

Claim Nos. IL-2021-000019
IL-2022-000069

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND &
WALES
INTELLECTUAL PROPERTY LIST (ChD)

B E T W E E N :

CRYPTO OPEN PATENT ALLIANCE

Claimant

-and-

DR CRAIG STEVEN WRIGHT

Defendant

**FINDINGS REGARDING COPA'S
PLEADED FORGERY ALLEGATIONS**

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INTRODUCTION

1. This Appendix is largely based on content taken from Appendix A to COPA's Closing Skeleton Argument which was COPA's Consolidated Schedule of Dr Wright's Forgeries. As will be seen, there is often considerable background and detail which is needed to understand (a) COPA's allegation of forgery, (b) Dr Wright's initial explanation, which often changed or morphed into (c) Dr Wright's revised explanation, often given orally in cross-examination (d) COPA's rebuttal and (e) why I uphold COPA's allegation of forgery.

(i) Overall Conclusions

2. To avoid setting out essentially the same conclusions 40 times, I can state at the outset that I find each of the allegations of forgery proved.
3. In terms of the mechanics (i.e. the reasons given by COPA for alleging forgery), the evidence of Mr Madden was compelling and often supported by Dr Wright's own experts, Dr Placks and Mr Lynch. Likewise, the evidence of Mr Rosendahl was compelling in relation to the L^AT_EX documents. Dr Wright's assertions to the contrary were unsupported by any expert evidence, were statements made by a thoroughly unreliable witness and, in large part, carry very little or no weight.
4. In terms of Dr Wright's responsibility for each of the forgeries, in addition to the specific matters listed in each section, COPA also relied on some general reasons which I set out here:
 - 4.1. Given the extent of the forgery of documents which Dr Wright has disclosed and of documents on which he has relied for his claim to be Satoshi Nakamoto, COPA invited the inference that Dr Wright was responsible for each of the forgeries or (alternatively) that he at least knew of the forgeries.
 - 4.2. Given the lack of any plausible explanation why any other person would have committed forgeries as set out in this Appendix, COPA also invited the inference that Dr Wright was responsible for each of the forgeries.
 - 4.3. Since 2016, Dr Wright has been very actively promoting his claim to be Satoshi Nakamoto and has been devoting considerable effort to that claim. It is likely that documents personal to him which bear signs of having been altered since that time to give support to his claim to be Satoshi Nakamoto were altered by him, at his direction or at least with his knowledge. The fact that numerous documents have been altered with this apparent purpose since 2016 is consistent with him creating an evidential trail to provide false support to his dishonest claim.
 - 4.4. Each of the documents addressed here has been disclosed by Dr Wright and assigned an ID_ number within Dr Wright's own disclosure. When giving disclosure of these documents, Dr Wright did not inform COPA that any of them had been or may have been tampered with.
 - 4.5. Following receipt of Dr Wright's disclosure, COPA wrote to Dr Wright to inform him that it was likely to raise allegations of forgery in respect of his disclosure

and to request access to the devices or forensic images from which the documents were obtained. Dr Wright refused COPA's request to allow for inspection of the devices or forensic images from which the documents were obtained, despite the evident value of such inspection (as later attested by the experts of both parties in forensic document examination).

- 4.6. The characteristics and indications of tampering relied upon in this Appendix are varied and appear across many different documents which were (and/or purport to be) created at a variety of times and which address a wide variety of different aspects of Dr Wright's claim to be Satoshi Nakamoto. Although the documents are in that sense varied, they have common features in that: (i) there are various common elements to the indications of tampering and the techniques used to alter their content, when Dr Wright's disclosure is taken as a whole; (ii) they were produced by Dr Wright and were in his custody and control; and (iii) that in each case, the effect of the tampering is to make the documents appear to support Dr Wright's claim to be Satoshi Nakamoto, contrary to fact.
- 4.7. Following, and in evident response to, the service of the first report of Mr Madden, Dr Wright acted as follows:
 - 4.7.1. He sought to disclaim responsibility for the documents previously designated by him as Reliance Documents, including through his provision of extended chain of custody information (information he had previously refused to supply even in more basic form) in which for the first time he suggested that the documents had been handled by many unidentified further persons. He thus sought to distance himself from documents only once their veracity had been called into question.
 - 4.7.2. He provided implausible explanations for alteration and tampering with documents and raised factual allegations previously said by him to be irrelevant. These were new explanations which were the more implausible because Dr Wright had had the relevant documents for many years and had disclosed and/or deployed many of them in previous proceedings without previously giving these explanations. Furthermore, it is inconsistent with Dr Wright's own account of his technical skill in IT security that he had failed to identify document alterations or reasons for documents to be unreliable before the service of the Madden Report.
 - 4.7.3. He sought to replace and/or supplement his original Primary Reliance Documents with versions he has supposedly "discovered" in hard drives which he claimed to be preferable versions. Given his involvement in previous litigation concerning his claim to be Satoshi Nakamoto, and given that he had to nominate primary reliance documents in both the *McCormack* and *Granath* cases, it is implausible that he would only now have discovered accessible documents of key importance to that claim.
- 4.8. Up to and during trial, Dr Wright continued his pattern of behaviour in providing implausible excuses for clear signs of document alteration and in many cases of distancing himself from documents only after they have been discredited. His

excuses and explanations have been without support in independent expert evidence and at odds with the independent expert evidence.

- 4.9. COPA submitted that this conduct is indicative of Dr Wright seeking to react to COPA's discovery of forged documents for which he was responsible or of which he at least had knowledge.
5. Furthermore, as indicated below, a number of the documents were nominated by Dr Wright as Reliance Documents (i.e. documents on which he primarily relies for his claim to be Satoshi).
6. A number of Dr Wright's Reliance Documents were in his 'Additional Documents', the subject of the application at the PTR:
 - 6.1. These are documents which Dr Wright personally claimed to have looked for and discovered in the period from September 2023 in circumstances set out in his fifth and sixth witness statements in these proceedings.
 - 6.2. These are documents to which he attached particular importance, including advancing arguments at the PTR hearing that they were essential to a fair resolution of the Identity Issue.
 - 6.3. In each case, these documents were produced by Dr Wright following service of Mr Madden's first report, in circumstances consistent with these new documents having been created in response to Mr Madden's findings.
 - 6.4. In all cases but one, these documents were disclosed in file formats containing little or no internal metadata, such as plaintext L^AT_EX files and RTF documents (rather than MS Word documents). Dr Wright's original disclosure contained no such document. COPA invited the inference that, having had sight of the first report of Mr Madden, Dr Wright then chose to rely on documents that presented a lower surface area for forensic analysis.
 - 6.5. In each case, these are documents which Dr Wright claims to have had in his possession since 2007. Further, the majority of the documents come from the BDO Drive (BDOPC.raw). Dr Wright claims that BDOPC.raw was a drive image captured on 31 October 2007 and that it was protected by encryption (see his chain of custody information at **Exhibit HLF1, p45ff**). His attempts to explain signs of alteration in that drive image were implausible.
7. I find without hesitation that Dr Wright was responsible for each of the forgeries. It seems highly likely that he carried out the forgeries himself, but if any other person was involved, they must have been acting under his detailed direction. Furthermore, I find it is undoubtedly the case that Dr Wright created each forged document with a view to its deployment in support of his dishonest claim to be Satoshi Nakamoto.
8. The evidence in support of each allegation is dealt with in each individual section. In those sections where it proved necessary to state a more detailed conclusion(s), that/those have been stated. However, in sections 7, 11, 13, 14, 15, 16, 17, 18, 22 and 33 below, I did not find it necessary to set out a conclusion and each of those sections should be read in the light of these overall findings, especially those in [2]-[3] and [7].

(ii) Organisation of this Appendix

9. COPA's Consolidated Schedule was arranged in four parts, each part corresponding to forgeries pleaded at different stages of this action. For the purposes of this Judgment, I am released from that procedural constraint, and it is more logical to address the allegedly forged documents according to the date which they purport to bear.
10. Whilst I have taken, for the most part, a chronological approach, there are three sections I propose to deal with first, which I introduce here.
11. In the numbered sections 2-40 below I have addressed the allegations of forgery in respect of either individual documents or closely linked documents, even though there is some interplay between the discrete sections. One of the disadvantages of that rather 'siloed' approach is that one does not get the full flavour of the extent to which Dr Wright twisted and turned in his explanations.
12. For that reason, I have drawn together in section 1 the saga stemming from Dr Wright's original claims to have acquired the bitcoin.org domain in 2008 which morphs into a series of other forgeries. The full details of the individual forgeries are set out in the later sections of this Appendix which are identified below. To avoid repetition, I have not set out the full detail here, just sufficient detail to show how one forgery led to another. If the content of this section 1 appears complex and convoluted, that is because it is.
13. Then it is necessary to introduce the two main classes of the New Reliance Documents: BDOPC.raw and the LaTeX documents. These were the subject of Dr Wright's application at the PTR (a) for permission to rely on these documents and (b) to adjourn the Trial. Documents from both sources were emphasised as being critical to a fair trial.
14. In section 2 below, I deal with BDOPC.raw, which Dr Wright presented as a time capsule dating from 31 October 2007. BDOPC.raw contains all the new Reliance Documents which are not LaTeX files. There are four particular documents derived from BDOPC.raw which are dealt with in their own sections in the (roughly) chronological run, but, as will be seen, each of those depends on the general findings I have made regarding BDOPC.raw.
15. In section 3, I address the other source of the New Reliance Documents – the LaTeX documents stored in Dr Wright's Overleaf account. There are a number of particular LaTeX documents with their own sections later and, again, those must be read in the light of the general findings I make regarding Dr Wright's Overleaf account and the LaTeX documents contained in it.
16. Following sections 1-3, I revert to my rough chronological approach, addressing various documents, the majority of which are said to represent precursor work to the Bitcoin White Paper which appeared in Dr Wright's original disclosure.
17. I draw particular attention to section 40 concerning the MYOB Ontier Email. As I find below, this document exhibits many of the characteristics of Dr Wright's forgeries. It was a particularly outrageous forgery since the forged email was created in the middle of trial for the purpose of trying to explain away other allegations of forgery (which concern the MYOB Screenshots) which I address in section 36 below.

1. An illustration of the intricacies and depths of Dr Wright's forgeries

18. When Satoshi was operating, the email address satoshi@vistomail.com and the web domain bitcoin.org were associated with him. The address and website were apparently purchased from the organisation Anonymous Speech.
19. The first strand of the saga derives from Dr Wright's claims (in Wright4) to have used the vistomail account as Satoshi in 2008 {Wright4 [13] {E/4/8}}. These claims were a necessary part of his claim to be Satoshi.
20. On 12 April 2019, Dr Wright published an article entitled "*Evidence and law*". (In passing, I note that this article was a key step in him backtracking away from his previous position that he would prove his claim by a signature linked to an early block. He says that signing merely shows possession of private keys, not ownership (or creation of Bitcoin)). Of course, this supposed stand on principle follows his failure to provide a proper signature in public). In the article he wrote that "*Bitcoin was birthed using a credit card payment*" {L14/451/2}. He then went to on claim specifically that the "*source of the funds that went to pay for the bitcoin.org domain registration on AnonymousSpeech.com derived from my credit card*" {L14/451/5}, finishing the article by saying he would provide that evidence and would do so by using the "*courts and law*." In this article, Dr Wright was telling the world that he would prove his creation of Bitcoin, not through signing with a private key but through tangible proof such as bank statements. His position was made even clearer in an interview two weeks later (27 April 2019), when he stated:

"Proof is something simple, like a credit card statement saying that you actually bought the Bitcoin.com – sorry, Bitcoin.org domain... and paid for the Satoshi email account." {O4/25/34}.

"I'm an evil little prick, I've got bank statements and credit card statements and all of this stuff and, you know, the bank has to keep those for 25 years... So I can't fundamentally change them... The bank issues a statement... the court checks, that's it." {O4/25/36}.

21. Dr Wright followed up on that promise by producing screenshots of his NAB banking records (discussed above). He sent these to Jimmy Nguyen (then CEO of nChain Group) in an email dated 10 June 2019 {ID_003455, L15/100/1}. These two screenshots appear to be NAB banking records showing two transactions: AU\$ 687 to Anonymous Speech; and an AU\$ 8 transaction fee (both dated 30 August 2008). The covering email said: "*Anonymous Speech is vistomail. [Number] is my old credit card. All the credit card shows is 'Anonymous'. You need to have the Vistomail document as well.*"
22. In Madden1, Mr Madden showed that these documents were inauthentic, because the screenshots were taken at a time (in 2018) when the records (from 2008) could not have been accessed. Dr Placks agreed with this conclusion {Q/2/9}. Following the service of Madden1, Dr Wright admitted that these bank records are not authentic (via the letter from Travers Smith dated 27 September 2023 {M/2/205}). They were then pleaded by COPA to be forgeries and I have found them to be forgeries in section 39 below.
23. Dr Wright's excuse was set out in his third witness statement in the BTC Core claim, where he said that these screenshots were sent to him by Amanda McGovern (his lawyer

in the *Kleiman* litigation from the firm Rivero Mestre) on 9 or 10 June 2019. As to how Ms McGovern obtained these, Dr Wright says they were sent to her by a pseudonymous Reddit user whose “*identity remains undisclosed*”. Ms McGovern has passed away, so that the account cannot be checked with her.

24. Dr Wright then said that, at that time, he did not think that the records were genuine and that he emailed them to Mr Nguyen to check. However, the email did not suggest that they were inauthentic, and its short text indicates that he regarded them as genuine. It is also implausible that Dr Wright would send the documents to Mr Nguyen to check (and there is no suggestion in the evidence of what checks were to be made or even could have been made, given that the records purported to be Dr Wright’s financial records). Furthermore, Dr Wright went on in that statement to say that he used other payment methods for the domain name {Wright3 in BTC Core, [7] {E1/4/3}}, and then he added in Wright4, [16] {E/4/10}, that he could not remember what methods he used. It must follow from this evidence that he was lying in his article and interview of April 2019 when he said that he could remember and prove what payment method he had used. It must also follow that he disclosed documents in this action which he knew to be fakes, supposedly planted on him (presumably a memorable event), but did not inform COPA or the Court when giving disclosure.
25. The reality is that Dr Wright announced that he would prove his Satoshi claim with bank records, forged the records and sent them to Mr Nguyen (all in mid-2019). When the forgery was exposed in the Madden Report, he concocted his tale of the anonymous Reddit user planting fake documents.
26. The other strand of the saga starts with the MYOB accounting records {ID_004077, ID_004078 and ID_004079} which purported to evidence a series of transactions by Dr Wright, dated to 2009, connected to mining of Bitcoin and transfers of Bitcoin to Wright International Investments Limited, incorporated in the Seychelles. (These records said nothing about the acquisition of bitcoin.org). In Madden1, these documents were found to be inauthentic (see his Appendix PM7 {H/4/7/1}). They were then pleaded as forgeries by COPA. I have found these MYOB accounting records to have been forged by Dr Wright in section 35 below.
27. This strand then continues in Dr Placks’ first report. Dr Wright tried to provide replacement MYOB records by directing his expert, Dr Placks, to MYOB databases containing records which supposedly supported aspects of his claim (including a supposed entry dated 19 August 2008 for purchase of the bitcoin.org domain hosting {I/1/35} {Placks1 [9.15]-[9.42] {I/1/32}}, albeit these turned out to be entirely different copies of accounting records over the period which did not show the same transactions. However, Mr Madden showed in his Second Report (notably Appendix PM42) that the “new” database records were forged in May / June 2023 – in the course of this litigation – by person(s) using the email addresses of Dr Wright and his current wife (Ramona Ang) {see Appendix PM42 at {H/209/7}, especially [31ff]}. This finding was agreed by Dr Placks in the first joint statement {Q/2/9}.
28. Dr Wright tried to answer this point in Wright11 by claiming that both Mr Madden and Dr Placks had failed to understand how MYOB works, and that Mr Madden’s findings of entries being associated with very recent versions of MYOB software were explained by system updates. This evidence did not account for all Mr Madden’s findings, because (for example) he had found clear evidence of backdating of entries by simply producing

a log showing entries in the order in which they had been committed to the database. Mr Madden explained this clearly in his fifth report, produced during trial {G/9/4} - {G/9/10}. In addition, Dr Wright's account did not make sense even on its own terms. If system updates caused previous entries misleadingly to be associated with the most recent version of software, all entries would naturally show the same version. When cross-examined on these points, Dr Wright insisted upon his version, asserting features of MYOB for which he had no supportive evidence {Day15/20:16} - {Day15/43:25}. Quite apart from all the expert evidence ranged against him, it would be very surprising if accounting software caused such misleading and confusing entries to be committed to logs as he suggested MYOB routinely does.

29. Dr Wright's final excuse for not being able to show his acquisition and ownership of the bitcoin.org domain and the vistomail email was that control of the domain passed to others after Satoshi withdrew from active involvement in Bitcoin. This, of course, is true, but it is no answer to Dr Wright's original claims to have proof that he was the original registrant of the domain. Beyond that, as far as I am aware, Dr Wright's attempts to show that he had acquired the bitcoin.org domain in 2008 were not pursued further, perhaps in the hope that the issue would be quietly forgotten.
30. However, reverting to the original MYOB accounting records and picking up the story from [26] above, Dr Wright suggested that these documents are inauthentic, but did not indicate when he became aware of that fact and why he deployed them in the first place. He suggested that the documents were produced by his former solicitors, Ontier, and in the *Tulip Trading* case he suggested that Ontier is somehow responsible for unreliable records being proffered (although it is not clear that he was accusing Ontier of falsifying the records) {Dr Wright's fifth statement in the *Tulip Trading* case, at [39] {S1/1.13/13}}.
31. Dr Wright's account of these documents developed in **Wright11** and at trial, as set out in section 35 below. He maintained that the entries in the security logs for 6 and 7 March 2020 reflected entries he had made on a local version of MYOB to record the contents of a QIF file he had had somebody extract from the online version. Meanwhile, he said that the screenshots had been taken before 6 March 2020 by his solicitors, Ontier, from a live version of MYOB to which they had been given login access in late 2019. He thus maintained that the entries he had made had not affected the records shown by the screenshots.
32. This convoluted story was shown to be false when Ontier told the parties and the Court that they had been provided with login details on 9 March 2020 (and not before) and had taken the screenshots in the days that followed, a position further supported by the point that a related screenshot which showed the date of capture was taken on 9 March 2020. Dr Wright then forged the MYOB Ontier email (see section 40 below) in a last desperate attempt to back up his story. It is clear that the responsibility for all and any of these forged or unreliable documents being put forward lies with Dr Wright. No blame attaches to Ontier.

