

Mac Wallace and the finger of guilt

Garrick Alder

This essay concerns disputes over the identification by latent fingerprint analysis of Malcolm 'Mac' Wallace as a party in the 1963 assassination of President John F Kennedy. While there is inevitably some technical discussion of the forensic processes involved, it is anticipated that such details will actually prove surprisingly enlightening, and perhaps even pleasantly so, to the general reader.

After the breakthrough of the Wallace fingerprint identification was first announced by a Dallas-based group in 1998,¹ there followed a period of silence, then cautious acceptance of the identification among some researchers and shortly thereafter a minor slew of books about the evidence that incriminates Wallace and thereby implicates Kennedy's successor, Lyndon Johnson, as the main motivator behind the murder. This has now been superseded by a period in which critics have attempted to dismiss this evidence. There are two prominent and respected critics who object to the Wallace identification, the first an experienced jurist and the second a professional latent print examiner, and this essay will address each of them in turn.

To deal with the most easily dismissed first, veteran lawyer Vincent Bugliosi attempted to rubbish the Wallace fingerprint identification in his enormous paean to Lee Oswald's lone guilt as assassin, *Reclaiming History* (Norton, 2007). On page 923, he recounts a telephone conversation with Nathan Darby, the fingerprint expert who made the original match between Wallace's fingerprint and an 'unidentified' fingerprint obtained from the 'sniper's nest' from

¹ The group consisted of Richard Bartholomew and John Frazer Harrison in Austin and Barr McClellan, then based in Houston. Walt Brown was recruited for the purpose of fronting the press conference at which the information was released. (Information from Richard Bartholomew.)

which Kennedy was supposedly shot. The key passage from Mr Bugliosi's tome is reproduced here, as follows:

'On November 20, 2001, I spoke over the telephone with Darby. Eighty-seven at the time, he told me he had been the head of the Austin, Texas, police department's Identification and Criminal Records Section for several years. He had retired from the force and was still living in Austin. I told him I had trouble with his finding a "match" between prints found at the sniper's nest on the sixth floor and the fingerprint exemplar card of Malcolm Wallace. "Why?" he asked. "Because," I pointed out, "the unidentified latent print found on the sixth floor was a palm print, not a fingerprint, and unless you've come up with something new, I've never heard of anyone matching a palm print with a fingerprint." Darby, sensing he had been taken, told me that he had been given "two fingerprints, one from a card, the other a latent. It was all blind. I didn't know and wasn't told who they belonged to [it was much later, he said, that he heard Malcolm Wallace's name mentioned], although I recognized the layout of the card [he said all identifying features had been blacked out] as that of the Texas Department of Public Safety. I wasn't given any palm print. They were both fingerprints. Of course, you can't compare palm print with a fingerprint."

Any armchair fan of courtroom dramas, let alone anyone with experience of real-life court proceedings, will recognise at once Mr Bugliosi's tactic here: an interrogating lawyer will attempt to produce verbal confusion in an inconvenient witness under questioning, and thereby introduce doubt in the minds of jury members as to that witness's reliability.

While this 'trick of the trade' might have produced favourable results in a courtroom, set down on paper in black and white it reflects far worse upon Mr Bugliosi than it does upon Mr Darby. Note, for example, how Mr Bugliosi attempts to influence his readers by characterising Mr Darby's vocal reactions in a manner not available to him unless via telepathy (i.e. 'sensing he had been taken'). If Mr Darby's voice betrayed

any uncertainty, I would suggest that it was probably a degree of disbelief over the sheer outrageousness of what Mr Bugliosi was proposing, i.e. that Mr Darby – a respected fingerprint examiner of several decades of experience – could easily confuse a fingerprint with a palm print.

In any event, Mr Bugliosi's cocksure complacency merely reflects the superficiality of his own understanding of the evidence. He apparently believed that the sniper's nest fingerprints originally labelled as the FBI as 'unidentified' were indeed (as per the FBI's report on the matter, recorded in the Warren Report ²) eventually identified as those of Richard Studebaker, a scene of crime officer from Dallas Police Department, or Forest Lucy, an FBI clerk. The only remaining unidentified print, according to the Warren Report, is the lone palm print referred to by Mr Bugliosi.

