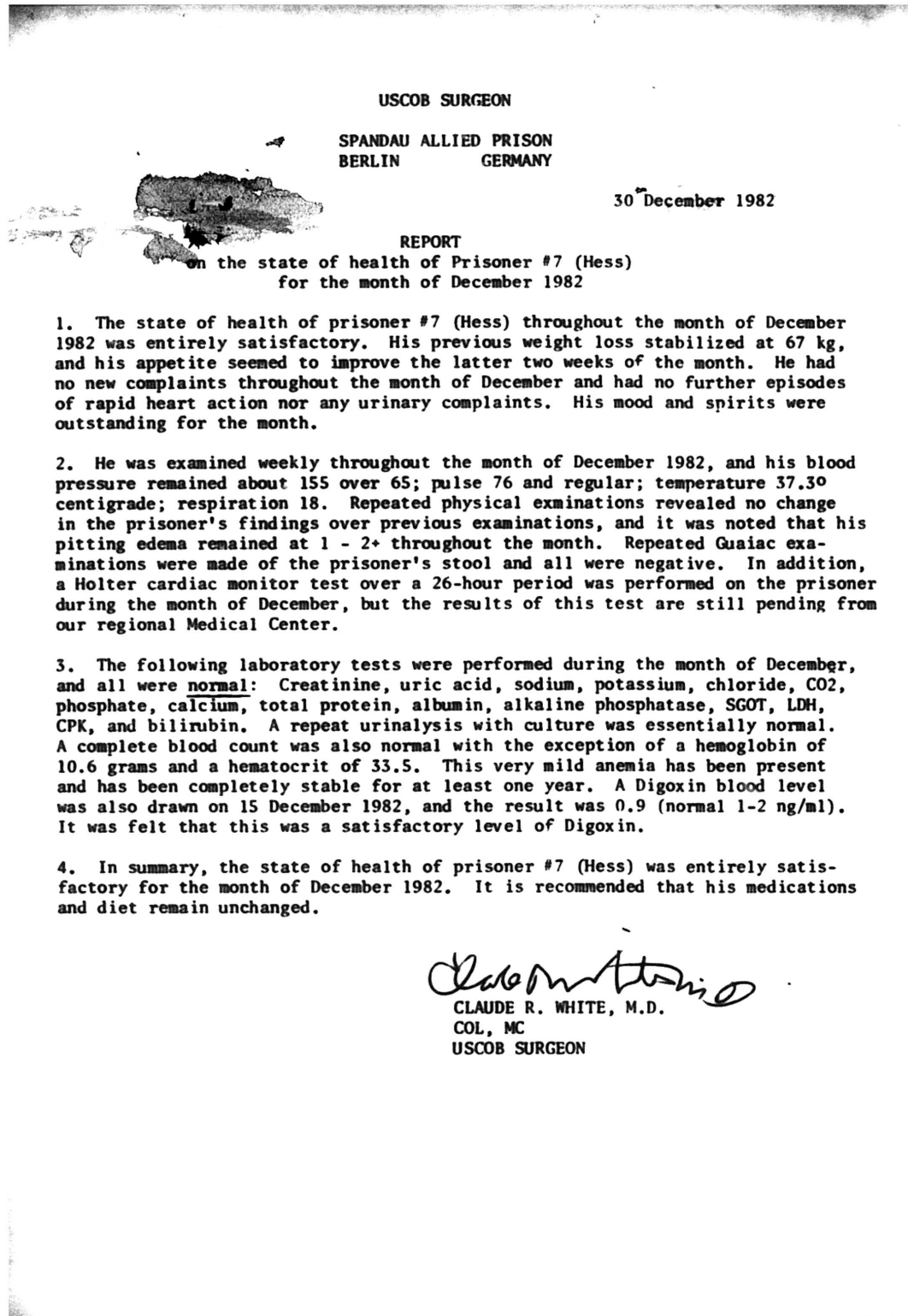
Warden to see Herr Melaschke depart.

Fig. 9 Spandau Warden's Note 15 Dec 1982, noting Dr. Brooke's attendance.

10.15 Prisoner issued request paper, returns to office at 10.30.

10.30 Dr. Brooke left cell block.'

A file copy of our Coulter counter slip is not available as the medical notes after 1980 and publication of Thomas's book were not found. However, there is a report by the U.S. Command Berlin (USCOB) Surgeon on Hess 15 days later. It notes the weekly medical visits and quotes the results of our Coulter count



**Fig. 10** USCOB Surgeon's Report citing 15 Dec 1982 Coulter results.

to the exact decimal place. 'A complete blood count was also normal with exception of a hemoglobin of 10.6 grams and a hematocrit of 33.5.' See Fig. 10.