2. The BDO Image ‘Time Capsule’ “BDOPC.raw”

33. As already indicated, BDOPC.raw is presented by Dr Wright as a time capsule of his 2007 computer. The provenance of this drive is said to be that it was “created on 31 October 2007”. Dr Wright has confirmed (with a statement of truth) that “the files contained in the BDO Image date up to 31 October 2007 and Dr Wright has not edited or amended any documents in the BDO Image since 31 October 2007”. [Wright6 [4] E/21/3, confirming Field1 [25] E/24/9]
34. As a result of that claimed provenance of BDOPC.raw as a document in its own right, the documents taken from it are said to be “at least very strong evidence that Dr Wright is Satoshi Nakamoto”. [Wright6 [4] E/21/3, confirming Field1 [25] E/24/9]

(a) COPA’s Reasons for Alleging Forgery

35. In overview, the internal content of BDOPC.raw as a whole is not authentic to 2007 and it has been manipulated, with numerous forensic signs indicating that the manipulation took place at dates between 12 and 19 September 2023 [Madden4 [13.b-c] G/6/8]. Analysis revealed that in the days prior to 20 September 2023, substantial efforts were made to modify the contents of BDOPC.raw and to do so in a way to hide when that activity was occurring and make it appear as if it had occurred in 2007 [Lynch1 [72] I/5/19]. The content of BDOPC.raw as a whole is not authentic and has been actively edited between 17 and 19 September 2023, with the edits being consistent only with editing by a user [Madden / Lynch1 [6] Q/6/3].
36. BDOPC.raw is a product of a process beginning with a computer that was last shut down on 5 July 2007. A genuine image was captured of the content of that computer. That image, or a copy or version of it, was then subsequently edited in September 2023 to add, modify and delete files. This was done a time when it was attached to another computer and without the operating system in use [Madden4 [71], G/6/25]. The editing process resulted in BDOPC.raw.
37. The manipulation of BDOPC.raw was done with the computer clock set to 31 October 2007, so as to backdate the most obvious resulting digital artefacts. [Madden 7 [77], G/6/27] [Lynch1 [76] I/5/20]
38. In some cases, incriminating metadata relating to 2023 was overwritten and replaced with metadata dating to 2007. In particular, the metadata within BDOPC.raw records that a folder within it, “My Files”, was modified on 17 September 2023 at 13:18:17 and later backdated to 31 October 2007. [Madden4 [81-82], G/6/27]
39. The original BDO Image was created from a computer running Windows XP. Windows XP does not record Transaction Log metadata, which was introduced in a later operating system. However, BDOPC.raw does include Transaction Log data, indicating that it was used with a later version of Windows. Those Transaction logs contain extensive records showing editing of BDOPC.raw on 17 September 2023. Further, those Transaction Logs indicate other irregularities, such as files being backdated to appear as if created after they were last modified and accessed. [Madden4 [84]-[85] G/6/28] [Lynch1 [73]-[75] I/5/19]

40. All the documents among the 97 New Reliance Documents which appear to support Dr Wright's claim to be Satoshi Nakamoto were added to BDOPC.raw in 17-19 September 2023, and were added using a different user account from that used in relation to pre-existing files:
 - 40.1. Windows NTFS file systems record an identifier, the Security ID or "SID", connected with the user that edits the files. Of the user documents present on BDOPC.raw, over 99% (over 165,000 files) were apparently created with the correct Security IDs for the original BDO PC from which the original image was captured in 2007. By contrast, 71 of Dr Wright's New Reliance documents were added later, using a different user account with a different SID (the "Manipulation User") [Madden4 [93-98] G/6/30] [Madden / Lynch1 [12] Q/6/5]. These include all the documents among the New Reliance Documents which actually support Dr Wright's claim to be Satoshi Nakamoto.
 - 40.2. Windows NTFS file systems record Object ID metadata (ObjIDs) when some file manipulation operations are performed. The ObjIDs present on BDOPC.raw record that BDOPC.raw was edited in a series of sessions on 17, 18, and 19 September 2023. Those sessions were interspersed with other sessions backdated to 31 October 2023. [Madden4 [101-105] [G/6/31]
 - 40.3. All of the ObjIDs from September 2023 were created with the SID of the Manipulation User.
41. There are multiple iterations of the drive image stored on the same Samsung Drive. Mr Madden has recovered two more which were deleted in September 2023, but which he has managed to recover: **InfoDef09.raw** and **Image.raw**. These are identical in content to 99.5% of BDOPC.raw. The remaining 0.5% is made up of data pertaining to New Reliance Documents, and previous edits of New Reliance Documents. These drive images are among hundreds of GB of data deleted from the Samsung Drive in September 2023. [Madden4 [13.d-e], G/6/8]
42. Further, there is a file still extant within the Samsung Drive called InfoDef09.zip, which is encrypted and password protected. InfoDef09.zip contains a hash-identical copy of InfoDef09.raw. [Madden4 [28] onwards, G/6/12]. It must therefore have been deleted after 17 September 2023.
43. BDPOC.raw (including each file from within it) was not properly disclosed:
 - 43.1. The file was not disclosed at the time for initial disclosure, nor extended disclosure. Further, it was not disclosed at any time in the intervening period up to 17 November 2023, during which Dr Wright provided no fewer than 12 more rounds of disclosure. Dr Wright has sought to explain away his failure to disclose the files by blaming his former representation and the e-disclosure provider Alix Partners. [Wright5 [11] onwards, E/20/5]. Dr Wright's account is implausible and false.
 - 43.2. When attempts were made to investigate the matter with Alix Partners, Dr Wright sought to frustrate those efforts [Macfarlanes' letter to Alix Partners dated 5 December 2023; Shoosmiths' letter to Alix Partners dated 16 January 2024].

- 43.3. It is to be inferred that the file was not disclosed at that time because it did not yet exist at that time.
44. The tampering took place across at least 8 different sessions spanning three days and was the result of user activity [Madden4 [104, G/6/33] [Madden / Lynch1 [6] Q/6/3]. It was not the result of automatic processes taking place on a single occasion as Dr Wright has suggested [Wright5 [22], E/20/7]. The software mentioned by Dr Wright in Wright8 does not work in the way he suggests [Madden3 [160-165] G/5/53]. His evidence in Wright8, Wright9 (Appendix A), Wright10 and Wright12 does not explain any of the anomalies found by the parties' experts (and summarised above) [Madden4 [160] G/6/54] [Lynch1 [122-129] I/5/37] [Madden / Lynch Joint Report1 [9] Q/6/3].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

45. Dr Wright was the Manipulation User and/or was responsible for editing the drive in 17-19 September 2023:
- 45.1. Paragraph 40 above is repeated.
- 45.2. Dr Wright has stated that BDOPC.raw was protected by encryption, that he was the only person who interacted with the Samsung Drive in September 2023 prior to it being imaged by KLD and that his only interaction was to check that the data diode software was available. [Wright5 [22] E/20/7]
- 45.3. Recovered deleted files in connection with InfoDefo09.raw and BDOPC.raw record information about the username of accounts used to edit documents within them. These include the username "Users\CSW" [Appendix PM46 [23] H/278/7] and the username "Craig S Wright" [Madden4 [55.b.] G/6/20].
- 45.4. Dr Wright has not permitted forensic inspection of the computer connected with the Manipulation User SID.
46. The effect of the tampering is to enable Dr Wright to put forward the BDOPC.raw image as if it was a time capsule of authentic material proving his claim to be Satoshi Nakamoto, contrary to fact.
47. Dr Wright has stated that this drive has been in his possession at all material times. Further, Dr Wright has stated that the relevant content on the Samsung Drive would have been invisible to anyone but him, due to the encryption used. [Wright5 [20-21] E/20/7]
48. The Madden Report (Madden1) was served on Dr Wright on 1 September 2023. BDOPC.raw was created following that date. Dr Wright then served a further 'Chain of Custody' document K/11 in which he stated that preferable versions of his Reliance Documents would be found in a newly-discovered drive image. In all the circumstances, it is to be inferred that the creation of BDOPC.raw was Dr Wright's reaction to receipt of the Madden Report.
49. Paragraphs 41 and 42 above are repeated. In respect of InfoDef09.zip:
- 49.1. Dr Wright has stated that InfoDef09.zip dates from 2009 and that he could not access the image [Wright5 [8], E/20/4].

- 49.2. When asked for the password. Dr Wright stated that “he was hacked in 2020 and his password files were lost” [Shoosmiths’ letter of 11 January 2024]. That is implausible.
 - 49.3. When asked for details of the alleged hack, Dr Wright stated that he had actually been hacked at least 10 times [Shoosmiths’ letter of 15 January 2024]. That is at least 10 times more implausible.
 - 49.4. InfoDef09.zip contains a hash-identical copy of InfoDef09.raw. [Madden4 [28] onwards, G/6/12]. It must therefore have been deleted after 17 September 2023.
 - 49.5. It is to be inferred that the reason Dr Wright withheld access to the password for InfoDef09.zip is that he knew the content of the file, and that it contained the incriminating evidence of BDOPC.raw being a recent creation, contrary to his story.
50. Dr Wright has provided a series of further technical explanations in respect of how BDOPC.raw was handled. These explanations do not affect the conclusions drawn by the experts and do not accord with the technical detail of the image itself in any event. Paragraph 44 above is repeated.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

51. Dr Wright claimed to have discovered the BDO Drive in September 2023, with the drive image having originally been captured on 31 October 2007. He claimed to have cloned the machine and then done the capture later. He explained away the copying inconsistencies by saying that he used XCopy which, he claimed, changes file dates. He also claimed that the image was taken from a computer using a virtual machine at BDO.
52. He accepted that the metadata showed that items had been modified in September 2023, but said that this had been done by Mr Ager-Hanssen or someone associated with him and that he had let this happen because he had his guard down against insider hacking. He claimed that access to his machine had been enabled by a group policy update pushed from nChain that contained a backdoor into his system (getting around his two-factor authentication), but that he hadn’t noticed he was hacked until some point in December: see {Day5/58:9} and following.
53. He claimed that Mr Ager-Hanssen had been monitoring his computer, all of his emails, all of his communications and all of his WhatsApp messages, and that he was screenshotting everything that Dr Wright did. Dr Wright also claimed that all of his discussions with Mr Ager-Hanssen were recorded/videoed: see {Day5/89:2}.
54. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
 - 54.1. Dr Wright’s story of ‘discovering’ a hard drive that *just happened* to have documents that helped his case, in circumstances where he has been involved in a series of cases to which this material would have been highly relevant (including the McCormack and Granath cases where he had to identify primary reliance documents) is simply not credible. The fact that this discovery happened just after the service of the damning Madden1 report is also highly suspicious.

- 54.2. The BDO Drive is not a time capsule and its contents have been manipulated. The drive contains deleted files (in InfoDef09.raw) that demonstrate how Dr Wright created his forged documents which he then seeded onto the part of the BDO Drive that he disclosed. Mr Madden and Mr Lynch agreed that the BDOPC.raw image was not authentic and that it had been actively edited in the period 17-19 September 2023 {Q/6/3}.
- 54.3. Mr Madden found 145 files in BDOPC.raw which post-dated 6 July 2007, being the last date that the computer from which the image was taken was used. He also found that for 71 new reliance documents among these 145 files, the timestamps were consistent with them being copied to the raw image when the computer clock was set back to 31 October 2007: see Madden4 {G/6/26}.
- 54.4. Mr Madden also found that the transaction logs included dates as late as 17 September 2023 (Madden4 {G/6/28}) and that 44 ObjIDs were dated later than 6 July 2007, with 17 of them being timed to 19 September 2023 (Madden4 {G/6/32}).
- 54.5. The deleted image file (InfoDef09.raw) contains 17 of the 97 new reliance documents, but with the documents in slightly different form. This was recovered by Mr Madden, and it shows Dr Wright creating the forgeries {Madden4 {G/6/41}}. The deleted files contain evidence of changes being made to documents to create potential precursors to the Bitcoin White Paper, by removing what would otherwise be anachronisms. For example, where a precursor document contained a reference to a paper published in 2016, the version disclosed by Dr Wright had that reference date removed and replaced by a question mark: see PM46 [112b] {H/278/39}. This course of editing is set out more fully in subsequently pleaded forgeries set out later in this Appendix.
- 54.6. The edits made to documents between InfoDef.raw (the deleted version) and BDOPC.raw were also changes specifically in support of Dr Wright's case that he is Satoshi, such as changing the words "the original Bitcoin White Paper" on InfoDef.raw to "the proposed Timecoin system" on BDOPC.raw.
- 54.7. Dr Wright accepted that many of the files appeared to be modified, but claimed that this had been done by Mr Ager-Hanssen or someone associated with him. There is simply no evidence that such hacking occurred, and it is a fantastical excuse. For the avoidance of doubt, the fact that Mr Ager-Hanssen posted in October 2023 some pictures of a computer screen showing Dr Wright's BDO Drive files does not prove that he gained access through hacking. These are files which Dr Wright presented to Mr Ager-Hanssen and others in September 2023 to encourage their continued support of him.
- 54.8. It is also implausible that Dr Wright also did not appear to notice this alleged hack at the time, even though Mr Ager-Hanssen had published in October the pictures of a computer screen containing Dr Wright's BDO Drive files which Dr Wright now (wrongly) claims are conclusive evidence of the supposed hack. Dr Wright never mentioned this hack by Mr Ager-Hanssen in his statements, even though he says he worked out that it had happened some time in December. His ninth statement was served on 21 December 2023, so he had the opportunity to address the issue squarely in that and later statements.

(d) Conclusion

55. I reject Dr Wright's allegation of having been hacked. In my judgment, the evidence clearly demonstrates that the BDO Drive was seeded by Dr Wright with all the New Reliance Documents in September 2023 and that he was responsible for all the manipulations identified by Mr Madden.

3. The L^AT_EX files: Main.tex and E-Cash-main.tex

(i) Dr Wright’s main LaTeX file “main.tex”, “Candidate L” {H/340/1}

56. This file is a LaTeX source file, taken from a folder on Dr Wright’s Overleaf account. Dr Wright has stated that, as Satoshi Nakamoto, he wrote the Bitcoin White Paper using LaTeX. He has also stated that this document “uniquely codes for the Bitcoin White Paper”, and that when compiled in Overleaf, produce a copy of the Bitcoin White Paper “in the same form as” and “materially identical to” that published by Satoshi Nakamoto. [Wright 6 E/21/3; Field 1 [27] P3/13/10]
57. Among all his LaTeX files, Dr Wright has nominated this file in particular as the source file that he relies on to compile the Bitcoin White Paper itself (Shoosmiths’ fourth letter of 4 January 2024 M/2/802). This file is Candidate L in Mr Rosendahl’s report.

(ii) Dr Wright’s “electronic cash” LaTeX file “E-Cash-main.tex”, “Candidate C” {H/331/1}

58. This file is a LaTeX source file which is very similar to *main.tex*. This file is Candidate C in Mr Rosendahl’s report. The file presents as very similar to *main.tex*, but it is entitled “Electronic Cash without a trusted third party”, the draft title for the Bitcoin White Paper which was communicated by Satoshi Nakamoto to Adam Back and Wei Dai in September 2008. The abstract of this paper also matches the preview abstract in those Satoshi emails.

(a) COPA’s Reasons for Alleging Forgery

59. The Bitcoin White Paper was not written in LaTeX. It was written and produced in OpenOffice 2.4. Its metadata record that it was produced by that means. Examination by both parties’ experts has led them both to conclude, and agree, that it was produced by that means based on every level of the pdf from the fine details of its typographical presentation, down to the binary digits of the PDF. [Rosendahl1 [66-68] G/7/23] [Rosendahl1 [191] G/7/58] [Lynch1 [117-120] and [122.c-d] I/5/36] [Rosendahl / Lynch1 [2] Q/5/1].
60. The encoding and embedding of fonts within the original Bitcoin White Paper, and their kerning, is fundamentally incompatible with LaTeX, especially LaTeX in 2009. [Rosendahl1 [66-68] G/7/23 and [156-157] G/7/49].
61. Dr Wright’s selected LaTeX file does not, when compiled, produce the Bitcoin White Paper (and neither does any other file in the TC folder). It compiles to a PDF which only superficially resembles the Bitcoin White Paper but which is in fact substantially different [Rosendahl1 [120 G/7/43] [Lynch1 [105] I/5/29] [Rosendahl / Lynch Joint report [3] Q/5/1]. Further, and for the avoidance of doubt, the differences are not even explained by the belated indications given by Dr Wright’s solicitors on 29 December 2023 M2/763/1 that there were certain reasons why Dr Wright’s file would not compile to a replica of the Bitcoin White Paper (contrary to his previous statement on oath).