Sadly for Mr Bugliosi, whose sincerity is not in question, he has been comprehensively taken for a ride along a false trail laid half a century ago. As definitively established by the formidable and meticulous JFK researcher Richard Bartholomew in his privately circulated 1998 monograph 'Conflicts in Official Accounts of the Cardboard Carton Prints'³), the FBI did indeed match some of the unidentified prints to Officer Studebaker – but then performed a feat of legalistic *legerdemain* by recategorising other such 'mystery prints' as being incomplete or indistinct and then muddling up the exhibit numbers, apparently to disguise what they had done. This forensic furtiveness was then compounded by the Warren Commission's staff, who introduced a completely new fingerprint exhibit numbering sequence from the FBI's, making it nearly impossible for later re-investigators to follow the evidence from its origin to its final publication. The Wallace print was one of these falsely shuffled, discarded and then concealed prints, not one of those later matched to DPD Detective Studebaker or Mr Lucy.

So much, then, for Vincent Bugliosi.

The second critic of the Wallace match is a somewhat

² <<http://www.jfk-assassination.com/warren/wcr/page566.php>>

³ My thanks go to Mr Bartholomew for providing a copy of this invaluable document.

tougher nut to crack and doing so takes us into some detailed consideration of print examination. Kasey Wertheim is the son of famed US fingerprint expert Patrick Wertheim and a respected latent print examiner in his own right. On his website, he has a page⁴ which briefly dismisses Darby's 1998 match as 'erroneous' by reference to two observable dissimilarities between the pair of prints presented to Darby.

I contacted Mr Wertheim in early April 2014 and he agreed to be questioned on the matter. A somewhat fitful back-and-forth e-mail exchange then took place, and the most relevant sections of our conversation are outlined below. At this point, you may find it helpful to have the relevant page of Mr Wertheim's website open in another browser, for reference.

I asked Mr Wertheim about the number of discrepancies he had found between the two prints, since his webpage quite clearly implies he had found more than the two examples illustrated. He replied:

'Quite frankly, when I got to one discrepancy I could have ended my analysis, but I went on to add another one just to put the issue to rest – to provide overwhelming evidence for my conclusion. If I remember correctly (and I haven't re-analyzed the prints for this discussion, so it's been a few years), there were other discrepancies on the edges of the impression but they weren't as obvious as the two I pointed out. I wanted to portray straightforward discrepancies that anyone could see, right there in black and white, so I limited the demonstration to those two.'

As a layman, I would normally hesitate to take on a forensic expert in their own field. However, one of forensic science's dirty little secrets is that there is in fact no formal training or qualification required to be able to present detailed analysis of fingerprint evidence in court cases in America. In theory, any reasonably observant person could therefore make a legitimate argument and a compelling case – although in

4 <<http://www.clpex.com/images/Darby-Wallace-Analysis/Erroneous-Match.htm>>

practice, juries are probably more likely to be swayed by such a person's experience and maybe their official status, particularly if they have, e.g., undergone FBI 'training' in fingerprint comparison.⁵ I therefore don't think it is too presumptuous to criticise Mr Wertheim's analysis in some detail.

The 'one discrepancy' rule to which Mr Wertheim is alluding is that followed by the FBI in fingerprint analysis, which one might reasonably expect to represent a 'gold standard' for such procedures: basically, one non-matching point in an examined pair of prints disqualifies all the matching ones and means a positive identification between the two prints is ruled out. However, the question of discrepancies between otherwise compatible prints is very much a live issue among print examiners, with some experts tolerating several such discrepancies in making a positive identification. Indeed, Mr Wertheim's own website has hosted a number of discussions between experts with differing opinions on the matter of discrepancies, and a reasonable reader's impression of those debates might be that the analysis of such evidence can be a genuine case of 'You pays your money and picks your expert'.