The authenticity of the Hess slide is incontrovertible.

## **'The Yanks are coming' – George M. Cohan**

All the foregoing leaves the *doppelgänger* thesis hanging by the skin of its teeth. According to Dr. Hans Eirew's account, he yanked one of Hess's.

'During 1950/51 I was the British Army dental officer at Berlin military hospital. One of my responsibilities was the dental care of the war criminals at Spandau jail. I had to extract a left upper molar for the very weird prisoner introduced as Rudolf Hess, at his insistence standing up and without pain killing injection. Later I had access to the full official Nazi party medical records for the real Rudolf Hess, going back to his gunshot wounds in WW1. They showed that he had lost his upper left molar teeth early and had an artificial metal bridge where I was deemed to have extracted a tooth.'<sup>112</sup>

What a great war story! Unhappily this yarn needs a root canal. It is perfectly natural to be confused about details after seven decades. This is one reason we keep medical records. Faulty memory is a reason for statutes of limitations. Prosecution for most federal crimes must begin within five years.<sup>113</sup> Most state civil statutes of limitations vary from 2 to 6 years. A few have ten year limits for enforcement of written contracts, but shorter time limits for oral contracts.<sup>114</sup> It would not be Dr. Eirew's fault whatever if the patient's identity was misrepresented to him. There were six other Class A War Criminals in Spandau at the time, plus staff. Or perhaps a complete interloper needed a free dentist?

I carefully examined Hess's records especially looking for dental notes in the early 1950s. There are caveats: I am not a dentist, the records are voluminous, the microfilm is poor and handwritten medical notes are notoriously illegible. However, dental notes stood out due to the abbreviations DC (Dental Corps) and RADC (Royal Army Dental Corps) in signature blocks and were further identified by visually distinctive Palmer notation.

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<sup>112</sup> Quoted in Rosthorn: see note 1.

<sup>113</sup> Doyle, C., 'Statute of Limitation in Federal Criminal Cases: An Overview', C.R. Service, Editor. 2017, US Congress.

<sup>114</sup> O'Neill, C., 'Civil Statutes of Limitations'. 2019. At <<https://tinyurl.com/yfwadjb9>> or <<https://www.nolo.com/legal-encyclopedia/statute-of-limitations-state-laws-chart-29941.html>>.



At variance with Eirew's account, this extraction was performed under local anesthesia. A 1967 extraction was also performed under local anesthesia with a prescription for subsequent analgesia. I found only one note which may be signed by Eirew, albeit illegibly. This was on 20 July 1950 for care of the extraction socket. See Fig. 11 above.

The other extraction was 16 February 1950. At the bottom we find 'Abscessed tooth (L2) (left maxilla) extracted'. See Fig 12.

Complaints routinely. He has no apparent psychotic thought content, but is extremely depressed. To continue placebo medication. E. Levenson Capone

Dec 27 wt: 63.4 ... pt not eating breakfast Complaining of severe abdominal pain. E. Levenson Capone

Dec 28 - no complaints RFS E. Levenson Capone

Dec 29 - No complaints E. Levenson Capone  
Dec 30 - No complaints - eating has improved E. Levenson Capone

Dec 31 - usual complaints. RFS E. Levenson Capone

3.1.50. wt: 64.3 Kg J.P. 110 mm Hg. Heart - N.A.D., lung fields clear. Clinically slightly anemic - to have tabs. ferr. sulfate 2, twice a day. Complaints of abdominal pain & tenderness. No rigidity or guarding in any area. Light work only. May have tabs. acetyl salicylic acid q.d. if he has pain, & charcoal tablets. May have hot water bottle when he has pain, to remain in when the pain is present. Manual care

9.1.50. Should be given fresh orange juice - one a day, one apple daily. Manual care

20.1.50 wt: 63.7 Kg Manual complaint. Manual care

6. II 50  Poids: 63.4 K.

8. II 50 T.A. 12/7.15. rien par ailleurs.

13. II 50 se plaint de douleur dentaire. Il y a une lésion particulière au dentaire. Manual.

15. II 50 Poids: 65.4 K. A reçu hier soir 2 comprimés de novamine Manual.

16. II 50 Douleur de los ventre, pas de rigueur abdominale. Traitement pendant 8 jours 2 comprimés de : 1) vitamine A et D 2) Bétabion 3) Vitamine C et deux comprimés de charbon A ogni chaque 24h. Manual

16. II 50 Abscessed tooth (L2) (left maxilla) extracted. Bridge on left central (L2) cut from bridge of 2 in left side of mouth.