62. Dr Wright's LaTeX files from the TC folder are not original to 2008 or 2009. Using LaTeX software that is up to date for 2009, none of them compiles properly, instead producing errors and warnings. The files **L** and **C** could not be compiled at all. In order to compile them at all, it is necessary to fix the files or use a much more modern version of LaTeX software [Rosendahl1 [106-112] G/7/38]. This is because Dr Wright's LaTeX files include software packages and options which could not have been used in 2009 [Rosendahl1 [158] G/7/50].
63. The images that result from compiling Dr Wright's identified file are different from the images in the original Bitcoin White Paper (as would be the images resulting from compiling any of Dr Wright's LaTeX files), including in the precise location and angle of the lines and arrows. Dr Wright relies on the precise location and angle of lines and arrows being the same [Wright 6 E/21/3; Field1 [27] P3/13/10], but they are not the same and exhibit subtle but important differences [Rosendahl 1 [98-100] G/7/35 and [181] G/7/55] [Lynch1 [105-115] I/5/29] [Rosendahl / Lynch1 [3] Q/5/1]. In one figure, even the label text does not match [Rosendahl1 [98] and fig 3.4 G/7/36].
64. Dr Wright's LaTeX files are recent creations:
 - 64.1. The files are modern files written in modern LaTeX code. Paragraph 62 above is repeated.
 - 64.2. Dr Wright's Overleaf account, from which they were sourced, was created on 8 August 2023. There is no previous record of the existence of these files [Shoosmiths' first letter of 8 January 2024, [6] M2/820/2].
 - 64.3. When the Overleaf Metadata was produced, it showed that:
 - 64.3.1. Dr Wright had first created main.tex on 19 November 2023 as a blank document. Dr Wright had then edited the document main.tex over a course of at least 211 edits in the period between 19 November 2023 (2023-11-19 at 18:23:52.252 UTC, the date the document was created) and 1 December 2023 (2023-12-01 at 14:01:48.428 UTC, the date that documents were provided to and compiled by Stroz Friedberg). Dr Wright had then engaged in over 150 further edits in the following days up to 12 December 2023 (2023-12-12 at 15:02:45.176UTC).
 - 64.3.2. The file E-Cash-main.tex had been created at 17.09 on 24 November 2023 (2023-11-24 at 17:09:43.829UTC) and had been populated 11 seconds later with over 700 lines of code. The document had then been edited in a series of 7 further edits up to 17.12 (2023-11-24 at 17:12:15.559 UTC).
 - 64.4. The files were not disclosed at the time for initial disclosure, nor extended disclosure. Further, the files were not disclosed at any time in the intervening period up to 17 November 2023, during which Dr Wright provided no fewer than 12 more rounds of disclosure.
 - 64.5. Dr Wright has sought to explain away his failure to disclose the files at the time of extended disclosure by blaming his former solicitors, Ontier. Dr Wright states that Ontier advised him that the files were not disclosable and could not be

disclosed [Wright6 E/21/3; Field1 [27 P3/13/10]. However, this account is inherently implausible (presupposing bizarre and negligent advice), and Ontier have confirmed that Dr Wright's account is false in each and every particular. [Shoosmiths' letter of 18 December 2023 [[4]].

- 64.6. Despite the order of the Court to do so, Dr Wright has failed to produce any written record of such advice. Given the supposed importance of the material, it is to be inferred that the issue of its disclosure and Dr Wright's ability to rely upon it would have been addressed in writing and that Dr Wright is unable to provide such a written record because such advice was never given.
- 64.7. It is to be inferred that Dr Wright's LaTeX files were not disclosed at that time because they did not yet exist at that time.
65. Contrary to Dr Wright's assertions, it is not difficult to reverse engineer the publicly available Bitcoin White Paper to create a LaTeX source file that compiles to a PDF file similar to Dr Wright's identified file and that is superficially similar to the Bitcoin White Paper. This is agreed by the parties' experts. [Rosendahl / Lynch1 [4] Q/5/2]
66. There are strong indications that the images in Dr Wright's LaTeX files have been automatically generated, using an online tool called *Aspose PDF to LaTeX*. The result of converting the original Bitcoin White Paper to LaTeX using Aspose is an exact match, with nearly identical low-level coding. While being long and verbose and not simple to create by hand in LaTeX, the code can be created by Aspose instantly. [Rosendahl1 [197] G/7/60].
67. The code which causes Dr Wright's LaTeX files to resemble the original Bitcoin White Paper in their textual output calls on packages and options which did not exist in 2009. These include instructions for: setting the font (with **fontspec**); how references are displayed (with the **hidelinks** option); the font of the letter λ (with **unicode-math**); and the drawing of diagrams (with the package TikZ, coded to load the TikZ library **arrows.meta**). They include the use of Lua code (requiring the package **luacode** with **LuaLaTeX**). [Rosendahl1 [section 3.7], G/7/43-50].
68. As well as the textual content of the output PDF from Dr Wright's LaTeX files, also the location of elements on the pages cannot be reproduced without modern code. The code calls again on software packages and options which did not yet exist in 2009, including to set the geometry of the page and margins (in the case of main.tex, the command `\newgeometry`), the location of images on the page (with the command `\AddToShipoutPictureBG*`), the location display of margins. [Rosendahl1 [section 3.7], G/7/43-50].
69. In each case, those packages and options provide the very functionality which causes Dr Wright's LaTeX files to output something resembling the original Bitcoin White Paper. If they were not used, the output PDF from Dr Wright's LaTeX files would not resemble the original Bitcoin White Paper at all. [Rosendahl1 [158], G/7/50] [Rosendahl / Lynch1 [5] Q/5/2].
70. In each case, by contrast, each of the observed characteristics of the Bitcoin White Paper were supported natively by OpenOffice in 2008-2009 [Rosendahl1 [160], G/7/50] [Lynch1 [116-120] I/5/33].

71. In respect of E-Cash-main.tex (file C), the file cannot be compiled at all on a 2008-2009 version of LaTeX software, even with concerted effort to make the file compatible. [Rosendahl1 [106-109] G/7/38].
72. Dr Wright has stated that these files should be compiled on Overleaf, a modern system which did not exist in 2008-2009.

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

73. The effect of creating these documents is to support Dr Wright's story that the Bitcoin White Paper was created in LaTeX. The story is untrue, and is designed to be supportive of Dr Wright's claim to be Satoshi Nakamoto (suggesting both special knowledge of the production of the paper and possession of material which only Satoshi could supposedly possess), contrary to fact.
74. E-Cash-main.tex (file C) is created by copying from Satoshi Nakamoto's draft abstract (sent by email to Adam Back and Wei Dai in a form available to Dr Wright) in reference to a document that was never published. The effect of creating this document is to support Dr Wright's claim to be Satoshi Nakamoto by suggesting that he is in sole possession of the source of that unpublished document, contrary to fact.
75. Dr Wright has admitted to having created these files and being in sole possession of these files since they were created. Further, Dr Wright has *averred* that he has created and been in sole possession of these files since their creation, claiming that the "mere possession of these files is evidence of authorship of the White Paper" [Wright 6 E/21/3; Field 1 [33], P3/13/11], and that they are "unique". It is true only that the files are unique to Dr Wright. His possession and deployment of these files is indicative of a willingness to forge documents to be used as evidence before this Court.
76. On 30 September 2023, Christen Ager-Hanssen tweeted a screenshot indicating that Dr Wright's browsing history showed that he had searched Google leading to the web page "Was anything in Satoshi Nakamoto's original Bitcoin paper compiled in LaTeX?" L20/195/1 [Sherrell19 [65-66] P1/18/24]. Dr Wright has stated that the screenshots of his browsing history posted in tweets by Mr Ager-Hanssen were obtained from his (Dr Wright's) laptop computer [Wright3 [18-19] E/3/6].
77. These documents were then created during the course of the present proceedings using current technology: paragraphs 63, 64, and 68 above are repeated. Dr Wright has created numerous other documents during the course of proceedings, as is a matter of agreement between all four forensic experts (including Dr Wright's own instructed experts).
78. Dr Wright has stated in clear terms that "all graphical images in the White Paper were produced using LaTeX code" [Wright4 [6.c.i] E/4/5]. However, the graphical images in the White Paper were not produced by LaTeX code. Paragraphs 62 to 64 above are repeated.
79. When ordered by this Court to describe the software environment required to compile the document, Dr Wright did not simply state what software is required. Instead, he provided a statement (Wright8) that was verbose and vague. It is to be inferred that the purpose of the statement was to obscure relevant technical detail and supply irrelevant, technical-sounding information in its place and/or to provide scope for Dr Wright to give

excuses for failures of his LaTeX files to compile into a true replica of the Bitcoin White Paper.

80. The files were taken from Dr Wright's own LaTeX editing account, hosted on Overleaf. Dr Wright claimed that no metadata existed in relation to the files hosted on that account, but the claim was untrue and metadata does exist and had been accessible to Dr Wright prior to the time that he made that claim. Further, when ordered to provide access to the metadata, account history, and history of editing those files on Overleaf, Dr Wright did not disclose that data until compelled by further application to the Court. Yet further, while refusing to provide the metadata associated with his Overleaf account, Dr Wright has sought to alter and embellish his story in respect of the number and type of accounts hosted on Overleaf and the supposed method of transmission of the LaTeX files.
81. The metadata, as summarised in paragraph 64.3 above, directly implicate Dr Wright as being responsible for the recent creation of the Overleaf LaTeX files as forgeries.
82. Dr Wright has sought falsely to blame his former advisors for his failure to disclose these supposedly important documents at an earlier stage:
 - 82.1. The story provided by Dr Wright in respect of failings by Dr Wright's former solicitors, Ontier, is false. Paragraph 64.5 above is repeated.
 - 82.2. The story provided by Dr Wright in respect of failings by Dr Wright's former e-disclosure providers, Alix Partners, is unsubstantiated and was not foreshadowed. When attempts were made to investigate the matter with Alix Partners, Dr Wright sought to frustrate those efforts [Macfarlanes' letter to Alix Partners dated 15 January 2024; Shoosmiths' letter to Alix Partners dated 16 January 2024]. Further, when an application was made to enable Alix Partners to provide that information, Dr Wright opposed the application. Yet further, when the Court made the order sought so as to enable the required information to be provided by Alix Partners with Dr Wright's consent, Dr Wright resisted that order.
83. It was on the basis of these documents that Dr Wright attempted to delay the trial, by offering the Court a *fait accompli* in respect of a trial adjournment on grounds of fairness [Wright6 E/21/3; Field1 [34] P3/13/11].

(c) Dr Wright's Explanations and COPA's Rebuttal

84. Dr Wright sought to explain the findings indicating forgery by repeating his claim to have created the Bitcoin White Paper in L^AT_EX, but adding that he had used MikTeX (which Mr Rosendahl had not used). He also claimed that the way in which L^AT_EX works (i.e. how it compiles) on Overleaf is different from the versions of L^AT_EX software he was using back in 2008/09, hence why they now appeared differently. He also claimed that the versions in Overleaf that were disclosed had been altered due to (1) him making a number of typographical corrections to the published version of the Bitcoin White Paper and (2) various demonstrations carried out for the benefit of his lawyers. He also said that he had made very extensive modifications to the L^AT_EX code so as to allow his version of the code to create the Bitcoin White Paper in the format published. He explained away the unusual nature of his code as being a 'digital watermark'. See Field1

at {E/24/6}, Shoosmiths' letter of 13 December 2023 {AB-A/2/67} and {Day5/121:10} and following.

85. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 85.1. Despite having given numerous public accounts, including under oath in other proceedings and in his earlier witness statements in this case, Dr Wright had never mentioned that he had used L^AT_EX to create the Bitcoin White Paper until his fourth statement dated 23 October 2023 {E/4/5} ([6c(i)]) (and even there the reference was elliptical). Given the emphasis which he now places on the use of L^AT_EX (in particular in his evidence relied upon to adjourn the trial at the PTR – Field1 [19.2] {E/24/7}), it is implausible that he did not mention it earlier.
 - 85.2. The Bitcoin White Paper was not written in L^AT_EX, but in OpenOffice 2.4 as agreed by both Rosendahl and Lynch in their Joint Report {Q/5/1}.
 - 85.3. Most of the disclosed L^AT_EX files in the TC folder would not compile at all using a 2008/09 version of L^AT_EX. Mr Rosendahl found that no less than 14 software packages referenced in Dr Wright's L^AT_EX files could not have been used in 2009. Rosendahl {G/7/38} and {G/7/50}.
 - 85.4. To do as Dr Wright claimed, and make the extensive modifications to allow the creation of the Bitcoin White Paper in L^AT_EX, would involve spending months creating the necessary software and then further weeks just to make the Times New Roman font. Mr Rosendahl noted that there were only a few people in the world with the knowledge and skills to do this work: Rosendahl1 {G/7/24}; {Day17/33:14} to {Day17/35:16}.
 - 85.5. The Bitcoin White Paper, in contrast, can be produced in Open Office in a couple of hours for the text and around a day's work including the diagrams. Rosendahl {Day17/33:24} to {Day17/34:6}.
 - 85.6. Dr Wright never properly explained the nature of the digital watermark he claimed to have embedded in the Bitcoin White Paper. He claimed that the 'digital watermark' was the unusual way in which he had written the L^AT_EX code, but he could not point to any older version containing that code, as he had to admit to having edited the code in the Overleaf folder once he was caught red handed doing that.
 - 85.7. None of the L^AT_EX versions of the Bitcoin White Paper in Overleaf, including Candidates L and C, compile into a replica of the actual Bitcoin White Paper. There are differences in the bibliography, spacing, formula, symbols, punctuation and other content differences: see Rosendahl1 {G/7/36}
 - 85.8. Dr Wright admitted to having carried out a web search in September 2023 asking if Satoshi had written the Bitcoin White Paper in L^AT_EX: {Day5/122:20} and following.

- 85.9. The evidence of Mr Rosendahl (agreed by Mr Lynch in the joint statement) was that the Bitcoin White Paper could be replicated using software such as Aspose, and that reverse engineering the Bitcoin White Paper to create a $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ source file that outputs something superficially similar is “not too difficult” – see Joint Report of Rosendahl and Lynch {Q/5/2}. It appears that Dr Wright did indeed use Aspose but failed to make all the corrections to the code that it produced to camouflage that use: {Day15/203:5} and following.
- 85.10. The Overleaf metadata shows Dr Wright actually forging the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ documents in real time, unaware that every edit was being recorded. The animation shown to the Court by the Developers {L21/13} shows that process and how he moved through the document fixing spacing and making changes line by line.

(d) Conclusion

86. In the main body of the Judgment in [426]-[558] I have addressed a detailed set of submissions made by the Developers which overlap with many of the points relied upon by COPA, as set out above. The findings I made in [426]-[558], in conjunction with COPA’s submissions set out above, demonstrate that the evidence was overwhelming in showing that the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ documents were created by Dr Wright in September 2023 by way of his reaction to Madden1. Madden1 taught him the pitfalls of documents containing metadata. So he pivoted to a set of documents which (he thought) either contained no metadata or much less than the documents from his original disclosure. These included the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ documents.
87. In fact, contrary to his expectation, Dr Wright’s Overleaf account did store metadata. As I stated in the main Judgment at [480], I agree with the Developer’s submission that their animation {L21/13} shows at least part of his forgery in real time.
88. Accordingly, I am in no doubt that all of Dr Wright’s $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ documents are recent forgeries created by Dr Wright. This finding is also reinforced by the analysis of various particular $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ documents in their own sections below.

4. The BlackNet Abstract (Particulars of Claim at [26]-[27] {A/2/9}) The Second Pleaded Example C00000917

- 89. On 10 February 2019, Dr Wright published a picture of an abstract on Twitter regarding a project entitled ‘BlackNet’ which he asserts is an early iteration of the Bitcoin White Paper (the “BlackNet Abstract”). This abstract published by Dr Wright appears to describe a Peer-to-Peer transaction system for sending “online consideration” without the use of a central intermediary. Dr Wright asserts that the BlackNet Abstract was written in 2001 and submitted to the Australian Government.
- 90. There are various copies of Dr Wright’s Tweet in the bundles. The pleaded document (as I understand it) is {L14/294/1} {C00000917}:



- 91. In this image, the text of the Abstract is cut off at the left and right margins. However the image of the Abstract was also accessed {L14/294/1}:

Abstract:

A purely peer-to-peer version transaction system would allow online consideration to be sent directly from one party to another without going through an (un)trusted intermediary. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending and replay.

It is believed that a solution to the double-spending and replay problems can be found using a peer-to-peer network.

The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

This enables a decentralised web of trust and a black net formation.

92. This exact wording is included in ID_001379 and the cover page of ID_001379 appears to be similar to the cover page shown in C00000917.

(a) COPA's Reasons for Alleging Forgery

93. The BlackNet Abstract is copied from the abstract of the Bitcoin White Paper. The abstract in the Draft Bitcoin White Paper from August 2008 was corrected and amended before it was finally published as the Bitcoin White Paper in October 2008. The BlackNet Abstract, despite Wright's assertions that it was written in 2001, contains the corrections made between August 2008 and October 2008 and entered into the Bitcoin White Paper. Accordingly, COPA allege that the BlackNet Abstract is a copy of the abstract of the Bitcoin White Paper (i.e. the one published in October 2008 which contains the corrections made between August 2008 and October 2008) and is therefore not a document which predates either the Draft Bitcoin White Paper or the Bitcoin White Paper.

(b) Dr Wright's Explanations and COPA's Rebuttal

94. Dr Wright has accepted that the BlackNet Abstract was not taken from a document written in 2001. He claims that (a) he first submitted his BlackNet paper to AusIndustry in 2001 in applications for a research grant and tax rebate; (b) he successfully obtained rebates from 2001 to 2009; (c) he later made unsuccessful applications for grants and rebates in 2009 and 2010; (d) he updated the BlackNet paper on each occasion; and (e) the image of the BlackNet Abstract which he posted on Twitter in February 2019 was that used for one of the later applications. He claims that his Twitter post did not represent that the BlackNet Abstract was something he had written in 2001. See Defence [44-46] {A/3/16} and Appendix C to Wright11 {CSW/3/5}.

95. COPA submitted that Dr Wright’s explanation should be rejected, for the following reasons:

95.1. The Twitter post {L14/294/1} stated: “My stupidest mistake was going to the Australian Government in 2001 and filing this shit”. Below the message were images of the front page of the BlackNet paper and the BlackNet Abstract. The plain meaning of the post was that Dr Wright had filed the paper below, including the abstract shown, with the Australian Government in 2001 (not that he had filed a paper without that abstract in 2001 and a paper with that abstract in 2009 and 2010). In his evidence at trial, Dr Wright could only answer this point by saying: “I’m better with code than with words. So if you think that, that’s the problem” {Day2/92:6}.

95.2. Other images in the Tweet (those headed “Approval by the company...” and “R&D Project Plan”) were plainly intended to show parts of the filing. Each prominently includes a date of 23 October 2001, thus reinforcing the message that the filing was made in 2001 and that all the images in the Tweet relate to the filing.

95.3. The clear implication of the message was that Dr Wright had revealed his supposed involvement in creating Bitcoin to the Australian authorities in 2001 (a role which the abstract would have made clear) and that he now regretted having done so.

95.4. Dr Wright’s account in his Defence on this point is at odds with accounts he has given elsewhere about the versions of the BlackNet paper which he filed with the Australian authorities at different times. In the Kleiman proceedings, he claimed that his filings with AusIndustry in 2002 (not only those in 2009/10) contained reference to elements of the Bitcoin system {L17/327/93}. In these proceedings, Dr Wright told the Court in his oral evidence that the versions of his BlackNet paper which contained reference to elements of the Bitcoin system (i.e. the supposed Stage 4 of the project) were first filed in 2002 and 2003 {Day2/72:24}. All versions of the paper in disclosure which included reference to elements of the Bitcoin system contained the BlackNet Abstract. Accordingly, there is a stark contrast between (i) his repeated evidence that he first filed versions of the paper including reference to elements of the Bitcoin system in 2002; and (ii) his account in the Defence that he first did this in 2009/10 (an account given in an effort to answer the issue raised in the Particulars of Claim about the content of the BlackNet Abstract).