The 'one discrepancy' rule has even been scornfully thrown out altogether by some authorities. In 1977, for example, a dissenting fingerprint expert wrote contemptuously: 'Let us acknowledge that the one-dissimilarity doctrine has never been demonstrated to have originated from a firm scientific basis. Once we recognise this, we will not be forced to guess the manner of occurrence of unexplained differences. In view of a preponderance of matching characteristics, one dissimilarity isn't important.'⁶

⁵ The FBI's record of reliability in fingerprint analysis resisted criticism for decades due to the 'clannishness' of fingerprint experts, until the recent Brandon Mayfield fiasco, a truly frightening near miscarriage of justice that interested readers can study online. See, for example, <<http://community.seattletimes.nwsources.com/archive/?date=20040607&slug=fingerprint07m>>.

⁶ J. I. Thornton: 'The One-Dissimilarity Doctrine in Fingerprint Identification', *International Criminal Police Review* (Issue #306, March 1977).

The fact that discrepancies are sometimes observable between prints that are definitely known to come from the same finger was even noted by Sir Francis Galton, the father of the modern method, in his seminal work *Finger Prints* (1892). In this he discusses various reasons why discrepancies might arise, such as through the differences in pressure applied when depositing separate prints (with less pressure favouring the deposit of pronounced ridges and not shallower ones), or simple skin deterioration during the ageing process. In particular, he recorded an instance of a non-matching point that had apparently arisen naturally between taking a fingerprint from a child of two-and-a-half and then taking a second print when the child had matured into an adolescent of fifteen.⁷

Wallace's police 'ten-print' from his 1951 arrest, used in Mr Darby's comparison, was taken 12 years before the murder of JFK and even Mr Darby himself observed differences in the two prints that had arisen during the intervening time (e.g., he recorded what appeared to be an injury to the skin that was not present in the 1951 print but disrupted the 1963 print). He still felt confident enough to swear an affidavit stating that he had found 14 matching points, the threshold for admissibility in Texan courts. By all accounts, he later revisited the prints out of personal interest and found a 32-point match, which has to be considered as being beyond the possibility of coincidence by anyone's standard (although why Mr Darby did not then also swear an affidavit to this more impressive match remains unknown, and since he is now dead we may never know).

The general reader may at this point have gained the unexpected impression that fingerprint analysis is more akin to an art than a science. I would encourage this impression, because while it is perhaps somewhat cynical it is basically correct. Fingerprinting is not (at present) any form of science

⁷ Galton's book is available online in a PDF facsimile edition at < <http://www.biometricbits.com/Galton-Fingerprints-1892.pdf>>. The chapter addressing dissimilarities in print pairs is number VI, entitled 'Persistence', and the discussion of the specific case of the maturing child commences on page 92.

at all, not least because it has no known error rate.⁸

Fingerprinting is perhaps rather closer in nature to the skills employed by police 'identikit' artists, who produce a suspect's likeness based on eyewitness statements, which may then be useful in identifying the malefactor and can often be produced in evidence.

Such a reader's rapidly unravelling faith in the supposed infallibility of fingerprint identification will only be accelerated when they consider the FBI's 'position statement' on fingerprinting (boldly titled: 'Fingerprints do not lie') issued in 1969 after its own analysis was called into question during a court case hinging on conflicting interpretations of fingerprint evidence. In this document⁹ the following passage occurs, which is worth quoting in full:

'[The opposition expert] testified that regardless of the number of matching characteristics present, one point of dissimilarity would result in the conclusion that the two fingerprints are not identical: that is, that they were not made by the same finger. FBI fingerprint experts state unequivocally that any two fingerprints possessing as many as 14 identical ridge characteristics, the number which the defense witness acknowledged when he testified concerning the fingerprint in question, would certainly contain no dissimilarities in the ridge formation.'

Any sense of unease or confusion felt by the reader at this point is 100 per cent justified: the Bureau is indeed, as it appears, quite explicitly contradicting its own 'one discrepancy' rule by stating that a 14-point match (such as Mr Darby's) will by definition contain no discrepancies, and thus presenting an astonishing case of 'Having your forensic cake and eating it'.