Fig. 12  
Unsigned  
extraction  
note  
upper left  
2, 16 Feb  
1950,  
bottom of



The Palmer notation is poorly legible, but the legible German translation confirms this was upper left 2 (left lateral maxillary incisor), again not the correct tooth. See Fig. 13.

DEC. 24 BESCHWERDEN WAGEN FORTGEEHRT, R.S. HAT KEINE  
 SENSIBELN PHENOTIK SUGGESTIV ANFANGENSTREND  
 ABER IS IN WÄRENTE 900 ERGÜHN KEHRND  
 DWAN PLOESB MEDICINISCH BEHANDLUNG: ERGÄNZEN

DEC. 27 GEWICHT: 62.4 KG. PATIENT HAT SEIN FRÜHNSTÜCK  
 NICHT GEGESSEN. BESCHWERT SICH ÜBER SCHWERE LEIB-  
 SCHMERZEN.

DEC. 28 KEINE BESCHWERDEN.

DEC. 29 KEINE BESCHWERDEN.

DEC. 30 KEINE BESCHWERDEN.

DEC. 31 DERÜBLICH BESCHWERDEN.

3. I. 50 GEWICHT, 64.5 KG. BLUTDRUCK 110/80. HERZ, NABE  
 LUNGE SIND KEIN. IM 2 MAL PRO TAG <sup>4700</sup> PERAL AULPAT SEHEN  
 BESCHWERT SICH ÜBER BAUCHSCHMERZEN. KEINE NÄRRE ODER  
 DARP ASPIRIN TABLETTEN NACHEN 5GR, BEI SCHMERZEN ERHÖHT  
 AUF CHARBON TABL 100, WORM ABSORFLÖSUNG BEI SCHMERZEN,  
 WENN ER SCHMERZEN HAT IN DERGEGENSHIT ALCIEM

9. I. 50 SOLL FRISCHE ORANGE SAFT BEKOMMEN 1 X TÄGLICH  
 UND 1 APPEL 3 BONE GESNITZENE SCHNITZEL UND MARRON

28. I. 50 GEWICHT: 63.7 KG. DERSELBE BESCHWERDEN

2. II. 50 Gewicht: 63.4

8. II. 50 Blutdruck 120/75 sonst alles in Ordnung.

13. II. 50 Beklagt sich über Zahnschmerzen. In darf von einem Zahnarzt behandelt  
 werden.

15. II. 50 Gewicht: 65.7 Hat gestern eine Keramik Tablette bekommen.

16. II. 50 Leibschmerzen, Nichts objektives.  
 Behandlung während 8 Tage 2 Tabletten von: 1) Vitamin A und B.  
 2) Biotin 3) Vitamin C. und nach dem Essen je einmal  
 eine Kohletablette

16. 2-50 BRÜCKE LINKS (LR) BRÜCKENSTÜCK LINKS ENTFERNT, IM LINKEN  
 HUNDSEITE

Fig. 13 German translation confirming tooth location as upper left 2.

Brevity of the entries probably prevents formal handwriting comparison, but this handwriting appears distinct from the 20 July 1950 note.

1. Something seems untoward about the 16 February 1950 visit. The note has no signature block, but bears illegible initials, apparently by the Spandau administration. Many notes in different hands and languages in this period of time bear these initials. Higher on the page, a block of notes is countered signed 'RFS'. The practice is confirmed by subsequent notes legibly counter signed by the famous Spandau Commandant, LTC Eugene K. Bird. It seems neither the 16 February 1950 note, nor its German translation were signed by the dentist. This is an enormous aberration which violates current General Dental Council professional standards.<sup>115</sup>

2. At this time the guard force rotated on a shift basis, not monthly. It seems 16 February 1950 was medical day, the French and then American Acting Chief Warder's Log records medical visits for Prisoners #1, #2, #3, #4 and #5, but oddly not Walther Funk or the hypochondriac Hess. Hess's only entries that day are at 14.10 when working in the garden and at 20.00 when he received medicine.

3. The next Spandau Medical Committee meeting took place on 28 February 1950. This is noted in the Prison Director's Notes. The February medical minutes were signed at the subsequent March medical meeting. The February minutes, however, are missing. 4. There follows a long gap in the file of Hess's letters to his family until August.

5. While seemingly unrelated, the Director's Minutes of 24 February 1950 note Hess's punishment for 'misconduct against a warder'.

Thus no extraction conforming to Dr. Eirew's account was found. I also found no conforming extraction for the other six Spandau prisoners. This conclusion is not based on negative evidence alone. All of three of Hess's left maxillary molars are positively accounted for. As is common, all of Hess's 'wisdom teeth' (3rd molars) including upper left 8 were extracted before his capture. This is documented in his 1941 British dental chart.<sup>116</sup> Hess's upper left 7 (left maxillary 2nd molar) far from being extracted, was smoothed on 18 Dec 1951. See Fig. 14.