95.5. The cover page of the supposed BlackNet Paper in the Tweet, pictured directly above the abstract is identified as Version 1.0, thus undermining Dr Wright’s suggestion that the abstract related to a late version of the paper. Furthermore, the cover page is identical to a version of the document which Dr Wright now claims was written in 2002 ({ID_001379} – addressed in the next section).

96. An additional reason why Dr Wright’s explanation is not true comes from the comments in response to his Tweet, some of which are included in the version at L14/195. One particular comment was:

‘Woww. Blacknet is from 2002? Whitepaper same as Bitcoin?’

Many years you were pregnant to give birth to this beautiful baby
(Bitcoin as SV)

Looks like Satoshi 'stole' your idea lol.'

97. Dr Wright responded by saying:

'Yes.

Funny that

Oh. This is a formal Ausindustry project. I did underestimate a...lot'.

98. His comment is direct contemporaneous confirmation that COPA's allegation (that the plain meaning of the post was that Dr Wright had filed the paper, including the abstract shown, with the Australian Government in 2001/2) is true.

Conclusion

99. The BlackNet Abstract was plainly copied from the Bitcoin White Paper. Furthermore, Dr Wright's explanation that it dated, not from 2002, but from 2009/2010 was false. The document was plainly forged by Dr Wright.

5. “Project BlackNet” paper (Reliance Document) {ID_001379} / {L1/79/1}

100. This document purports to be a copy of a “Project BlackNet” research paper dated on its face to 3 October 2002. The document contains references to a “Stage 4 – Release Phase” and other textual amendments, referring to “Digital Cash”, as well as other features of purported relevance to Bitcoin.
101. This document includes the text of the BlackNet Abstract (see the section above) pleaded as a forgery in COPA’s Particulars of Claim [26-27], and dealt with in the preceding section.

(a) COPA’s Reasons for Alleging Forgery

102. The document has been backdated [PM8 [60-61]]. The document is dated on its face to 3 October 2002. However, the internal metadata for the document indicate that it was actually created on 17 February 2014. [PM8 [15]].
103. The document is an edited version of an earlier document, into which passages of text have been inserted using text from the Bitcoin White Paper. [PM8 [23-33, 60.b.]].
104. The document is apparently part of a series of documents, all of which carry similar content on their face, but which have been edited or are converted versions of the same file [PM8 [3]]. Some of those documents are consistent with a pattern of editing beginning with an earlier precursor document, and ending with a document which would be deployed as if it was original and authentic, in connection with Dr Wright’s claim to be Satoshi Nakamoto. See in particular Mr Madden’s discussion of {ID_001016} as another backdated document in the sequence [PM8 [34-50]].
105. The metadata indicates that the file was created using Microsoft Word 2013 as the PDF Producer. Microsoft Word 2013 was not yet published in 2002 (the date on the face of the document) but is contemporaneous for 2014. [PM8 [15]].
106. The document was created in PDF form by printing to PDF from an underlying precursor DOC or .DOCX document on 17 February 2014 [PM8 [16]]. No such underlying precursor document has been disclosed by Dr Wright.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

107. Dr Wright is listed in the metadata as the author of the document.
108. Dr Wright is listed on the face of the document as its first author.
109. Dr Wright is listed as the sole author in the ‘version control’ section of the document on page 2.
110. The document contains Dr Wright’s address and telephone number.
111. Dr Wright has positively asserted in these proceedings that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

112. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (suggesting work done by him in 2002, elements of which then appeared in the Bitcoin White Paper), contrary to fact.
113. Dr Wright has posted screenshots of this document or a very similar document on Twitter, apparently in support of his claim to be Satoshi Nakamoto.
114. In his evidence in these proceedings, Dr Wright has claimed this to be a document related to the later Bitcoin White Paper and that it is original to the purported date on its face, contrary to fact. [Exhibit CSW 14].
115. Dr Wright has relied on this document, or documents with similar content, in previous proceedings and in public in support of his claim to be Satoshi Nakamoto.
116. The metadata records "DeMorgan" as the company from which the document was created. In his evidence in these proceedings, Dr Wright relies on his work on various projects from his time at DeMorgan, as part of his claim to have been working on the concepts behind the Bitcoin White Paper. [Wright1 [32-47]].
117. The document was created in the time zone UTC+11, consistent with Dr Wright's location in Australia in February 2014, being the date of creation of the document. [PM8 [18]].
118. In his Defence in these proceedings, in public social media posts, and elsewhere, Dr Wright has repeatedly stated that the series of research papers (to which this document belongs) are related to the Bitcoin White Paper, and that later applications (submitted in 2009/2010) contained the abstract of the Bitcoin White Paper.

(c) Dr Wright's Explanations and COPA's Rebuttal

119. In Appendix B to Wright11, Dr Wright accepted that this document was created by conversion of a document to PDF format in 2014. He claimed that this document was obtained from the computer of a former employee who had achieved unauthorised access to Dr Wright's current wife's email account, although he did not explain why that claim was relevant. He gave no coherent explanation for why a project paper supposedly prepared for an ITOL application in 2002 would be converted to PDF by an employee of one of his companies in 2014. See: {CSW/2/59} to {CSW/2/60}.
120. In his oral evidence, Dr Wright tried to explain away the fact that (a) authentic versions of this document describe an IT security project (involving an encrypted network), with no reference to any digital transaction system and (b) this version (among others) includes the content of the authentic versions but adds incongruous sections referring to a peer-to-peer digital transaction system involving transactions being structured into "an ongoing chain of hash-based proof-of-work" to preclude double-spending or replay attacks. See {Day2/56:22} to {Day2/77:18}. Key aspects of his explanations and their deficiencies are addressed below.
121. This document is a forgery. Its content is not authentic to 2002, as Dr Wright claims it is. His attempts to explain away the indications of forgery should be rejected for the following reasons:

- 121.1. A version of this document in disclosure which Mr Madden has established as apparently authentic to 2002 ({ID000013}) is an internally coherent plan for an IT security system with three stages, in which the Stage 3 is described as the Final Phase and the budget covers three stages. It includes nothing about a digital transaction system, still less one involving a chain of hash-based proof-of-work.
- 121.2. Similarly, a project plan for this IT project which Dr Wright actually submitted to AusIndustry in 2003 has the same content as that apparently authentic document: {L1/113/1} [p8ff. Both the application form {L/113/3} and the project plan {L/113/8} were consistent in their description of the project. Neither says anything about a digital transaction system, still less one involving a chain of hash-based proof-of-work.
- 121.3. Even an apparently authentic version of the project plan in disclosure which dates to March 2009 {ID_001016} shows the project in the same terms, concluding with Stage 3 and including nothing about a digital currency system.
- 121.4. In this reliance document {ID_001379}, as in some other (similarly inauthentic) versions of the project plan in disclosure, Dr Wright has added an Abstract (at p4) which describes a digital transaction system similar to Bitcoin. The Abstract bears no obvious relation to the various other parts of the document, which are survivals of the authentic version, such as the Overall Objective section at p6 and the Assessment Against the Selection Criteria section at p8. Dr Wright has also added a few references to a Stage 4 involving the development of the supposed digital transaction system. However, he has forgotten to modify the budget on p11-12, which makes no financial provision for the supposed Stage 4 and still describes Stage 3 as the Final Phase.
- 121.5. In the *Kleiman* trial, Dr Wright said that parts of the Bitcoin White Paper went back to his “2002 AusIndustry filings for research and development”: see {L17/327/93}. When that evidence was put to him in this trial, he insisted that the document including the supposed Stage 4 elements of the project (involving a digital transaction system) “would have been filed [with AusIndustry] in 2002 and then in 2003”: {Day2/72:24}. That evidence was flatly contradicted by the actual AusIndustry filing from July 2003 (summarised above).
- 121.6. Dr Wright has attempted to account for these documents by a confused narrative of different versions of the document being in existence in 2002 and 2009 and used for different purposes, while the version control was in a state of chaos (see transcript reference above). The documents tell their own clear story: that Dr Wright produced an IT security project plan in 2002, which he used for tax concession applications, but he later (from 2014) doctored that plan to bolt on sections reflecting features of the Bitcoin system in order to promote his false claim to have been involved in creating that system.

(d) Conclusion

122. I am entirely satisfied that the Project BlackNet paper was forged by Dr Wright.

6. Statistics Assessment homework {ID_000073} / {L1/323/1}

123. The document purports to be a piece of homework prepared by Dr Wright in connection with his STAT6640 course at the University of Newcastle in Australia. It is dated on its face to 28 October 2005, but bears internal metadata dating it to 17 September 2005.
124. The genuine document containing his actual assignment is ID_000077 is a 48-page document dated 28 October 2005 in its metadata as well as on its face.
125. ID_000073 is a 5-page document which purports to be an early draft of the assignment. It contains a block of three typed paragraphs on p3, but the remainder is substantially in Dr Wright's own handwriting. In the typed text, the document contains language similar to that found in the Bitcoin White Paper.

(a) COPA's Reasons for Alleging Forgery

126. {ID_000073} contains hidden embedded content indicating that the content was copied directly from the Bitcoin White Paper, and which has then been edited away to appear to be precursor content. [PM38 [16-21]].
127. The document has been backdated. The first page of the document is very similar to {ID_000077} including the same coversheet layout, course number, date of signature (28 October 2005) and deadline month (October 2005), and it shares other characteristics of {ID_000077}. However, {ID_000077}, the genuine document, is dated 28 October 2005 in its metadata as well as on its face, which is after the "Last modified" date in the internal metadata of {ID_000073}. [PM38 [9 and 23]].
128. {ID_000073} bears the same signature date as the later {ID_000077}. Taking the metadata of {ID_000073} at face value, that date was over a month in the future at the time {ID_000073} purports to have been created. [PM38 [9d]].
129. {ID_000073} contains embedded hidden text sourced from {ID_000077}, a reversal of the timeline given on the face of the documents and their metadata [PM38 [11-13]].
130. {ID_000073} contains an embedded previous draft version within the document file, indicating that it previously contained the full table of contents found in {ID_000077}. This is inconsistent with the name given in connection with that previous draft, which is "Possible Project". [PM38 [14-15]].
131. Although the structure and cover sheet of the document is derived from {ID_000077}, the recorded edit time is very short compared to the content of the files, which is indicative that the main body of content of the file was sourced from a different precursor document. No such precursor document has been disclosed. [PM38 [4]].
132. Along with {ID_000073}, another version of the same document has been disclosed, {ID_000142}. Analysis using that version as well reveals that metadata have been edited. [PM38 [23 to 35]].
133. I found Mr Madden's analysis to be entirely convincing. I need not set out all of his analysis, but the following screenshot which he created illustrates the editing process which he says Dr Wright carried out:

We consider the scenario of an attacker trying to generate an alternate chain of time rounds faster than the honest TSA chain. Even if this is accomplished, it does not throw the system open to arbitrary changes, such as creating ~~value out of thin air or taking money that never belonged to the attacker~~ newly validated and time stamped documents or issuing a document now that seems to have been certified many years prior. ~~Nodes TSA nodes are~~ not going to accept an invalid ~~transaction as payment message digest from other TSA nodes, and honest~~ “Honest TSA nodes” will never accept a block ~~containing them~~ of rounds based on a chain of message digests that did not exist at a prior time. An “attacker” can only try to change ~~one of his own transactions to take back money he recently spent~~ the set of events, creating a new chain that represents an “alternative history” that is not supported by the publicly published data.

The race between the honest chain of rounds and an ~~attacker~~ attacking TSA nodes chain of competing rounds ~~can be characterized~~ may be characterised as a Binomial Random Walk. The success event is the honest TSA chain being extended by one ~~block~~ round, increasing its lead by ~~+1, and an addition block~~ of signed data that becomes longer than the attacker. In the failure event is the attacker's chain being extended by one block, reducing the gap by -1.

The probability of an ~~attacker catching up from attacking TSA~~ gaining a lead when it is at a state of a given deficit is analogous to a Gambler's Ruin problem. Suppose a gambler with unlimited credit starts at a deficit and plays potentially an infinite number of trials to try to reach breakeven. We can calculate the probability he ever reaches breakeven, or that an attacker ever catches up with the honest chain, as follows ~~{8}...~~

To get the probability the attacker could still catch up now, we multiply the Poisson density for each amount of progress he could have made by the probability he could catch up from that point:

Comparison between BWP text and ID_000073 face-value text. This is shown as a screenshot to preserve formatting. The comparison takes the BWP as the original, with ID_000073 as the edited version, for reasons explained below.

134. Mr Madden also showed that the two groups of text set out below (amongst others) can be found embedded within the raw content of ID_000073:

The race between the honest chain and an attacker chain can be characterized as a Binomial Random Walk. The success event is the honest chain being extended by one block, increasing its lead by +1, and the failure event is the attacker's chain being extended by one block, reducing the gap by -1.
The probability of an attacker catching up from a given deficit is analogous to a Gambler's

Ruin problem. Suppose a gambler with unlimited credit starts at a deficit and plays potentially an infinite number of trials to try to reach breakeven. We can calculate the probability he ever reaches breakeven, or that an attacker ever catches up with the honest chain, as follows

135. As Mr Madden said, these strings were previously present in ID_000073 but were then edited, as shown in his screenshot under paragraph 133 above. These strings also show a line break between ‘Gambler’s’ and ‘Ruin’. This line break does not appear on the face of ID_000073 but there is a line break at that point in the control Bitcoin White Paper. Mr Madden suggested that the text was sourced from the PDF Bitcoin White Paper by copy and paste, and carried across the line break in the middle of the sentence with it.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

136. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (suggesting work done by him in 2005, elements of which then appeared in the Bitcoin White Paper), contrary to fact.
137. {ID_000073} is substantially written in Dr Wright’s own handwriting.
138. {ID_000073} is headed on each page with Dr Wright’s name and student number as identifying information, “Craig S Wright, c3047661”.
139. {ID_000073} is signed on the first page with the letters “CSW” against a statement declaring “that this assessment is my own work unless otherwise acknowledged”.
140. In his evidence in these proceedings, Dr Wright relies on work done in connection with his MStat at Newcastle University, as part of his claim to have been working on the concepts behind the Bitcoin White Paper. [Wright1 [95]].
141. In his evidence in these proceedings, Dr Wright claims to have discussed the concepts behind the Bitcoin White Paper with teaching staff at the University of Newcastle. [Wright4 [52]].
142. Dr Wright has not disclosed the underlying source documents from which the content of {ID_000073} was sourced. [PM38 [23]].
143. {ID_000073} contains hidden text embedded within the document which contradicts the information presented on the face of the document, a characteristic of documents found throughout Dr Wright’s disclosure in these proceedings including documents on which he primarily relies.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

144. Dr Wright sought to explain away the findings indicating forgery by denying that this document {ID_000073} was derived from {ID_000077} and saying that both had been derived from another document that was a common ancestor. He claimed that the forensic remnants of the real Bitcoin White Paper in this document were explained by his “non-linear way of working”. He denied that the document is a statistics assessment homework document but “notes before an assessment... not something I handed in, but... linked to something I would hand in”. See Appendix B to Wright11 at {CSW/2/13} and {Day2/154:3} and following.
145. These points were repeated in Appendix 1 to Dr Wright’s Closing Submissions. Further, it was submitted that Mr Madden’s analysis wrongly treated {ID_000077} as coming after {ID_000073} when his own analysis of the metadata showed the opposite, namely that the former was created several months after the latter. Mr Madden was accused of having wrongly dismissed the possibility that {ID_000073} was created by editing an existing draft of {ID_000077}. This was said to be an example of Mr Madden being too quick to conclude that a document had been manipulated, when other explanations were available.
146. COPA submitted that these explanations should be rejected as dishonest for the following reasons:

- 146.1. No precursor or ancestor document has been disclosed or identified, and Dr Wright has given no explanation as to why he should have perfect recollection of his editing process in the absence of documents after nearly 20 years.
 - 146.2. The face content of this document {ID_000073} (as shown in PM38 [16]) is very similar to a section of the Bitcoin White Paper. The author of this document would have had to have a well-developed copy of the paper to work from. However, this document was written in 2005, whereas Dr Wright's evidence is that he did not even begin drafting the Bitcoin White Paper until March 2007, and even then he worked with pen and paper, not digitally: Wright1 at {E/1/17}.
 - 146.3. The hidden embedded content in this document (as shown in PM38 [18-19]) shows that the author made edits in such a way as to remove / alter text which ultimately appeared in the Bitcoin White Paper. Accordingly, Dr Wright's explanation presupposes that (a) in 2005, he had an advanced version of the Bitcoin White Paper (contrary to his evidence in his first statement); (b) he edited out content to produce some notes for statistics homework; and (c) he then restored the content to produce the actual White Paper in late 2008 / early 2009. That explanation is absurd.
 - 146.4. Dr Wright's account is inconsistent with the unchallenged evidence of Prof. Gerlach, whose statement says that {ID_000073} does not present as a piece of work at all relevant to the MStat course he supervised {C/20.1/1}.
 - 146.5. The document presumes that the reader has knowledge of the Bitcoin system (e.g. "We consider the scenario of an attacker trying to generate an alternate chain of time rounds..."), which would be derived from reading of the Bitcoin White Paper. It makes no sense that Dr Wright would have produced MStat homework (or even study notes) which presumed such knowledge. Dr Wright's attempts to deny that the document required such knowledge were unconvincing {Day2/163:3}. He even went so far as to deny the plain content of the document, saying "This doesn't actually talk about separate chains" {Day2/163:21}.
147. Furthermore, the points made in Appendix 1 to Dr Wright's Closing appear to be based either on a misunderstanding of Mr Madden's evidence or a refusal to acknowledge his evidence that {ID_000073} had been backdated. The accusation that Mr Madden had been too quick to conclude the document had been manipulated is baseless. The other explanations (non-linear working & short edit times caused by cut-and-paste working) were not convincing at all.

(d) Conclusion

148. I found Mr Madden's analysis to be entirely convincing and I also accept Professor Gerlach's unchallenged evidence. Accordingly, I was and am entirely satisfied that ID_000073 was forged by Dr Wright.