I put it to Mr Wertheim that inexactitudes, uncertainties and ambiguities inherent in fingerprint analysis such as those discussed above might qualify to some degree his apparent conviction that Mr Darby's match was 'erroneous'. He

⁸ For more on this see the appendix. This obviously absurd situation would present particular problems for Australian law enforcement officials. For a brief and amusing treatment, see < <http://io9.com/5798400/koalas-have-exactly-the-same-fingerprints-as-humans>>.

⁹ Reproduced at <<http://scafo.org/library/100502.html>>.

responded:

'No, there is no uncertainty in the role of these two dissimilarities. I have seen many examples in my career where there is uncertainty. I have seen strange scars that seem to move details around; strange artefacts from live-scan devices that seem to do the same, etc. But there is no evidence of that in these impressions. And there certainly isn't the level of similarity present to throw that analysis into question.'

Attentive readers may now think that his reply rings somewhat hollow.

To sum up, I would categorise Mr Bugliosi's dismissal of the Wallace print match as simply bluster and bluff at best, and (with all due respect) Mr Wertheim's apparent confidence in his own deductions as being patently unsustainable to a crucial degree. It is my conclusion that the overall upshot of scrutinising the arguments of the two critics is that Mr Darby's 1998 identification of Mac Wallace's fingerprint has survived the onslaught of the most serious sceptics. Further developments are sure to follow.

Appendix

Such an error rate would be impossible to determine with any degree of precision without repeatedly fingerprinting every person on the planet on an ongoing basis and comparing each and every print obtained with all the billions of others, and so on never-endingly.

Fingerprints (as deposited marks) change due to pressure, age, injury and sometimes for no reason at all (as per the examples from the Galton work discussed) so the testing would need to be permanently ongoing to establish continuity of identity for each fingerprint bearer. And as fast as one print-bearer died, another one or two would be born. So not only continuity but cross-referencing would be needed to establish that a duplicate print-bearer had not been born at any given moment. And so on ad (very nearly) infinitum.

I think the most accessible summary for a lay reader is

Jennifer L Mnookin's 'Fingerprints: Not a Gold Standard'. ¹⁰

The key extract is this:

'[The landmark case of *Daubert v Merrell Dow Pharmaceuticals*] invites judges to examine whether the proffered expert evidence has been adequately tested, whether it has a known error rate, whether it has standards and techniques that control its operation, whether it has been subject to meaningful peer review, and whether it is generally accepted by the relevant community of experts. Pollak found that fingerprinting flunked the *Daubert* test, meeting only one of the criteria, that of general acceptance. Surprising though it may sound, Pollak's judgment was correct. Although fingerprinting retains considerable cultural authority, there has been woefully little careful empirical examination of the key claims made by fingerprint examiners. Despite nearly 100 years of routine use by police and prosecutors, central assertions of fingerprint examiners have simply not yet been either verified or tested in a number of important ways.'

Rather less accessible, but rather more magisterial is Robert Epstein's 'Fingerprints meet *Daubert*: the myth of fingerprint "science" is revealed'¹¹ which includes this:

'The DOJ [US Department of Justice] recognizes that the fingerprint field "needs" to develop "standardized" procedures for comparing fingerprints and that these "[p]rocedures must [then] be tested statistically in order to demonstrate that following the stated procedures allows analysts to produce correct results with acceptable error rates."As the DOJ candidly concedes, such testing "has not yet been done.'"

*

¹⁰ At <<http://issues.org/20-1/mnookin/this>>.

¹¹ At <http://www.clpex.com/Information/USvMitchell/RobertEpstein/Robert_Epstein_CA_law%20Review.pdf>

Addendum

After initial publication *Richard Bartholomew* sent the following comment.

'Wallace's police "ten-print" from his 1951 arrest, used in Mr Darby's comparison...' (p. 6)

When J. Harrison first started seeking Mac Wallace's inked prints, he obtained a certified copy of the Austin Police Department's card through his sources there. The prints on that card were so poorly inked they are useless. J. then sought a print card he suspected must exist at the Texas Department of Public Safety. The DPD located one but refused to release it, using various legal excuses. After a year or so of correspondence, J. convinced them they were wrong and obtained a certified copy. The DPD card is excellent quality.