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<sup>115</sup> General Dental Council, 'Focus on Standards', 2019. At <<https://standards.gdc-uk.org/pages/principle4/principle4.aspx>>.

<sup>116</sup> Irving, D., *Hess The Missing Years 1941-1945* (London: MacMillan, 1987), p. 111.

20.11.51. *Monodon da boca bolocosa mandibular, etc*  
*marginada etc. etc. e marginada etc. etc. etc.*  
 Holografados:  
 1. Umas 200 Sal. Holografados 1:1000 - 0,5 pas.  
 2. Bismarkia, rubrostrata 0,75 ca. 11.51. 1951 - 21.11.51.  
 3. Ojos 1/2 novo unido em Holografados 1:1000 - 0,5 pas.  
 Holografados

27.11.51. *Monodon da mandibular boca e etc. etc. etc. etc. etc.*  
*noes Holografados boca e etc. etc. etc. etc. etc.*  
 Holografados 1:1000 - 0,5 pas.  
 Holografados

20.12.51. WT 65.9  
 Tricombina all medicina  
 No meat at lunch, fruit intake  
 100% intake

27.12.51. *Enfermedad. Requiere un parcial para dentura*  
*dentura en la boca and removing infection a*  
*dentura mandibular.*  
 R.A. Hill Capt. 100%

20/12/51. *Enfermedad para parcial para dentura*  
 R.A. Hill.

14.12.51 WT = 66,1 Kilo  
 100% Rice

17/12/51 *Boca etc. etc. etc. etc. etc.*  
 17. smooth etc.  
 R.A. Hill.

26/12/51. *No pepper in food*  
 28/12.51 WT. 66.4 Kilo  
 100% Rice

2.1.52 *Black head - fruit & coffee beans.*  
*Charcoal tablets daily.*  
 WT: 66.0 kg. R.A. Hill

4.1.52. *Hill*

8.1.52. *Examination*

14.1.52 WT = 67,0 Kilo

Fig. 14 Upper left 7 smoothed, 18 December 1951

A Russian dental note confirms its continued presence in 1962. This note also confirms the absence of all 3rd molars. See Fig 15, bottom.

2.7.62. Исходы на прогрессирующей доневне  
 прироста в тизастральной области и  
 в правом науредери. Общественно: Неволате-  
 ный аналог какодит в крайне иноким  
 соефорким. Необходимо проиезирование  
 от зео закитосенный иткози валит, не перан  
 удаит в ешемоуе ир-тезироваине зрѳа.  
 Сердце-пони глукис. Фирме бо вл' ур. поимит  
 невол евоки, при наивауим зкандит  
 доезитноств в ирвом науредери.  
 Все-56.7 до 11/65. Ману

6.7.62. Исходы гени. Соефорки без измекит.  
 Был осматрел во время ир-тезир.  
 Невол прирост, как госта, наивау  
 в верхнем гдее режа димекит.  
 Рекомендована зрѳка на зивол во  
 время ир-тезир. Ману

10.7.62. Фирме гени доми гостиниць 9-4-5 раз  
 в ерѳки. Зрѳки не ир-тезир.  
 Рекомендована зрѳка.  
 Обдее соефорки зрѳовне ир-тезир.  
 Ману

13.7.62. Исходы гени. Соефорки зрѳовны  
 без измекит. Ману

17.7.62. Исходы гени. Обдее соефорки  
 зрѳовны зрѳовне ир-тезир. Ману

18/7.62. При осмотре полости рта гиле-  
 тает атрофия альвеолярной зрѳки  
 верхней и нижней челюсти.  
 7 21137 присутствуют  
 6 2112

Fig. 15 Russian note confirming presence of upper left 7 in 1962, bottom.

As for the upper left 6 (left maxillary 1st molar) it, too, was smoothed in

January 1952 and extracted in 1955. Again contradicting Dr. Eirew's story, the extraction was under general anesthesia. See Fig 16 top.

1955. P. complained of severe pain L6.  
O/E. Sensitive to percussion - non-vital -  
slight swelling buccal sulcus.  
Recent dental abscess L6.  
L6 extracted under General Anesthetic  
Pontabain bridge replacing L45 removed,  
(attached to L6).  
To have lot mouthwashes (glyco-thymolol)  
every 1 1/2 hour commencing 7.11.55 for  
few days.  
I recommend that his head be replaced <sup>in lig room</sup> for  
the next three days.  
R.F. Cornell Capt R.A.D.C.