7. Conversions to LaTeX using the 2022 version of Pandoc {ID_004648} {PTR-F/5/1} and {ID_004687} {L1/236/1}

149. These are two LaTeX source documents presented by Dr Wright as if they are precursor work to the Bitcoin White Paper. {ID_004648} is presented as a draft or paper produced in his work on the MNSA programme at Charles Sturt University in 2004/5 P4/10/4, and it appears to be a paper on hash chains and security of voting. {ID_004687} is presented as an article on IT security with a face dating of June 2006 which refers to hash chains and Merkle trees (features of the Bitcoin system).

(a) COPA's Reasons for Alleging Forgery

150. These are documents which were among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties' experts agree were manipulated [Madden / Lynch Joint Report1 [12] Q/6/5].

151. These documents have been backdated. They refer to LaTeX packages which were not released in 2007. In particular:

151.1. They specify code (`\usepackage`) to use the package "**selnolig**". Selnolig was not conceived of until 2011. It was not created until 2012-2013. It was not posted to the internet until May 2013 [Loretan1 [5], C/20/2]. They also refer to the package "**xurl**", which had not been released at the stated dates of these documents [Madden3 [30] G/5/16].

151.2. Selnolig requires a then-recent (2012-2013) version of LuaTeX to be used. [Loretan1 [6], C/20/2]

151.3. There was no previous package called 'selnolig'. [Loretan1 [7], C/20/2]

152. These documents have been created with the **Pandoc** document conversion software. Pandoc is an open-source piece of software that can convert documents between different formats. It can generate LaTeX documents automatically [Macfarlane1 [3] C/19/1]. In particular:

152.1. {ID_004687} contains a line which states that it was created as LaTeX via Pandoc, which is characteristic of the use of Pandoc. [Macfarlane1 [5] C/19/1]. Although {ID_004648} does not include that line "LaTeX via Pandoc", it includes the other code from the same October template.

152.2. The template for conversion to LaTeX was not introduced into Pandoc at all until 2010 [Macfarlane1 [5] C/19/1].

153. The documents have been created during the course of these proceedings:

153.1. Inspection of the (open-source) source code of Pandoc allows for more precise dating. The document was created after October 2022. The version of Pandoc used for creation of this document uses code that was not committed to Pandoc until October 2022. [Macfarlane1 [9] C/19/2].

153.2. October 2022 is after the commencement of these proceedings.

154. The documents were sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. These documents were added by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

155. The effect of the tampering is to create documents which appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

156. These documents were added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright, as explained in the section “BDOPC.raw” above.

157. The further effect of tampering is to lend support to Dr Wright’s new position that the Bitcoin White Paper was created in LaTeX, by providing other LaTeX documents alongside it. That story is a recent product of Dr Wright’s invention.

158. Dr Wright has attached particular importance to these documents:

158.1. Both are said to be important to Dr Wright’s case because they are “*Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper*” [Wright 6 E/21/3; Schedule 1 to Field 1, L20/223/4].

158.2. {ID_004648} is said to be one of Dr Wright’s “*drafts and papers written by Dr Wright during his Masters of Network and System Administration (MNSA) programme at Charles Sturt University, which he pursued between 2004 and 2005. These papers show an interest in the problems in distributed in distributed computing systems and considers solutions that are precursors to the consensus-based system that underpins Bitcoin.*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/4]

158.3. {ID_004687} is said to be a version of “*a paper prepared for a 360° Security Summit on 15 June 2006 concerned with “Implementing Effective Risk-Based Controls”, which Dr Wright prepared in his role at BDO. The hash chain technology discussed in the paper is analogous to the blockchain technology used in Bitcoin.*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/5]

158.4. None of Dr Wright’s explanations above is compatible with the forensic evidence, and each is shown by that evidence to be false.

159. The documents were not disclosed at the proper time. They were disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

160. Dr Wright claimed that references to selnolig and xurl were present in these files because someone had accessed them at a later date. As for the inclusion of Pandoc, Dr Wright claimed that the words “pdfcreator...LaTeX via pandoc” was not a Pandoc marker, and instead claimed that this was a manually added comment. Dr Wright claimed that there is no LaTeX compiler version known to him (including Overleaf) that adds that statement. He suggested that he understood how Pandoc worked better than its creator,

Professor Macfarlane. He also again blamed Mr Ager-Hanssen for the presence of the references: {Day5/106:6} and following.

161. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
 - 161.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
 - 161.2. Dr Wright was compelled to accept that selnolig and xurl both postdate these the dates of these files.
 - 161.3. Professor Macfarlane, creator of Pandoc, gave evidence (unchallenged) that the source commits he implemented dated the template for these documents to a template that was first made available at some point between March and October 2022. Macfarlane1 {C/19/2}.
 - 161.4. No explanation was given by Dr Wright as to why a user would choose to write “LaTeX via pandoc” in the pdfcreator field. His excuse that someone would happen to add, for no reason, that a document was created by a genuine piece of software, simply makes no sense. Pandoc is a LaTeX convertor. There were also numerous other documents that had “pdfcreator = {LaTeX via pandoc}” contained in them.
 - 161.5. Dr Wright never mentioned that his documents had been accessed and manipulated in this way until his cross-examination.
 - 161.6. Mr Lynch agreed with Mr Madden that ID_0004648 & ID_004687 were manipulated: {Q/6/5}.

8. LLM Dissertation proposal 2 (Reliance Document) {ID_000217} / {L2/131/1}

162. The document purports to be an LLM Dissertation proposal made to Northumbria University, prepared by Dr Wright in connection with his LLM course. It is dated as being created between 18 June 2007 and 28 October 2007, and contains language similar to that found in the Bitcoin White Paper.

(a) COPA's Reasons for Alleging Forgery

163. The document has been backdated. The document contains hidden, embedded Grammarly timestamps indicating its true date to be later than 18 August 2019 at 9:10am (UTC). [PM25 [8-13]].

164. The document contains embedded references to fonts including Calibri Light and Nirmala UI [PM25 [20]]. Those fonts were not yet published in 2008 [Madden Report [165]]. Further, the designers of those fonts have given evidence relied on by COPA in these proceedings that the fonts were not yet conceived of or designed by the purported date of this document.

165. The document contains embedded internal references to Microsoft schema not yet published in 2008 but which are contemporary to 2012 and later. [PM25 [21]].

166. Searching online revealed the presence of a very similar document uploaded by Dr Wright to the website SSRN which was created just a few hours after the Grammarly timestamp of {ID_000199}, on the same date 18 August 2019. That uploaded document (the "SSRN Upload") was created with software that did not yet exist in 2007. [PM25 [40-46]].

167. The SSRN Upload document has not been disclosed by Dr Wright.

168. The Grammarly software did not exist in 2007 [Madden1 [62c]] but is contemporaneous for 2019. [Madden1 [70-72]].

169. {ID_003993}, a document with the filename "LLM_ProposalA.doc" and which shares content with {ID_000217} (including the embedded Grammarly timestamp) was emailed from Dr Wright to Lynn Wright on 18 January 2020. [{ID_003927}, PM26 [25-38]].

170. The document is part of a chain of editing of several documents, three of which are Reliance Documents of Dr Wright, all of which inherited the same embedded hidden Grammarly timestamp, indicating that the document was created as a downstream document from a common source. The interaction with Grammarly (on 18 August 2019) took place before the creation of {ID_000199} and other documents created from the same common source. [PM25 [7-8 and 12-13]].

171. There is a common precursor document to these files, which has not been disclosed. [PM25 [24a]].

172. Taken individually and as a set, the group of documents sharing common characteristics with {ID_000217} are inconsistent in their metadata. [PM25 [18-24]].

173. Within Dr Wright's disclosure is another document, {ID_000199}, which presents as if it is a subsequent document to {ID_000217} and which is dated as if it was last edited later than {ID_000199}. At face value, the similar and earlier-dated file in the chain of editing ({ID_000217}) ought to have a longer Edit Time and a higher revision count than {ID_000199}, consistent with the same file being picked up and further edited while the Edit Time counter continues to count. However, the internal metadata records the reverse. This has the misleading effect of (on the face of the documents) appearing to place {ID_000217} within an apparently credible continuum of editing, contrary to fact. [PM25 [22-23]].
174. ID_00217 has an implausible edit time of 131 days 21 hours and 50 minutes consistent with the use of clock manipulation techniques. [PM25 [22b]].

(b) Reasons for Inferring Dr Wright's Knowledge / Responsibility

175. Dr Wright has positively asserted in these proceedings that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.
176. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (suggesting work done by him in 2007, elements of which then appeared in the Bitcoin White Paper), contrary to fact.
177. In addition to {ID_000217}, Dr Wright has also positively asserted in these proceedings that two other related documents [{ID_000199} and {ID_003702}], are documents on which he positively relies as supporting his claim to be Satoshi Nakamoto.
178. Dr Wright has also relied in these proceedings on his Northumbria University degree award transcript as being a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto. [{ID_000491}]
179. In his evidence in these proceedings, Dr Wright positively relies upon his LLM Thesis at the University of Northumbria as forming part of the story behind his claim to be Satoshi Nakamoto. [Wright1 [56-60]].
180. In his evidence in these proceedings, Dr Wright claims to have discussed the concepts behind the Bitcoin White Paper with teaching staff at the University of Northumbria. [Wright4 [52]].
181. Dr Wright has relied on his LLM Thesis Proposal, in previous proceedings, including on oath.
182. The document {ID_000217} is part of a chain of editing of documents disclosed by Dr Wright, all of which have a common precursor source as indicated by the inclusion of the same Grammarly timestamp and other characteristics. [PM25 [12]].
183. Dr Wright shared a hash-identical document to {ID_000217} on social media on the same date indicated in the hidden embedded Grammarly timestamp. Upon request in these proceedings, Dr Wright has repeatedly declined to disclose a copy of his posts to social media accounts. Since the date of the request, Dr Wright has claimed to have lost access to the relevant social media account.

184. A very similar document, the SSRN Upload, was uploaded to the internet by Dr Wright on the date indicated in the hidden embedded Grammarly timestamp.
185. Dr Wright is recorded in the metadata as the first author.
186. Dr Wright is a user of Grammarly software.
187. Although the document metadata presents Lynn Wright to have been an author, it was actually created by Dr Wright in the name of Lynn Wright after 18 August 2019, and a copy of a similar document later sent from Dr Wright to Lynn Wright by email long after they were separated, contained in a zip file along with many other files bearing evidence of backdating and tampering including several documents on which Dr Wright relies. The metadata of that zip file itself are also irregular. [{ID_003927}, PM26 [25-38]].

(c) Dr Wright's Explanations and COPA's Rebuttal

188. Dr Wright sought to explain away the presence of (a) the Grammarly timestamp dating to 2019, (b) the references to fonts released in 2012 and later and (c) the reference to the Microsoft schema published in 2012. He has done so on the basis that unidentified employees of his companies will have opened the document, without having had the ability to edit it, and this opening of the document alone will have caused these artefacts to be inserted into the raw data.
189. Dr Wright has claimed that the operation of one or more of the following features of his computing environment led to these changes being made: (i) "Citrix updating schemas in the background while not letting the user make changes"; (ii) the use of a normal.dotm template in a shared computing environment making "updates happen" to enforce corporate policies; and/or (iii) the effects of Dr Wright's operating systems more generally, including that "the use of Citrix Metaframe, corporate environments and tools in Powershell, such as Xcopy, produce these results". See CSW/2/17, [5.5 and 5.6] and {Day3/56:7} to {Day3/61:18}.
190. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
 - 190.1. Dr Wright's explanation is contradicted by the clear expert evidence of Mr Madden, which is that the Grammarly timestamp, font references and schema reference could not be inserted without the document being interacted with by a user, which would in turn result in updating of the metadata timestamps of the document. The fact that the metadata timestamps for this document were dated to 2007 but the raw data contained the elements set out above (the Grammarly timestamp, etc.) shows that the document has been forged by backdating. See Madden4, para. 158; Madden / Placks joint statement2 at [8]; {Day16/35:19} to {Day16/38;11}; {Day16/125:7} to {Day16/125:18}.
 - 190.2. Dr Wright was unable to produce an independent expert to support his position that a user of a shared system simply opening a document (without interacting with it so as to cause timestamps to update) could lead to these elements being added. Dr Wright's position was rejected by Dr Placks. Even the report of Mr Bryant, which he applied to introduce by application notice of 23 February 2024 (before abandoning that application) did not support his position.

- 190.3. The evidence of Grammarly timestamps in documents analysed by Mr Madden is not explained by the inclusion of elements in templates. Adding a Grammarly reference to a normal template could cause later-created documents to incorporate that reference. However, the references would then be identical. However, in this case, Mr Madden did not observe the same Grammarly timestamps appearing many times over, but many different Grammarly timestamps. What he observed is only consistent with editing of numerous documents over a substantial period, with extensive backdating. See Madden4, [158c].
- 190.4. On Dr Wright's account, it would be a remarkable coincidence that the Grammarly timestamp (supposedly resulting from a staff member merely opening the document) was dated 18 August 2019, which was (i) the same date as (and timed just two hours before) Dr Wright posted a copy of the document on Slack to support his claim to be Satoshi Nakamoto (see PM43 [45ff]). Dr Wright's freewheeling attempt under cross-examination to explain these forensic signs as resulting from poor document handling by his former solicitors, Ontier (see {Day3/65/2}), makes no sense and further was not mentioned in his chain of custody information.
- 190.5. On Dr Wright's account, it would also be a remarkable coincidence that the Grammarly timestamp was three days before Dr Wright posted a copy of the document on the SSRN site to support his claim to be Satoshi Nakamoto (see PM25 [46]).
- 190.6. Dr Wright's attempt to rebut the expert evidence about the operation of Grammarly timestamps by saying that he used the Enterprise version of the software should be rejected, including because (i) it has no support in any expert evidence, (ii) it would involve Grammarly tags being committed to a file without any user interaction, which Mr Madden explained simply cannot happen and (iii) Dr Wright's Slack post included an Open Grammarly button showing his use of the Standard version of the software (as he admitted – {Day3/66:22}).
- 190.7. Dr Wright's account is that his LLM dissertation proposal included concepts and language strikingly similar to those of the Bitcoin White Paper, even though those were entirely missing from his actual LLM dissertation (which is a publicly available document). This is inherently implausible. The absence of the relevant language and concepts from his actual LLM dissertation is wholly consistent with this proposal document having been forged in 2019 to support his claim to have written the Bitcoin White Paper.
- 190.8. Dr Wright's account also presupposes that, in 2019 or later, staff members of his technology companies were given access to, and indeed were accessing, a copy of his old LLM dissertation proposal from 2007. There is no good reason for them to be given access to or to use that document in the course of their work in recent years.
- 190.9. Dr Wright dishonestly sought to bolster his account in relation to this document by reference to a hard copy version of his LLM dissertation proposal which he discussed in Wright11, [139ff] {CSW/1/26}. In [140] and footnote 111, he referred to a letter from the University of Northumbria by which it had sent back his actual LLM dissertation. He implied that a version of the proposal which

contained language and concepts featuring in the Bitcoin White Paper had been attached to that letter. However, the letter clearly identified its enclosures, and the proposal was not one of them. In Wright14 [20d], Dr Wright acknowledged that the document was not enclosed with the letter (E/32/6). In his oral evidence, Dr Wright sought to go back on that evidence, suggesting that the hard copy LLM proposal document had been within the same envelope. Faced with the contradiction between his written and oral evidence, Dr Wright was evasive, blaming his former solicitors and stating that “no-one checked inside the envelope properly” {Day3/83:1} to {Day3/87:7}.

191. Finally, the points on this document gathered in Appendix 1 to Dr Wright’s Closing have already been addressed either above or in the main Judgment. I did not find those generalised explanations at all convincing when viewed against the much more specific analysis explained by Mr Madden.

(d) Conclusion

192. I found Mr Madden’s analysis to be entirely convincing. Furthermore, there is additional support for the conclusion that Dr Wright’s LLM Proposal is a forged document due to the passages and phraseology in it which are similar to wording in the Bitcoin White Paper. First, those passages sit oddly in the document itself. Second, these striking concepts do not appear anywhere in Dr Wright’s finished LLM Dissertation. Although there are over 19,000 words in the Dissertation itself, there is a lot of padding around the actual text. Overall, I conclude those passages were a rather clumsy plant by Dr Wright derived directly from the Bitcoin White Paper. For all these reasons, I was and am entirely satisfied that ID_000217 was forged by Dr Wright.

9. Handwritten BDO Minutes (Reliance Document) {ID_004013} / {L2/159/1}

193. The document presents as a set of minutes of a meeting attended by Dr Wright and Alan Granger, dated “Aug 07”, at BDO. It refers to “timechain”, “P2p ecash”, and “write paper”, as connected concepts to Dr Wright’s purported creation of Bitcoin, and presents as if it concerns planning for work to be done by Dr Wright and Mr Granger throughout 2007 and 2008.

(a) COPA’s Reasons for Alleging Forgery

194. The document is handwritten on a pre-printed pad that was manufactured in China. Bird & Bird has obtained a copy of the original PDF print proof document of the pad directly from the manufacturer. The copy of the original PDF proof document is an authentic document. [PM5 [3-17 and 25]].

195. The handwritten document {ID_004013} perfectly matches the pre-printed template in the version of the PDF print proofs known as Exhibit MS1 (the first proof of the relevant notepad product). [PM5 [17-25]].

196. The PDF print proofs known as Exhibit MS1, which this document matches, date from no earlier than 6 November to 9 November 2009. [PM5 [3-17 and 25]].

197. The face-value date of August 2007 is therefore false and misleading.

198. Further, the purported notes of planning for work to be done throughout 2007 and 2008 are also therefore false and misleading.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

199. Dr Wright has positively asserted that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

200. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (i.e. as creating a document which suggests that Dr Wright was developing Bitcoin in 2007 and had shared details of his work with Mr Granger), contrary to fact.

201. Dr Wright has relied on this document in previous proceedings, including on oath.

202. The document is in Dr Wright’s own handwriting.

203. In the document, Dr Wright has named himself as present at the purported meeting, in his own handwriting.

204. Dr Wright purports to have attended a meeting and taken these minutes himself. Dr Wright must know from his own experience that the meeting, and the purported minutes of the meeting, are false.

205. In his evidence in these proceedings, Dr Wright relies on a purported discussion of Bitcoin between him and Alan Granger, among other work done with Alan Granger around 2007. [Wright1 [48-52]].