ANESTHETIC Carb. Ling.  
Pentothal 0.65. F. Celestol 80mg.  
Nasal intubation N<sub>2</sub>O + O<sub>2</sub> + Trilob.  
Patient well and awake after  
discontinuation of anaesthesia  
R.F. Cornell  
Capt R.A.D.C.

1955. P. complaint of pain following tooth ext.  
Tooth socket septic. To have lot mouthwashes  
every 1 1/2 hours for the next six days.  
Cocaine if required, particularly during  
the night. Fit for normal routine.  
R.F. Cornell Capt R.A.D.C.

Any further applications to see a Dental  
Officer by Prisoner No 7 (Hess) must  
be made to the Medical Officer of the  
month who will then request the  
British Governor for his services - The Medical  
Officer not being able to deal with the case.  
10 Oct 55. Wickham Street to

Fig. 16 Extraction of upper left 6 under general anesthesia in 1955.

Dr. Eirew does not disprove Hess's identity. Logically it seems either he extracted a different tooth and didn't sign his note, or the note belongs in another chart, or the note was written by someone else, or he treated a different patient, or he didn't write the letter, or the entire story is a phantasm. The *Telegraph* was wise not to publish it. As for the Nazi dental records, Dr. Eirew relies on memory and does not tell us their provenance. Are they a forgery like the infamous Hitler Dairies? Did he misinterpret the German dental

notation? What is the patient identification? The Nuremberg prisoners were managed under numbers and Hess's British records under the code name 'Johnathan'.<sup>117</sup> Do these records belong to a political decoy left in Germany? A political decoy would not have the authenticity or knowledge to negotiate peace or have credibility with Hitler. Only Rudolf Hess could do this. It was Thomas himself who suggested the possibility of a Hess double. Others have suggested the existence of political doubles for Hitler<sup>118</sup> and Heinrich Himmler.<sup>119</sup> It is well attested that Field Marshal Montgomery used two doubles and that Churchill had a voice double. Political decoys are also reported for Manuel Noriega, Raoul Cédras, Enver Hoxha, Fidel Castro, George W. Bush, Osama bin Laden, Joseph Stalin, Henry Kissinger, Boris Yeltsin, Saddam Hussein<sup>120</sup> and Hillary Clinton.<sup>121</sup>

Four decades of medical records prove Hess was not stoic. The Deputy Führer of the 3rd Reich jumped up and down on his bed like a petulant child. Dental visits were so frequent they eventually had to be preapproved by the duty medical officer. Hess had frequent abdominal pain. The fatigue of the medical staff is palpable. Page after page is filled with three word entries 'Complaints as always'. He was successfully treated with placebo injections. Hess wailed in pain at night.<sup>122</sup> It is unsurprising the Soviets ignored his perforated ulcer. Hess was not an *Übermensch* and we have documented use of local and general anesthesia in his other dental treatments. Unless forced, it strains credulity that Hess endured an extraction without anesthesia. Unlike the extracted incisor which had a single root, the upper left molar supposedly pulled by Eirew has three roots – a more difficult extraction.<sup>123</sup>

Memory lapses have already severely discomfited the *doppelgänger* thesis. Key evidence for Thomas was the apparent discrepancy between the number of the plane which took off and that which crashed. Helmut Kaden,

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<sup>117</sup> See Irving, note 116.

<sup>118</sup> Kapnistos, P., *Hitler's Doubles: Fully-Illustrated* (lulu.com, 2018) p. 572.

<sup>119</sup> Isherwood, D., *Himmler's Double* (Kibworth, Leicester: The Book Guild Ltd, 2004).

<sup>120</sup> Wikipedia, 'Political decoy', 2019. At <[https://en.wikipedia.org/wiki/Political\\_decoy](https://en.wikipedia.org/wiki/Political_decoy)>.

<sup>121</sup> Dean, S., 'Does Hillary have a BODY DOUBLE? Bizarre conspiracy theory claims the pneumonia-stricken candidate has been replaced by a lookalike', in *Mail Online*, 2016. At <<https://tinyurl.com/ydpmwemc>> or <<https://www.dailymail.co.uk/news/article-3787428/Does-Hillary-BODY-DOUBLE-Bizarre-conspiracy-theory-claims-pneumonia-stricken-candidate-replaced-lookalike.html>>.

<sup>122</sup> Garrow, M., '10 Facts About The "Spandau Seven" Nazis', 2019. At <<https://listverse.com/2019/04/30/10-facts-about-the-spandau-seven-nazis/>>.

<sup>123</sup> Dental-Picture-Show.com, 'How many roots and root canals do teeth have?' 2019. At <<https://www.dental-picture-show.com/endodontics/a-how-many-root-canals.html>>.