206. In his chain of custody information in these proceedings, Dr Wright claims to have drafted this document himself.
207. When disclosing this document, Dr Wright did not specify a date for the document. When requested to provide a date for this document, Dr Wright refused to do so.

(c) Dr Wright's Explanations and COPA's Rebuttal

208. In Appendix B to Wright11, Dr Wright insisted that the document dated from August 2007. He disputed the evidence provided by COPA to the effect that the Quill minutes pad in this form was not produced as a proof until 2009 and was not printed and shipped until 2012 (see confirmation letter of Mr Stathakis and Ms Li at {C/17/1}): {CSW/2/66}. In his oral evidence, he added a claim that Mr Stathakis and Ms Li had no proper knowledge of the matters they addressed, claiming that they played no role in the creation of the minutes pad product at the relevant time: {Day3/106:6} to {Day3/108:16}. Dr Wright also suggested that they were not involved with Bantex Pty Ltd, who were the party who produced the Quill notepads in 2012 saying that Mr Stathakis and Ms Li were from Hamelin Brands (which had purchased Bantex in 2015)
209. In Appendix B to Wright11, Dr Wright also claimed to have done his own analysis of parts of both his document and the proof (MS1) supplied by Ms Li. He claimed to have found differences in presentation: {CSW/2/67}.
210. During his cross-examination, Dr Wright claimed to have investigated the provenance of the Quill pad himself. He asserted that Ms Li had nothing to do with the production of the minutes pad at the relevant time and that the Chinese factory to which she referred was not involved in its production. COPA submitted that his assertions fly in the face of the evidence from Ms Li and it is clear that he was simply tarnishing her evidence by lying about the contents of it. The only basis he could give for claiming to know more about the production of this pad than the people who produced it was that he “used to work for Corporate Express, which is now Staples, and other family members still do” {Day3/107:19}. Accordingly, so COPA submit, Dr Wright's evidence on these matters cannot be believed.
211. Dr Wright did not, in his cross-examination, refer to any documents or any details relating to his investigation, and no evidence or detail was forthcoming subsequently, although it is possible that what I discuss next was found by Dr Wright.
212. On the last day of trial, Lord Grabiner KC produced a document at X/83 which presents as a printout from The Wayback Machine dating from July 2009 for the website www.officeworks.com.au and the page concerning ‘Quill Minutes Planner 50 leaf’, ref QU01916, which appears under a header ‘Writing Pads’. Slightly unusually, X/83 does not include the normal footer showing when the Wayback Machine was accessed. The URL indicates this page is found in a section entitled ‘Notebooks-Pads-and-..(the remainder is cut off), within ‘General-Stationery’, within ‘Office Supplies’ within ‘products’ within ‘retail’. The print-out has a menu on the left-hand side and the product detail relating to the pad is indented on both sides. At the foot of the webpage (not indented) is ‘Copyright 2008-2009 Officeworks Superstores Pty Ltd. All rights reserved.’ Then on a second line: ‘Version 1.5.2 – retail (30-07-2009 12.06).

213. Without any evidence and purely on the basis of what the document indicated, Lord Grabiner KC submitted this showed that the Quill Pad must have been available before 2012. He said X/83 corroborated Dr Wright's position that the hearsay evidence given by Mr Stathakis and Mr Lee is not correct. That hearsay evidence is contained in a letter dated 10 July 2023 (with its attachments) which was attached to COPA's Amended First Hearsay Notice dated 28 July 2023, so Dr Wright's team had plenty of time to investigate and mount a challenge to that hearsay evidence.
214. X/83 was not the subject of any evidence or analysis but, for what it is worth, my view is that the copyright notice at the foot of the page relates to the version of the (retail) website or webpage. It does not appear to relate to the indented section which is concerned with the actual product. Be that as it may, at best X/83 dates the Quill Pad to 2009 but not to 2007.
215. One additional point can be made. It is more likely that Dr Wright had this Quill Pad during his employment at BDO which ended in December 2008. It is just possible but unlikely that he managed to secure one of these pads after he had left BDO. Accordingly, I consider I must proceed on the basis that it was available in 2008.
216. COPA submitted that Dr Wright's explanation should be rejected as dishonest, for the following reasons:
 - 216.1. There is no basis to disbelieve the evidence of Mr Stathakis and Ms Li, and so Dr Wright's account must be false (and deliberately so). It is plain from their letter that Mr Stathakis and Ms Li had made careful enquiries and checked the facts before providing detailed answers. They had no reason to lie or be mistaken.
 - 216.2. Dr Wright's claim that Mr Stathakis and Ms Li were not around at the time and not involved in Bantex is a lie. Mr Stathakis was managing director of Bantex from 2001, and Ms Li was the person involved in manufacturing the product in the Shenzhen factory. {C/17/1}
 - 216.3. Mr Madden independently confirmed that the Quill minutes pad used for these BDO minutes was in the same layout as the MS1 proof provided by Mr Stathakis and Ms Li. He acknowledged that some elements of the proof (an electronic document) were crisper in outline than the lower-resolution scanned document, but that was to be expected given the nature of the two documents: see PM5 [para. 22.
 - 216.4. Dr Wright adduced no expert evidence to answer Mr Madden's analysis. Dr Wright's own supposed analysis (at {CSW/2/67}) is of doubtful admissibility, and in any event Mr Madden answered it convincingly when he was cross-examined about it: {Day16/54:8} to {Day16/57:22}.
 - 216.5. Dr Wright has suggested that the expert evidence of Dr Placks somehow cast doubt on the evidence from Mr Stathakis and Ms Li (see {CSW/2/66} [21.7] and {Day2/108:21}). Apart from the fact that Dr Placks' evidence has been withdrawn by Dr Wright not calling him, Dr Placks' evidence was entirely consistent with that of Mr Stathakis and Ms Li (as is plain from the experts' first joint statement at {Q/2/9} (see the entry for this document).

(d) Conclusions

217. I proceed on the assumption that the Quill Pad was available before Dr Wright left BDO in December 2008 – after all, it seems likely that he obtained one of these pads during his time at BDO. Even on that assumption, I consider that Dr Wright’s writing on the page from the pad does not ring true.
218. Dr Wright’s manuscript notes suggest that the development and release of the Bitcoin White Paper and the Bitcoin Source Code was a project devised in August 2007 involving Dr Wright and Alan Granger of BDO with responsibilities divided between them. C – Craig was to ‘Finish Code’ by Aug 2008. The second entry requires a little discussion. In *Kleiman*, Dr Wright said the second entry was “Finish DOC” i.e. the Bitcoin White Paper by ‘Oct 2008’, even though it was suggested to him that it read POC (i.e. Proof of Concept). He accepted he was quite specific about that in his evidence in *Kleiman*, although in his cross-examination here he said he made a mistake: ‘I would say it’s ‘POC’. My own handwriting escapes me sometimes.’
219. I consider it is far more likely that Dr Wright meant to and did write DOC, i.e. indicating what became the Bitcoin White Paper (which, it may be noted, was first made public on 31 October 2008).
220. Meanwhile Alan Granger (AG) was tasked with the following actions: in Nov-Dec 08 ‘Run up test system’, ‘set timechain in action’ ‘have P2P ecash as paper’. The last two entries appear to be afterthoughts: Craig was to ‘write paper’ Jul-Aug08 and in or by Feb 08, Craig was to ‘????? Model’ (I cannot decipher the first word), with an arrow pointing to ‘MSTAT – project’.
221. Standing on its own, it might have been unsafe to conclude that this document was forged by Dr Wright, due to the possible uncertainty over when the Quill pad was first available which I can assume in Dr Wright’s favour. However, in view of his other forgeries, and the fact that all his documents which purport to evidence his activities in developing the Bitcoin White Paper and the Bitcoin Source Code before their release I have found to be either forged or, due to my limitation on the number of forgery allegations which could be made, inauthentic, it is far more likely, and I so find, that his writing is pure invention designed to fit with and back up other aspects of his invented story to be Satoshi Nakamoto. As I have indicated, the content of his writing does not ring true. It is inherently unlikely that Alan Granger would have agreed to participate, using BDO resources, in this private project. The timing of ‘Finish DOC’ conveniently coincides with the date of first publication of the Bitcoin White Paper. I consider it was most unlikely that this could have been predicted so accurately more than a year in advance. I therefore find his writing in this document is yet another of his clumsy forgeries.

10. “A Competing Transaction or Block Model” {ID_004682} {L1/367/1}

222. The document purports to be a paper titled “A Competing Transaction or Block Model”, presented as if it was precursor work to the Bitcoin White Paper. It presents as a paper discussing concepts prefiguring those addressed by the Bitcoin system, such as a time hash protocol, double-spending and conflicting block transmissions. By its presence in BDOPC.raw, the document purports to pre-date 31 October 2007.

(a) COPA’s Reasons for Alleging Forgery

223. This is a document which was among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch Joint Report [12] Q/6/5].

224. The document has been backdated. It is an MS Word ‘doc’ document which contains internal metadata timestamps dating its creation and last modification time to 16 June 2007. However, it is listed as being created with MS Word version 11.9999 (MS Word 2003 SP3). MS Word 11.9999 was not released until September 2007 [Madden3 [92-93], G/5/37].

225. This document shares many characteristics similar to others of Dr Wright’s previous Reliance Documents, including that it lists metadata as if it was authored by ‘Lynn Wright’, using MS Word 11.9999. Those documents have been shown to be manipulated and a number of examples feature in COPA’s original Schedule of Forgeries.

226. The document was sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. This document was added to BDOPC.raw by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

227. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

228. This document was added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright, as explained in the section “BDOPC.raw” above.

229. Dr Wright has attached particular importance to this document:

229.1. It is said to be important to Dr Wright’s case because it “is a paper titled “A Competing Transaction or Block Model”, which discusses concepts developed in the Bitcoin White Paper, such the time hash protocol, double-spending and conflicting block transmissions.” [Wright 6 E/21/3; Schedule 1 to Field 1 L20/223/5”].

229.2. It is said to be one of Dr Wright’s “Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper” [Wright 6 E/21/3; Schedule 1 to Field 1, L20/223/4]

229.3. The document was not disclosed at the proper time. It was disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

230. This document shares many characteristics similar to others of Dr Wright’s previous Reliance Documents, including that it lists metadata as if it was authored by ‘Lynn Wright’, using MS Word 11.9999.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

231. Dr Wright claimed that this document (which has creation and last modified timestamps of 16 June 2007), was created using a version of Microsoft Word that wasn’t released until 19 September 2007. He said this was because at that time he was part of the Microsoft developer network, providing him access to release versions earlier: {Day5/105:18}. Dr Wright claimed that the term UTXO was not anachronistic because he had used it in other works: {Day8/140:14}.
232. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 232.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
- 232.2. Mr Madden’s clear evidence is that it was created with MS Word version 11.9999 which was not released until 19 September 2007. Madden3 {G/5/37}
- 232.3. There is no evidence that Dr Wright was a member of the Microsoft developer network, nor any evidence that, even if he had been, he would have had earlier access to the version of Word used to create this document.
- 232.4. Mr Lynch agreed with Mr Madden that ID_0004682 was manipulated: {Q/6/5}.
- 232.5. The document mentions that a “double spent transactions can lead to two or more UTXO addresses being simultaneously allocated”. The reference to UTXO is anachronistic as it was not introduced until version 0.8 of the software by Mr Wuille. His evidence was that the first time he saw the term was on 21 June 2012 and that it was only becoming important as a concept around that time. Wuille1, [29-32] {C1/1/7}. Mr Wuille’s evidence was unchallenged on this. There is no record of Satoshi using the term UTXO, nor any use of it in any of Dr Wright’s genuine documents.

(d) Conclusion

233. I dealt with the anachronistic reference to UTXO in greater detail in the main Judgment at [752]-[759]. For the reasons set out there and above, I find this document was a plain forgery by Dr Wright.

11. “The King2.rtf” {ID_004695} {L2/49/1}

234. The document purports to be an article on network security, involving discussion of quorum systems, and part of what Dr Wright claimed was precursor work on concepts featuring in his development of Bitcoin. By its presence in BDOPC.raw, the document purports to pre-date 31 October 2007.

(a) **COPA’s Reasons for Alleging Forgery**

235. This is a document which was among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch Joint Report [12] Q/6/5].

236. The document has been backdated. It is a Rich Text File created with the editor version Riched20.dll v10.0.19041. That version of Riched20 is the version associated with the May 2020 update of Windows 10. [Madden3 [86-91] G/5/34]

237. The section on BDOPC.raw above is repeated. Further:

237.1. Comparing the deleted version of this document to the disclosed version shows that this document did not exist in this form on 17 September 2023. [PM46 [12] H/278/4]

237.2. It was modified within BDOPC.raw at some point between 17 September and 19 September 2023. [PM46 [12] H/278/4]

237.3. This was done with the computer clock set back to 2007, in order to backdate the document.

237.4. The modification included deletion of metadata which were not contemporaneous to 2007 but which are contemporaneous to 12 September 2023.

238. A precursor version of this document was included in the deleted image InfoDef09.raw. Further, the same document was recoverable as a deleted file within BDOPC.raw [PM46 [29 H/278/8]. The recovered, deleted version of this document included the following: [PM46 [24] H/278/7]

238.1. An indication that the author was Craig S Wright. [PM46 [24] H/278/7]

238.2. An indication that the operator of the software in use was Craig S Wright. [PM46 [24] H/278/7]

238.3. A timestamp dating its creation to 12 September 2023. [PM46 [25.a.] H/278/8]

238.4. A Grammarly timestamp indicating it was interacted with on 12 September 2023 at 07:38:30 and 244 milliseconds. [PM46 [25.c.] H/278/8]

238.5. Reference to the use of Dragon Dictate software. [PM46 [25.d.] H/278/8]

238.6. A reference to the use of Zotero software version 6.0.27 [PM46 [24] H/278/7]. That version of Zotero was not released until 5 September 2023 [PM46 [20] H/278/7].

239. This document and the folder in which it was located contain metadata irregularities indicating the use of clock manipulation to alter their timestamps. [PM46 [12] H/278/4]
240. The document was sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. This document was added to BDOPC.raw by the Manipulation User.
241. Part of the chain of editing of document is another deleted document recovered from BDOPC.raw called “the King.rtf”. [PM46 [13] H/278/5]. “The King.rtf” was edited within one minute of “The King2.rtf”. “The King.rtf” contains:
 - 241.1. References to the same user as author and operator of the software, “Craig S Wright”. [PM46 [18] H/278/6].
 - 241.2. The same Grammarly timestamp indicating it was interacted with on 12 September 2023 at 07:38:30 and 244 milliseconds. [PM46 [18] H/278/6].
 - 241.3. References to the font Calibri Light [PM46 [18] H/278/6], a font which had not yet been designed in 2007.
 - 241.4. References to the same 5 September 2023 version of Zotero [PM46 [18] H/278/6].
242. Other related Dragon Dictate files, “The King.dra” and “The King2.dra” had existed within InfoDef09.raw and were deleted, and those files show similarly inconsistent metadata. [Madden4 [30-40] G/6/13].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

243. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.
244. This document was added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. The section “BDOPC.raw” above is repeated.
245. The deleted documents record the user and editor as “Craig S Wright”. This information was deleted.
246. The deleted documents record the use of Grammarly in connection with the documents. Dr Wright is a user of Grammarly software.
247. The deleted documents record the use of Dragon Dictate in connection with the documents. Dr Wright is a user of Dragon Dictate software.
248. The deleted documents record the use of Zotero in connection with the documents. Dr Wright is a user of Zotero software.
249. Dr Wright has attached particular importance to this document:
 - 249.1. It is said to be important to Dr Wright’s case because it is one of Dr Wright’s “versions of a paper titled “*The King’s Wi-Fi: Leveraging Quorum Systems in the Byzantine Generals Problem for Enhanced Network Security*” that Dr Wright produced for an examination at the Sans Institute. The papers describe “using a proof-of-work chain to solve a problem in distributed computing known as the

Byzantine Generals Problem, which is concerned with how to achieve consensus in groups that include hostile actors.” [Wright 6 E/21/3; Schedule 1 to Field 1, L20/223/5]

- 249.2. It is said to be one of Dr Wright’s “*Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/4]
250. The document was not disclosed at the proper time. It was disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

251. Dr Wright accepted that this file (found on the BDO Drive) was created with a version of Windows which was the May 2020 update, and that it was feasible that there had been someone accessing the BDO Drive. However, he disputed Mr Madden’s findings that the version of this file found in the InfoDef.raw deleted folder contained signs of creation on 12 September 2023. Mr Madden based his findings on Zotero and Grammarly tags found in that equivalent version of the file, but Dr Wright claimed that Zotero and Grammarly do not work in the way suggested and do not have a plug-in for .rtf files. {Day5/76:15} and following.
252. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 252.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
- 252.2. Dr Wright accepts these documents have been tampered with, but blames Mr Ager-Hanssen. As set out above, that story lacks any credibility.
- 252.3. The files were clearly created using Grammarly and Zotero in 2023, as the unchallenged forensic findings by Mr Madden demonstrate: Madden4 Appendix PM46 {H/278/5}. There is no evidence to support Dr Wright’s assertion to the contrary, and Mr Madden was not cross-examined on the point.
- 252.4. Mr Lynch agreed with Mr Madden that ID_0004695 was manipulated: {Q/6/5}.

12. False LLM Proposal “Proposala.rtf” {ID_004697} {L2/54}

253. The document purports to be a version of Dr Wright’s LLM dissertation Proposal dating to 2007. There are versions of that proposal among his original Reliance Documents, some of which appear in COPA’s original Schedule of Forgeries. Dr Wright’s evidence is that his LLM dissertation Proposal featured ideas which contributed to his development of Bitcoin.

(a) COPA’s Reasons for Alleging Forgery

254. This is a document which was among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch Joint Report [12] Q/6/5].

255. The document has been backdated. It is a Rich Text File created with the editor version Riched20.dll v10.0.19041. That version of Riched20 is the version associated with the May 2020 update of Windows 10. [Madden3 [86-91] G/5/34]

256. The section on BDOPC.raw above is repeated. Comparing the deleted version of this document to the disclosed version shows that this document did not exist in this form on 17 September 2023. It was entirely added to BDOPC.raw at some point between 17 September and 19 September 2023. This was done with the computer clock set back to 2007, in order to backdate the document.

257. At the same time of adding this document (in RTF format), another version of Dr Wright’s supposed LLM Proposal was deleted (in MS Word format). The deleted version of the document remained recoverable from within BDOPC.raw [PM46 [101-105] H/278/35]. The deleted document was called “LLM_ProposalA.doc” and is hash-identical to a document previously analysed by Mr Madden {ID_003935}. It contains indicia of tampering, including the presence of a Grammarly timestamp dating to 18 August 2019, and was shared on Slack by Dr Wright on 18 August 2019. [PM43 [45-49] H/219/18].

258. The document was sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. This document was added to BDOPC.raw by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

259. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

260. This document was added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. Paragraph 45 of the section “BDOPC.raw” above is repeated.

261. The version of this document which was deleted within BDOPC.raw {ID_003935} was addressed in the Madden Report and shown to be inauthentic. It is to be inferred that Dr Wright deleted that document from BDOPC.raw in response to the findings in the Madden Report.

262. Dr Wright has attached particular importance to this document:

- 262.1. It is said to be important to Dr Wright's case because it is "an early version / draft of Dr Wright's LLM proposal on "Payment Providers and Trusted Third Parties as Defined in the Law of the Internet". Dr Wright's LLM Proposal uses language similar to language found in the Bitcoin White Paper, for example the phrase: "What is needed is an electronic payment system based on some form of cryptographic proof that allows two willing parties to transact electronically directly with each other without the need of a trusted third party or Internet intermediary", which appears in the Introduction section of the Bitcoin White Paper." [Wright6 E/21/3; Schedule 1 to Field1, L20/223/2].
- 262.2. It is said to be one of Dr Wright's "*Versions of Dr Wright's LLM Proposal*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/2].
263. The document was not disclosed at the proper time. It was disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section "BDOPC.raw" above is repeated.
264. The document was sourced from BDOPC.raw. The section "BDOPC.raw" above is repeated. This document was added to BDOPC.raw by the Manipulation User.

(c) Dr Wright's Explanations and COPA's Rebuttal

265. Dr Wright attempted to explain the Grammarly tags found in this version of his LLM Proposal by saying that what Mr Madden was looking at was a copy that was on another machine (and presumably then copied onto the BDO Drive by Mr Ager-Hanssen): {Day5/78:20} and following.
266. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 266.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
- 266.2. There is no evidence that any of the various versions of Dr Wright's LLM dissertation proposal were actually used as part of his LLM. The actual LLM dissertation does not include the part of the LLM proposal on which Dr Wright relies as containing language and concepts similar to those of the Bitcoin White Paper.
- 266.3. Dr Wright accepts these documents have been tampered with but blames Mr Ager-Hanssen. As set out above, that story lacks any credibility.
- 266.4. This document was created with a version of Windows from 2020: Madden3 at {G/5/36}.
- 266.5. There was a similar deleted version with a Grammarly timestamp from 2019: Madden4 {G/6/34}.
- 266.6. Mr Lynch agreed with Mr Madden that ID_0004697 was manipulated: {Q/6/5}.

(d) Conclusion

267. I found the agreed expert evidence to be convincing. Accordingly, I was and am entirely satisfied that ID_0004697 was forged by Dr Wright.

13. “Hash Based Shadowing” (Scanned Manuscript Document) {ID_004729} {PTR-F/86/1}

268. The document is a page of handwritten content titled “Hash Based Shadowing” and presented as if it is precursor work to Bitcoin (i.e. work addressing a concept supposed contributing to the development of Bitcoin). By its presence in BDOPC.raw, the document purports to pre-date 31 October 2007.

(a) COPA’s Reasons for Alleging Forgery

269. This document is among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch1 [12] Q/6/5].

270. The section on BDOPC.raw above is repeated. Comparing the deleted version of this document to the disclosed version shows that this document did not exist in this form on 17 September 2023. It was entirely added to BDOPC.raw at some point between 17 September and 19 September 2023. This was done with the computer clock set back to 2007, in order to backdate the document.

271. Though this document did not exist in InfoDef09.raw, a version did which is considered to be a precursor. The precursor was named “Hash Based Shadowing.TIF” [PM46 [126-130] H/278/44]

272. Hash Based Shadowing.TIF contains metadata with the following information [PM46 [126-128] H/278/44]:

272.1. it was created on 12 March 2018;

272.2. it was created with MS Windows Photo Viewer 10.0.14393.0, software associated with Windows 10 version 1607, which was released in August 2016; and

272.3. it was scanned with a Xerox DocuMate 5540 scanner.

273. The Xerox DocuMate 5540 model of scanner was not produced until 18 February 2015 [Sherrell 19 [12] P1/19/3].

274. The document was sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. This document was added to BDOPC.raw by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

275. The document is in Dr Wright’s own handwriting.

276. The Xerox Documate 5540 Scanner is Dr Wright’s current scanner. It is the same scanner used by Dr Wright on 11 December 2023 to scan his own Seventh Witness Statement served in these proceedings. Dr Wright’s Seventh Witness Statement contains Dr Wright’s own signature. [Sherrell19 [16] P1/19/5]

277. The metadata relating to the Xerox Documate Scanner and other metadata was deleted when the document was converted from its apparent precursor version (TIF, a metadata-light format) to its disclosed version (bmp, a no-metadata format).
278. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto, contrary to fact.
279. This document was added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. The section "BDOPC.raw" above is repeated.
280. Dr Wright has attached particular importance to this document:
- 280.1. It is said to be important to Dr Wright's case because it is one of Dr Wright's "*scans of hand-written notes addressing concepts that Dr Wright developed into Bitcoin. {ID_004726} is concerned with hash chains and hash tokens, {ID_004727} is concerned with the use of hash chain / tokens in bidding systems, {ID_004728} is concerned with distributed quorum-based oracles and their application in digital cash and smart contract systems, and {ID_004729} to {ID_004731} are concerned with hash-based shadowing.*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/7].
- 280.2. It is said to be one of Dr Wright's "*Notes, drafts and articles produced by Dr Wright during his LLM at Northumbria University.*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/7]
281. The document was not disclosed at the proper time. It was disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section "BDOPC.raw" above is repeated.

(c) Dr Wright's Explanations and COPA's Rebuttal

282. Dr Wright claimed that the fact that Mr Madden found version of this scan on InfoDef09.raw with a created date in or after 2018 was actually just an indication that an original file from 2007 had been updated to create others. His explanation was difficult to follow and was that "the original file, which is a BMP, was updated to create the others" and that "the pixelation on this is... more pixelated that you would get on a TIFF files, so what we have is a BMP being converted into a TIFF". He later accepted that this file ID_004729 is actually a .bmp file: {Day5/94:1} and following.
283. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 283.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
- 283.2. Dr Wright's overall account of documents on the drive being planted by someone is addressed in earlier examples in this Schedule.
- 283.3. There is no evidence to back up Dr Wright's claimed technical effect of how these files interact when converted from one format to the other.

283.4. The file is a .bmp file, not a .tiff file. So, Dr Wright's excuse about it being a .tiff file does not assist him. This was a further example of Dr Wright using technical terms with the intention of confusing.

283.5. Mr Lynch agreed with Mr Madden that ID_0004729 was manipulated: {Q/6/5}.

14. Variations on “Secure and Trustworthy Voting” {ID_004732} {PTR-F/89/1} and {ID_004734} {PTR-F/91/1}

284. These documents are two versions of a long paper addressing quorum-based voting in distributed networks and titled “Secure and Trustworthy Voting”. This is a subject which Dr Wright now maintains influenced his development of Bitcoin. One is a plaintext document, “Q.txt”. Another is an RTF equivalent of the same document, “IT1581b.rtf”. By their presence in BDOPC.raw, the documents purport to pre-date 31 October 2007.

(a) COPA’s Reasons for Alleging Forgery

285. These documents are among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch1 [12] Q/6/5].

286. The document {ID_004734} has been backdated. It is a Rich Text File created with the editor version Riched20.dll v10.0.19041. That version of Riched20 is the version associated with the May 2020 update of Windows 10. [Madden3 [86-91] G/5/34], [PM46 [149 H/278/53]

287. The section on BDOPC.raw above is repeated. Comparing the deleted version of these documents to the disclosed versions shows that they did not exist in this form on 17 September 2023. They were modified within BDOPC.raw at some point between 17 September and 19 September 2023. This was done with the computer clock set back to 2007, in order to backdate the document. [PM46 [136 and 141] H/278/46]

288. The modifications included the following:

288.1. In {ID_004732}, altering the words “blockchains” to “hash chains” [PM46 [136] H/278/46].

288.2. In {ID_004732}, deleting references to the dates of articles published in 2016 and 2017 and replacing them with “(?)” [PM46 [136] H/278/46].

288.3. Deleting a long paginated Table of Contents, with page numbers referring to formatted pages. The inclusion of formatted page numbers in a plain text document is not consistent with the technical limitations of plain text documents. It is consistent with a plain text document being created by copying and pasting from a pre-existing MS Word or RTF document [PM46 [136.c.] H/278/47].

288.4. In respect of {ID_004734}, the equivalent edits as displayed in {ID_004732} [PM46 [141] H/278/49 (note incorrect reference in that paragraph to {ID_004737})].

289. The documents were sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. These documents were added by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

290. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

291. These documents were added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. The section “BDOPC.raw” above is repeated.
292. Dr Wright has attached particular importance to these documents:
- 292.1. Both are said to be important to Dr Wright’s case because they are versions of “a paper titled: *“Secure and Trustworthy Voting in Distributed Networks: A Quorum-Based Approach with Hash Chains and Public Key Infrastructure”*. Dr Wright produced this paper during his Master of Information Systems Security research at Charles Sturt University. The paper considers secure voting mechanisms in distributed systems through a combination of quorum-based voting, hash chains, and Public Key Infrastructure, which is analogous to core elements of Bitcoin.” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/6].
- 292.2. They are said to be “Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/4]
293. The documents were not disclosed at the proper time. They were disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

294. Dr Wright claimed that these were added to the BDO Drive back in 2007 and also made reference to him copying from a drive that was linked somehow, saying that he was creating a VMware image. Dr Wright accepted that ID_004734 cannot be authentic to 2007 because it was created with a 2020 version of Windows Rich Text Editor, but said this must have been due to the hack by Mr Ager-Hanssen or his associates: {Day5/95:9} and following.
295. Dr Wright sought to explain away the fact that there were precursor documents on InfoDef09.raw which showed references to texts from 2016 and 2017 and that those references had been replaced by question marks in the present document by saying that they were accounted for by his “horrible way of working” {Day9/96:24} and following.
296. Dr Wright sought to explain away the presence of a contents table in the version on InfoDef09.raw, which did not exist in this document, by saying that somebody (presumably Mr Ager-Hanssen or an associate) had created a contents table: {Day9/97:24} and following.
297. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 297.1. Dr Wright’s story about creating some form of VMware image does not make any sense and is a further example of obfuscation by Dr Wright.
- 297.2. There is no evidence to back up Dr Wright’s claimed technical effect of how these files interact when converted from one format to the other.

- 297.3. The precursor documents found on InfoDef09.raw included a table of contents and references to papers published post-2007. The versions Dr Wright manipulated had dropped the table of contents (because it would not make sense to have one in this sort of document) and had replaced what would be anachronistic references with question marks again. The story of this happening as a result of the supposed hack, as well as being without supporting evidence, presupposes an extraordinary effort at creating multiple fake versions of documents on the different raw images in a short space of time.
- 297.4. Mr Lynch agreed with Mr Madden that ID_0004732 and ID_004734 were manipulated: {Q/6/5}.

15. “Internal Controls...Backend Operations” {ID_004733} {PTR-F/90/1}

298. There is an RTF file titled “Internal Controls and Immutable Logging in Auditing Backend Operations of Messaging Systems.rtf”. Dr Wright has relied upon it as showing interest in / research on the concept of immutable logging which he claims influenced his development of Bitcoin. By its presence in BDOPC.raw, the document purports to pre-date 31 October 2007.

(a) COPA’s Reasons for Alleging Forgery

299. This document is among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch1 [12] Q/6/5].

300. The document has been backdated. It is a Rich Text File created with the editor version Riched20.dll v10.0.19041. That version of Riched20 is the version associated with the May 2020 update of Windows 10. [Madden3 [86-91] G/5/34] [PM46 [149] H/278/53]

301. The section on BDOPC.raw above is repeated. Comparing the deleted version of this document to the disclosed version shows that this document did not exist in this form on 17 September 2023. It was modified within BDOPC.raw at some point between 17 September and 19 September 2023. This was done with the computer clock set back to 2007, in order to backdate the document.

302. The modifications included:

302.1. altering the metadata of the file to make it appear to have been created earlier than it actually was [PM46 [146]]; and

302.2. deleting a reference to “The Data Protection Act 2018” and replacing it with the words “data protection law globally” [PM46 [147] H/278/52].

303. The Data Protection Act 2018 did not exist in 2007.

304. The document was sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. This document was added to BDOPC.raw by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

305. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

306. This document was added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. Paragraph 45 of the section “BDOPC.raw” above is repeated.

307. The document was not disclosed at the proper time. It was disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

308. Dr Wright has attached particular importance to this document:

- 308.1. It is said to be among Dr Wright's "*Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/4]
- 308.2. It is said to be important to Dr Wright's case because it is a "*paper titled "Internal Controls and Immutable Logging in Auditing Backend Operations of Messaging Systems". The concept of immutable logging discussed in this paper connect Dr Wright's earlier research on hash chains with the blockchain technology that underpins Bitcoin.*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/7]

(c) Dr Wright's Explanations and COPA's Rebuttal

309. Dr Wright again claimed that the BDO Drive had been hacked, which he said explained the fact that the document was authored in a version of Window Text Editor dating from 2020. In relation to the deletions between the versions disclosed as the reliance document and the version on InfoDef09.raw, Dr Wright claimed that the removal of "Data Protection Act 2018" from the precursor document on InfoDef09.raw to be replaced by "data protection law globally..." arose because it referred to Sarbanes-Oxley in America. He disputed that this change showed the direction of editing: {Day5/100:8} and following.
310. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
 - 310.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
 - 310.2. The removal of "Data Protection Act 2018" from what was plainly the precursor document on InfoDef09.raw, to be replaced by "data protection law globally...", clearly indicates a document which had been written at a later date being changed to remove what would be anachronisms.
 - 310.3. Dr Wright's excuse about someone using Word to create a document and then changing the format does not make any sense in the circumstances or explain the irregularities.
 - 310.4. The use of a version of Windows Text Editor dating from 2020 shows these documents were not contemporaneous to the alleged time capsule.
 - 310.5. Mr Lynch agreed with Mr Madden that ID_000473 was manipulated: {Q/6/5}.

16. “NG3.tex” and related files {ID_004715} {PTR-F/72/1}, {ID_004716} {PTR-F/73/1}, {ID_004719} {PTR-F/76/1}

311. Dr Wright disclosed a set of LaTeX files (including {ID_004716} and {ID_004719} titled as “Section2.tex”, “Section4.tex”, among others). These apparently constitute sections of one document (NG3.tex, which is {ID_004715}). NG3.tex is a LaTeX source document titled “An In-depth Analysis of Proof-of-Work Calculations in the Hashcoin White Paper”. That document presents as if it was a paper building on calculations in the “Hashcoin” or “TimeChain white paper” and purports to represent work on the Bitcoin system and/or Bitcoin related concepts.
312. This group of three documents is taken together as representative of that set.