Assistant Manager at the Augsburg airfield, gave an interview on German television in 1978. 'Recalling Hess's takeoff, he said he clearly remembered rolling the Messerschmitt out, and that the fuselage number was NJ + C11.'<sup>124</sup> To his credit, Thomas relied on multiple sources, citing the same fuselage number from Messerschmitt factory modification records.<sup>125</sup> It seems Kaden changed his story in the Timewatch interview. He now indicated several test flights in his log book for the aircraft which crashed in Scotland, VJ + OQ. Kaden's last logged flight in this airplane was four days before Hess's, so we still rely on his memory that Hess used this plane. We are not told if either plane was flown later. This BBC Timewatch documentary 'Hess: an Edge Of Conspiracy' is interesting and fair. It is available on YouTube and also reviews the speech, photographic and hand-writing evidence supporting the identity of #7 as Hess.<sup>126</sup>

### **Will-o'-the-wisp: the British DNA Study**

Thomas: 'The authors of the report are seemingly unaware that Wolf Rüdiger and I were close friends and working towards the same goal. We had gone together to Scotland Yard, against the advice of Wolf Rüdiger's Irish solicitor, and Wolf Rüdiger had supplied DNA material for comparison with the huge amount of pathological material sent back by the pathologist Doctor Cameron. I have made innumerable requests through Parliament for the release of that DNA test. I was supported by the Scotland Yard pathologist Professor David Bowen. When Professor Iain West indicated that release of the DNA test result was unlikely, I contacted Wolf Rüdiger to stress that he should give and store a blood sample at his doctor's. I understand that although the British government long ago ordered that the Cameron specimens be destroyed, some specimens migrated from one London hospital to another, so there remains an opportunity for two separate groups of scientists to carry out testing with absolutely clean provenance and without playing with slides. It is not therefore true to claim that "when the German government cremated Hess's remains in 2011, it was thought the last chance to pursue DNA analysis of the body had been lost." There were, and still are, samples of blood from the Hess family available in London and Munich and there is still tissue and blood from Prisoner No. 7 available in London and Munich.

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<sup>124</sup> Thomas: see note 6, p. 46.

<sup>125</sup> Ashton, P., 'Hess: an Edge of Conspiracy', *Timewatch*, R. Davies, editor, History Channel: UK, 1990. Available at <<https://www.youtube.com/watch?v=Q2xohnAUA1I>>.

<sup>126</sup> Ashton: see note 125.

Somewhere in Britain there is also the suppressed DNA comparison report conducted under the control of the British government.<sup>127</sup>

Thomas is correct. We are completely unaware that he and Wolf Rudiger were 'close friends'. Oddly, so is the family. An immediate family member commented 'They knew each other, but I definitely wouldn't call them close friends! I have never met Thomas, he never visited us at our home as long as I lived there, as far as I can remember.'

It is also strange that a DNA study was underway. Of course, David Irving wanted to know my reason for contacting the family. He never suggested another DNA study. Irving is very outspoken and, as Thomas says, 'Irving's knowledge of the Hess family is unique.'<sup>128</sup> The Hess family is also incredulous. Their comments include: 'I seriously doubt Wolf Rüdiger gave a DNA sample of his own blood for a DNA comparison.' 'No, he would never have done this.' 'We can't rule this out a 100%, but it is really unlikely.' In any case, 32 years have passed since Hess's death and this Cheshire cat has not rematerialized.

## **Last throw from the conspiracy bunker**

**W**e are essentially charged with perpetrating a fraud. Why would we? The US principals responsible for the slide are all retired full Colonels. As a former tiny cog in 'the system', I assure you there was no system here. Thomas himself explains:

'It may be said that I should have made my discovery known at once. The reason I did not was that I myself was then an Army officer and knew the military mind: any discovery I claimed to have made would have been quickly swept under the carpet and buried for another thirty years.'<sup>129</sup>

I took this advice to heart and didn't discuss the nascent project with superiors, all of whom would have taken a jaundiced view. Our Molecular Pathology Department at the Armed Forces Institute of Pathology (AFIP) had a clinical reference lab and developed new tests. We also felt obligated to use our unique archival cases to solve historical medical mysteries relevant to current diseases. We were already under fire for this 'historical' work, e.g.

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<sup>127</sup> Thomas quoted in Rosthorn: see note 1.

<sup>128</sup> Rosthorn: see note 1.

<sup>129</sup> Thomas: see note 6, p. 26.



encephalitis lethargica and sequencing the 1918 influenza.<sup>130</sup> Management anger was exacerbated by intense pressure on AFIP from the BRAC (Base Realignment and Closure) process initiated under Donald Rumsfeld. AFIP was accused of not being 'militarily relevant', (i.e. too generally useful). AFIP's closure was announced in 2005 and completed in 2011 after 149 years.<sup>131</sup>

It has been charged that the smear is pre-Spandau Hess blood. Nice try. Blood smears must be made promptly from fresh or uncoagulated blood and deposited on a slide. Liquid blood can not be stored for years, smeared and have a normal microscopic appearance. Significant artifacts appear in smears of anticoagulated blood stored over six hours.<sup>132</sup> Blood storage also produces artifacts on Coulter count.<sup>133</sup> We will now discuss definitive reasons this is not a pre-Spandau German or British blood smear.

## A slip in the cover story

**M**icroscope slides have been standard world-wide since 1880.<sup>134</sup> On the other hand, cover slips are not standardized. The Hess slide employs a very large rectangular coverslip of 1.5 inches long and nearly 1 inch wide. A SS Medical Office microscope slide set shows contemporary German coverslips. There were two different types, most are circular, a type not used by the US military. Some have rectangular coverslips, but much shorter than on the Hess slide.

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<sup>130</sup> McCall, S., et al., 'Influenza RNA not detected in archival brain tissues from acute encephalitis lethargica cases or in postencephalitic Parkinson cases', *Journal of Neuropathology & Experimental Neurology*, 2001. **60**(7): pp. 696-704.

Reid, A., et al., 'Characterization of the 1918 "Spanish" influenza virus matrix gene segment', *Journal of Virology*, 2002. **76**(21): pp. 10717-10723.

<sup>131</sup> Wilson, M. and L. Reller, 'The Proposed Closing of the Armed Forces Institute of Pathology', *Clinical Infectious Diseases*, 2005. **41**: p. 1003-4.

<sup>132</sup> Chavda, A., et al., 'Storage artifacts in peripheral blood smears', *Indian Journal of Basic and Applied Medical Research*, 2016. **5**(2): pp. 8-12.

Thakur, R. and O. Moorjani, 'Time Effect Storage Artifacts of Anticoagulant EDTA on Peripheral Blood Cells', *Journal of Medical Science and Clinical Research*, 2015. **3**(5): p. 5728.

<sup>133</sup> Zandecki, M., F. Genevieve, and G. Gordon, 'Spurious counts and spurious results on haematology analysers: a review. Part II: white blood cells, red blood cells, haemoglobin, red cell indices and reticulocyte', *International Journal of Laboratory Hematology*, 2007. **29**: pp. 21-41.

AIHA, S.C. 'Blood Sample Artifacts', 2015. At [https://www.secondchanceaihadogs.com/AIHA\\_Terms/blood-sample-artifacts](https://www.secondchanceaihadogs.com/AIHA_Terms/blood-sample-artifacts).

<sup>134</sup> Bracegirdel, B., 'The Development of Biological Preparative Techniques for Light Microscopy, 1839-1989', *Journal of Microscopy*, 1989. **155**(3): pp. 307-318.



**Fig. 17** SS Microscope slide set box.



**Fig. 18** SS Microscope slide set cover slips, no drying rings.

Additional photos are available at the auction site. See Figs. 17 and 18.<sup>135</sup>

<sup>135</sup> Auctions, M., *WWII Nazi German SS Medical Office Micro. Slides, Sold For \$450*. 2019 Jan At <<https://tinyurl.com/ydsw57j5>> or <[https://www.liveauctioneers.com/item/67819780\\_wwii-nazi-german-ss-medical-office-micro-slides](https://www.liveauctioneers.com/item/67819780_wwii-nazi-german-ss-medical-office-micro-slides)>.

Ignoring its known provenance, the Hess slide might theoretically be British, but this requires admitting the real Hess got to the UK. This *doppelgänger* theory also requires that the British had a German speaking double who could fool Hess's family, his fellow prisoners *and* willingly serve a life sentence. Prisoner #7 feigned amnesia, but never claimed to be anyone else. This is even more fanciful than the idea of a German double who could fly.

I served at AFIP for ten years. In addition to clinical duties, we performed research using the AFIP archive. This housed three million pathological cases dating back to the American Civil War. I have therefore studied many very old slides. The Hess slide is not as old as World War II, it was in pristine condition and too clean to have been in storage so long. Critically, the Hess slide has drying rings of the coverslip mounting media. Older postwar slides from the archive have more drying rings. One project required studying archival samples from 1946 to 2006.<sup>136</sup> It was striking that samples from the early postwar period had dried completely, opacifying the slide like a cataract as the adhesive crystallized. Such slides must be recoverslipped for use, standard procedure at AFIP.<sup>137</sup>

This was striking as I also studied much older specimens from World War I and 1920s which did not crystallize.<sup>138</sup> These coverslips were mounted with Canadian balsam, the standard adhesive from 1851.<sup>139</sup> 'Canada Balsam has the advantage that its optical properties do not deteriorate with age. Permanent slides mounted with Canada Balsam have been stored for a century and are still useful.'<sup>140</sup> The SS microscope slides are mounted with Canadian balsam and do not have drying rings.

US military medical labs changed adhesive after World War II and now

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<sup>136</sup> Miklossy, J., et al., 'Enduring involvement of tau,  $\beta$ -amyloid,  $\alpha$ -synuclein, ubiquitin and TDP-43 pathology in the amyotrophic lateral sclerosis/parkinsonism-dementia complex of Guam (ALS/PDC)', *Acta Neuropathologica*, 2008. **116**(Dec): p. 625.

<sup>137</sup> Andre, G., 'Slide Refurbishing and Repairs', in *Laboratory Methods in Histotechnology*, E. Prophet, et al., Editors. 1992, American Registry of Pathology: Washington, DC. pp. 63-66.

<sup>138</sup> See McCall et al, note 130 and Sheng, Z., et al., 'Autopsy series of 68 cases dying before and during the 1918 influenza pandemic peak', *Proceedings of the National Academy of Sciences of the United States of America*, 2011. **108**(39): pp. 16416-21.

<sup>139</sup> Bracegirdel: see note 134.

<sup>140</sup> Microscopy, M., 'An overview of mounting media for microscopy', 2010. At <<http://www.microbehunter.com/an-overview-of-mounting-media-for-microscopy/>>.

uses a synthetic adhesive.<sup>141</sup> While this has advantages for routine hospital work, it stores poorly as the mounting media crystallizes. The new synthetic mounting media definitely accounts for the drying rings in the Hess slide. This shows the slide was probably processed in a US military medical facility. It also conclusively dates the slide after 1946 when the real Hess was already at Spandau. The shallow depth of the drying rings show that the slide was mounted much later than that. There is no way to fake this ageing process. This fact eliminates the possibility of cover-up. We would have had to start 40 years ago, before the advent of DNA identification and even before I was on active duty. The remaining accusation is that of total fabrication. The *doppelgänger* story has been a chancre on the body politic for three-quarters of a century. Why wait 35 years after the advent of DNA profiling to debunk it? Some cover-up.

It was in anticipation of charges of fraud that I chose a lab which is both an ISO (International Organization for Standardization) certified DNA forensics lab and in a legally neutral country outside four power jurisdiction. The Austrian lab had further advantages of speaking German, operating under favorable laws and being practiced in genetic calculations for the German gene pool.

I have good contacts in the Armed Forces DNA Identification Lab (AFDIL). AFDIL is thoroughly competent and handles many old samples for soldiers Missing In Action. I was concerned, however, about official censorship in the event of a non-match. The second concern is exactly what we have. There would be even more accusations of fraud if the results had emanated from any lab, especially a government lab, in the US or the UK or even Germany.

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<sup>141</sup> 'Canadian balsam was the standard in the past, however, its long drying time makes it impractical for routine use. Furthermore, it may reduce the intensity of eosin staining after several years and can cause poor preservation of basic aniline dyes and early fading of Prussian blue reactions. For these reasons, our laboratories use synthetic resins as mounting media for mounting hematoxylin and eosin preparations and for most special stains.'

Allen, T., 'Mounting Media', in *Laboratory Methods in Histotechnology*, E. Prophet, et al., Editors. 1992, American Registry of Pathology: Washington DC. pp. 59-62.

'Prior to 1946 optical elements were bonded with purified, filtered Canada balsam. Balsam was easy to apply and in most cases an optically compatible bonding medium except that it had little thermal or solvent resistance. The war and advances in aviation underlined these limitations and so a synthetic resin adhesive was developed. This adhesive required very high temperatures and long curing times, so research was conducted by Drs. Souren Sadjian and Marco Petronio to develop a low or room temperature, catalyst cured adhesive. The research was done under the auspices of the US Government at the Frankford Arsenal in Philadelphia. The result of that research was a two component polyester resin based cement that many optical companies use today.'

Optical, S. 'The Bonding of Optical Elements Techniques and Troubleshooting', 2019. At <<https://www.optical-cement.com/cements/manual/manual.html>>.

We empathize with those who staked public reputations on the *doppelgänger* theory. Those were honest and forgivable mistakes. Even intelligent people err, especially when in possession of incomplete or incorrect information. Having been publicly embarrassed in an untenable position, however, they have doubled down with charges of fraud. All their objections are conclusively refuted. We expect public apologies.

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