(a) COPA’s Reasons for Alleging Forgery

313. These documents are among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch Joint Report [12] Q/6/5].
314. The documents have been backdated.
315. The content of {ID_004715} was written by ChatGPT. In particular:
- 315.1. A deleted file containing part of the content of {ID_004715} was recovered from InfoDef09.raw. The file was named “Section7.tex”: [PM46 [92-99] H/278/25]. The content of the deleted “Section7.tex” begins with the words:
- “Certainly, here’s the LaTeX code for Section 7, which covers Recommendations.
- ``` LaTeX
- 315.2. The content of the deleted “Section7.tex” ends with the words:
- ‘This section presents a set of recommendations based on the research findings, targeting both practitioners and academic researchers. The citations are...’
- 315.3. That content is entirely consistent with and indicative of responses provided by an un-conditioned ChatGPT to the question “Are you able to output some template LaTeX code for section 7 which relates to recommendations?” including the structure, length of response, the use of “Certainly”, and the use of syntax “``` LaTeX” to introduce LaTeX code. [PM46 [92-99] H/278/25]
- 315.4. That content was deleted from the version of the equivalent document disclosed within BDOPC.raw. {ID_004715} however does include the proposed code generated by ChatGPT within the body of the document.
- 315.5. ChatGPT did not exist in 2007.

316. The section on BDOPC.raw above is repeated. Comparing the deleted versions of these documents to the disclosed versions shows that they did not exist in this form on 17 September 2023. They were modified within BDOPC.raw at some point between 17 September and 19 September 2023. This was done with the computer clock set back to 2007, in order to backdate the document. [Madden4 [133-135] G/6/41]
317. The modifications made in September 2023 included:
- 317.1. In respect of {ID_004716}, editing a past-tense reference to “the original Bitcoin white paper”, so that it was modified into a future-tense reference to “the proposed timecoin system”. [PM46 [89] H/278/23]
- 317.2. In respect of {ID_004719}, editing a past-tense reference to “Bitcoin” to read as a reference to “Timecoin”; and adding other text [PM46 [90] H/278/24].
- 317.3. In respect of other parts of {ID_004715}, changing the purported authorship date from 2008 to 2007, and changing references to the “original Bitcoin white paper” to “Time Chain” or “Hashcoin” white paper. [PM46 [82] H/278/19].
318. The metadata of these documents has been manipulated in order to make them appear to have been created at an earlier date than their true creation date. [PM46 [86-88] H/278/22]
319. The documents were sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. These documents were added by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

320. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.
321. The further effect of tampering is to lend support to Dr Wright’s new position that the Bitcoin White Paper was created in LaTeX, by providing other LaTeX documents alongside it. That story is a recent product of Dr Wright’s change in his account.
322. These documents were added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. Paragraph 45 of the section “BDOPC.raw” above is repeated.
323. Dr Wright has attached particular importance to these documents:
- 323.1. NG3.tex is said to be one of Dr Wright’s “*LaTeX files which, when compiled, generate draft articles under the pseudonym “Satoshi” or “Satoshi Nakamoto” relating to concepts later used in the Bitcoin White Paper.*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/3]
- 323.2. NG3.tex is said to be important to Dr Wright’s case because it “*is a LaTeX file coding for an article titled: “An In-depth Analysis of Proof-of-Work Calculations in the Hashcoin White Paper: Exploring Alternative Strategies”, which comments on concepts similar to the concepts in the Bitcoin Whitepaper, such as proof-of-work in decentralised digital transactions. The article refers to a hashcoin white*

paper. The author is stated to be “Satoshi Nakamoto” and the article bears the date 15 September 2007.” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/3]

- 323.3. The Sections documents are said to be a version of “*LaTeX files which, when compiled, generate sections of the “Timecoin” white paper*”, meaning {ID_000254} [Wright6 E/21/3; Schedule 1 to Field1, L20/223/3]. However, it is believed that this is an error, since the Sections documents do not form part of any version of that paper. It is believed that Dr Wright relies upon them as forming part of NG3.tex, to which he attaches importance for the reasons given above.
324. The documents were not disclosed at the proper time. They were disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

325. Dr Wright claimed that InfoDef09.raw was in fact created as a copy of the BDO Drive image. He asserted that the presence of versions of these documents on InfoDef09.raw was because “someone [was] trying to ensure that there is manipulated evidence on these drives” {Day 8/2:20}. He then went to implicate Bird & Bird, saying that he had web cookies showing that access in September 2023 from an IP address associated with Bird & Bird, but did also note that it could have been someone stood outside their office as the Bird & Bird Wi-Fi is open. He claimed he had reported this use of the Bird & Bird Wi-Fi.
326. As for the use of ChatGPT, Dr Wright claimed that similarities between his work and ChatGPT arose because ChatGPT has copied his work, and not the other way around. {Day5/90:14}
327. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 327.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
- 327.2. The expert evidence shows that the InfoDef09.raw contained versions of these documents that were worked on and then deleted before being seeded on the BDO Drive.
- 327.3. The suggestion that someone hacked and manipulated the BDO Drive and left a deleted set of files which appear to be draft versions of files that would eventually be disclosed by Dr Wright would mean that the individual would have to have guessed what files were going to be nominated, and that Dr Wright would indeed seek to rely on these in court.
- 327.4. His allegation that an IP address associated with Bird & Bird was involved in the hack is absurd and without any support in evidence. The Bird & Bird Wi-Fi is not public, as was put to Dr Wright (and as he did not dispute).

- 327.5. His story about knowing that the Bird & Bird Wi-Fi was used contradicts his evidence in other places about how he did not know how or by whom he was hacked in relation to the BDO Drive (subject to his suspicion of Mr Ager-Hanssen). There is no evidence to support this very serious lie, and there is also no evidence of his claimed report that he made about that IP address.
- 327.6. Dr Wright does not account for the fact that the indications of ChatGPT use were not solely based on similarity of output between ChatGPT and his own documents (though this was one similarity) but that the prompts and use of certain terms/punctuation that appears in ChatGPT answers appeared in Dr Wright's work. Furthermore, there is no evidence that Dr Wright's material was ever fed into any AI algorithm (whether ChatGPT or otherwise).
- 327.7. Mr Lynch agreed with Mr Madden that ID_0004715, ID_004716 and ID_004719 were manipulated: {Q/6/5}.

17. “LPA.tex” and “LP1.tex” {ID_004722} {PTR-F/79/1} and {ID_004723} {PTR-F/80/1}

328. These are two LaTeX source documents presented as if they are precursor work to the Bitcoin White Paper. The first presents as an article with Satoshi named as author, while the second presents as a version of the same article with Dr Wright named as author. Each addresses quorum systems, a subject which Dr Wright now maintains influenced his development of Bitcoin. By their presence in BDOPC.raw, the documents purport to pre-date 31 October 2007.

(a) **COPA’s Reasons for Alleging Forgery**

329. These documents are among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch1 [12] Q/6/5].

330. The section on BDOPC.raw above is repeated. Comparing the deleted versions of these documents to the disclosed versions shows that they did not exist in this form on 17 September 2023. They were modified within BDOPC.raw at some point between 17 September and 19 September 2023. This was done with the computer clock set back to 2007, in order to backdate the document. [PM46 [111 – 117] H/278/38]

331. The modifications made included:

331.1. In respect of {ID_004722}, altering the dates of articles referred to, respectively from “2009” to “2006”, and from “2016” to “?” [PM46 [112] H/278/39].

331.2. Removing lines of the document relating to the previously-cited papers from 2009 and 2016 (while leaving blank lines in their place) [PM46 [113] H/278/39].

331.3. In respect of {ID_004723}, deleting lines referring to previously-cited articles dating from after 2007 (while leaving blank lines in their place) [PM46 [117-118] H/278/41].

331.4. Altering the metadata of the documents such that they appeared to be created earlier than they were [PM46 [111 and 119] H/278/38].

332. The documents were sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. These documents were added by the Manipulation User.

(b) **COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility**

333. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

334. The further effect of tampering is to lend support to Dr Wright’s new position that the Bitcoin White Paper was created in LaTeX. That story is a recent product of Dr Wright’s change in his account.

335. These documents were added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. the section “BDOPC.raw” above is repeated.

336. Dr Wright has attached particular importance to these documents:
- 336.1. {ID_004722} is said to be one of Dr Wright’s “*LaTeX files which, when compiled, generate draft articles under the pseudonym “Satoshi” or “Satoshi Nakamoto” relating to concepts later used in the Bitcoin White Paper.*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/3]
 - 336.2. {ID_004722} is said to be important to Dr Wright’s case because it is “*a LaTeX file coding for an article titled “Predicates in Quorum Systems”, which discusses concepts that underpin the technology of Bitcoin, such as the use of quorum systems to provide security in distributed systems. The author of the paper is stated to be “Satoshi” and the article bears the date 30 August 2006.*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/3]
 - 336.3. {ID_004723} is said to be “*a version of the “Predicates in Quorum Systems” paper at {ID_004722}, but listing Dr Wright as the author rather than “Satoshi”.*” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/6]
337. The documents were not disclosed at the proper time. They were disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

338. Dr Wright claimed, as set out above, that these were planted documents by Mr Ager-Hanssen or someone associated with him. {Day5/86:14} He also rejected the use of ChatGPT.
339. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 339.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
 - 339.2. The story about these being planted by someone is addressed in earlier examples in this Schedule.
 - 339.3. The differences between the InfoDef09.raw and the versions subsequently disclosed and relied upon showed that the changes were to change tenses from the deleted version (which talked about Bitcoin in the past tense) to the future tense in the disclosed versions. This is consistent with the documents being edited to support his case.
 - 339.4. The deleted earlier versions also contained references to papers post-dating the purported 2007 date, such as ‘Xia et Al’ (2016). All such references were deleted and in the disclosed version replaced by a “?” – clearly to indicate that a reference needed to be added. The evident reason that these, and only these, references were removed, is to remove what would otherwise have been obvious indications that the document post-dated 2007.

- 339.5. It is clear that Dr Wright did use ChatGPT and these documents included classic indicia of how ChatGPT formats references (set out above).
- 339.6. Mr Lynch agreed with Mr Madden that ID_0004722 and ID_004723 were manipulated {Q/6/5}.

18. “ESDT.tex” {ID_004736} {PTR-F/93/1}

340. The document is a LaTeX source presented as if it was precursor work to the Bitcoin White Paper created during Dr Wright’s employment at BDO. Dr Wright relies upon it as a draft addressing technical concepts which influenced his development of Bitcoin. By its presence in BDOPC.raw, the document purports to pre-date 31 October 2007.

(a) COPA’s Reasons for Alleging Forgery

341. This document is among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties’ experts agree were manipulated [Madden / Lynch1 [12] Q/6/5].

342. Copies of the document are also located on the Samsung Drive. These copies display signs of metadata editing and clock manipulation. [PM46 [74-79] H/278/17]

343. A related LaTeX file has been recovered which encodes the same textual content in a different way. That document had been deleted but was recoverable from within the Samsung Drive. The structure of that file is consistent with the file being generated automatically by software conversion tools (rather than being authored by hand). [Madden4 [67-70] H/278/16].

344. There is a related file {ID_004735} which appears intended to create an image for the paper. The code in that file is consistent with having been generated by conversion tools such as Aspose. [Madden3 [75] G/5/31]

345. A related document, ESDT.pdf, was recovered from the Samsung Drive. ESDT.pdf was a compiled form of {ID_004736} but was deleted and emptied from the Recycle Bin in September 2023 [PM46 [41-52] H/278/10]. The metadata associated with the deleted file indicates that it was modified on 16 September 2023, but the other timestamps have been backdated to 31 October 2007.

346. The metadata of this document (when compared with metadata of other documents related to it) displays signs of metadata editing directly using specialised metadata editing tools. [Madden3 [52-63] G/5/23]

347. The document was sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. This document was added to BDOPC.raw by the Manipulation User.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

348. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto, contrary to fact.

349. The further effect of tampering is to lend support to Dr Wright’s new position that the Bitcoin White Paper was created in LaTeX. That story is a recent product of Dr Wright’s change in his account.

350. This document was added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. Paragraph 45 of the section “BDOPC.raw” above is repeated.

351. Dr Wright has attached particular importance to this document:

351.1. It is said to be among Dr Wright's "*Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/4]

351.2. It is said to be important to Dr Wright's case because it is a version of "*a paper prepared for a 360° Security Summit on 15 June 2006 concerned with "Implementing Effective Risk-Based Controls", which Dr Wright prepared in his role at BDO. The hash chain technology discussed in the paper is analogous to the blockchain technology used in Bitcoin.*" [Wright6 E/21/3; Schedule 1 to Field1, L20/223/5]

352. The document was not disclosed at the proper time. It was disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section "BDOPC.raw" above is repeated.

(c) Dr Wright's Explanations and COPA's Rebuttal

353. Dr Wright claimed that his use of Xcopy had caused the load file metadata for this and two related documents to all have creation times at precisely the same time on 19 September 2017, with August 2008 accessed and modified times for this document and one other related one. He also claimed that he was still accessing files at BDO in 2008 and so that these may have been copied from a different drive: {Day5/102:21} and following. See Wright11 {CSW/2/43} for an example of him claiming how Xcopy works.

354. COPA submitted that this explanation should be rejected as dishonest for the following reasons:

354.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.

354.2. Mr Madden states that Xcopy simply does not have the effect that Dr Wright claims. This was also the view of Mr Lynch, as recorded in their Joint Report: {Q/6/4}.

354.3. Dr Wright's excuse about accessing files at BDO in 2008 is inconsistent with his claim that the files on the BDO Drive are a time capsule and taken from a capture of the BDO files he had in 2007.

354.4. Mr Lynch agreed with Mr Madden that ID_0004736 was manipulated: {Q/6/5}.

19. Tominaka Nakamoto: Monumenta Nipponica {ID_004019} / {L2/245/1}

355. The document presents as a printout of a journal article concerning a historical figure called “Nakamoto”, purportedly downloaded on 5 January 2008, and annotated by Dr Wright by hand in his own handwriting in terms associating himself with that historical figure “Nakamoto”.

(a) COPA’s Reasons for Alleging Forgery

356. The document has been backdated. [PM6 [55]]. The timestamp at the top of the document has been altered, with the digits of the hour and of the year entered in different font to the rest of the timestamp. [PM6 [3]].

357. The document is a hand-annotated printout of a digital document [PM6 [5]]. The underlying digital document has not been disclosed.

358. The original source of the document was discovered by searching on the internet. [PM6 [27-30]].

359. The genuine date of the source document is not 2008, but 2015. The document remains available online now. [PM6 [27-32]].

360. The original document was downloaded from the academic repository website JSTOR. By inspection of the footer against a comparator data set of over 180 other documents downloaded from JSTOR, it is possible to identify 7 epochs during which the design of the footer of JSTOR documents changed in the decade between January 2007 and December 2016. The dates of changes of design can be pinpointed to six specific days in that decade. By comparison of the footer of {ID_004019} to that data set, it is possible to establish that the footer is contemporary to the period between 19 March 2013 and 22 March 2016. [PM6 [33-47]].

361. Further, by comparison with 10 other independently-downloaded documents dated 5 Jan 2008 within that dataset, it can be established that the footer of the {ID_004019} is notably different from those on documents from 2008, and therefore is not contemporaneous with such documents from 2008. [PM6 [48-51]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

362. The underlying digital document has not been disclosed.

363. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (i.e. by suggesting that he had read a paper about Tominaga Nakamoto before he coined the pseudonym Satoshi Nakamoto), contrary to fact.

364. In his evidence in these proceedings, Dr Wright claims that the name “Satoshi Nakamoto” was chosen due to his ‘admiration for the philosopher Tominaga Nakamoto’. It is to be inferred that this forgery was done to support that aspect of his claim. [Wright1 [66]].

365. Dr Wright has publicly asserted this document to be supportive of his claim.

366. Dr Wright has publicly maintained the authenticity of this document in social media posts.
367. This document was photographed by Dr Wright for transmission via WhatsApp [PM6 [7]]. The photograph was taken around 1 week before this document was scanned into PDF form. This is consistent with other examples within disclosure where Dr Wright has photographed other documents bearing indicia of tampering, for sending via WhatsApp, before they were scanned and disclosed.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

368. In Appendix B to Wright11, Dr Wright claimed that the document dating from 2015 which Mr Madden downloaded from the internet and identified as the source document was copied from his document and then edited. He claims that this was done after he had mentioned the document as his inspiration. See {CSW/2/68}. In his oral evidence, Dr Wright added that this had been done by the person operating the gwern.net website, who he claimed had been working together with Ira Kleiman to discredit him: {Day2/21:13} to {Day2/22:16}. Thus, Dr Wright’s claim is that his document, with an “accessed” date from 2008 is genuine and that a false version was produced by his enemies to reflect an “accessed” date from 2015 and uploaded to the internet in order to undermine his claim to be Satoshi Nakamoto.
369. COPA submitted that Dr Wright’s explanation should be rejected as dishonest, for the following reasons:
- 369.1. It is inherently implausible that Dr Wright’s version should be authentic and the version accessed from the internet should have been doctored, since the numerals in the “accessed” date are misaligned in Dr Wright’s version (suggesting manipulation) but the numerals in that date are perfectly aligned in the version on the internet.
- 369.2. There is a second powerful reason why Dr Wright’s version is inauthentic, namely that the footer design corresponds to JSTOR documents dating from 2015 and not to such documents dating from 2008. Mr Madden has reviewed a large sample of JSTOR documents and established that the footer design was updated at set points in time, so that he can be confident from the footer design that Dr Wright’s document does not date to 2008. He was unshaken in that position on cross-examination: {Day16/66:7} to {Day16/68:7}.
- 369.3. Although Dr Wright asserted that different JSTOR repositories had footer designs updating at different times and that he had documents to make good that proposition ({Day2/20:13} to {Day2/21:6}), there is no documentary support for that assertion (which is at odds with Mr Madden’s findings). It is reasonably to be inferred that, if that assertion could be made good, Dr Wright’s well-resourced legal team would have done so.
- 369.4. Dr Wright’s essential conspiracy theory does not work as a matter of the dates. He gave the interview in which he publicly cited this document as his inspiration for the Nakamoto name in December 2019 (see {L16/86/1}; {L16/47/1}). The document which he now says was doctored and released to discredit him has been available online in precisely the same form since 2016: see PM6, [30].

369.5. There is not a shred of evidence for Dr Wright's conspiracy theory. It is also an odd story, even on its own terms, since Ira Kleiman's claim depended on saying that Dr Wright was part of "Satoshi Nakamoto".

(d) Conclusion

370. I can only agree with COPA's submissions. The document was plainly forged by Dr Wright.

20. Backdated White Paper PDF (1) {ID_000536} / {L2/474/1}

371. This document purports to be a PDF version of the White Paper with a creation timestamp of 24 January 2008 and a last modification on 21 May 2008. The document contains Dr Wright’s contact details in place of those of Satoshi Nakamoto.

(a) COPA’s Reasons for Alleging Forgery

372. Rather than being a precursor document to the Bitcoin White Paper as it purports to be, this document has been created from the Bitcoin White Paper subsequently, and edited in such a way that it appears as if it was precursor work. [PM3 [127-128]].

373. The metadata of this document has been edited in its year and month, so as to appear to date from over a year before the authentic Bitcoin White Paper. However, the timestamps otherwise match those of the authentic White Paper in their day, hour, minutes, and seconds. [PM3 [91]].

374. Further, the document contains embedded fonts bearing copyright statements from 2017. [PM3 [100-101]].

375. The document appears to be an edited version of document {ID_000538}. In particular, information present in {ID_000538} (including 2018-2019 date stamps, and a URL contemporaneous to 2019) has apparently been deleted from this version. In the case of the URL, the deleted content has been replaced by a series of blank space characters precisely equivalent in length to the deleted URL. [PM3 [152-155]].

376. Although {ID_000536} purports to be dated from the beginning of 2008, its content matches the March 2009 version of the authentic Bitcoin White Paper. The content does not however match the intervening, authentic drafts of the Bitcoin White Paper dating to October 2008 or November 2008, even though those are closer in time to the purported date of {ID_000536}. [PM3 [92]].

377. The document contains “Touchup_textedit” flags indicating that the document text has been edited in Adobe software [PM3 [95-98]].

378. The effect of the “Touchup_textedit” changes shown on the face of the document (referred to above) includes adding Dr Wright’s name and contact details appear in place of those of Satoshi Nakamoto.

379. The document contains additional, hidden “Touchup_textedit” flags relating to changes which are not shown on the face of the document. The hidden changes are identical to those observed in {ID_003732}, suggesting that {ID_000536} was created subsequently to the creation of {ID_003732}. {ID_003732} dates from 22 May 2019. On that basis, {ID_000536} could not have been created before 22 May 2019. [PM3 [98-99]].

380. The document contains four conflicting internal metadata streams, recording contradictory timestamps for different events, indicating the use of clock manipulation techniques or byte-level editing. [PM3 [104-107]].

381. The document purports to have been authored using XMP Core software that does not exist. The version referenced in the internal metadata is invalid and does not relate to any

real-world versions, indicating content manipulation by byte-level editing. [PM3 [108-114]].

382. The date of the XMP Core version is given as October 2008. If this software were valid, which is denied, it would in any case post-date the purported date of authorship of the document. [PM3 [115]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

383. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (presenting as a predecessor draft of the Bitcoin White Paper and supposedly written by him in early 2008), contrary to fact.
384. The document bears Dr Wright’s name and contact details.
385. The contact details included refer to Charles Sturt University. In his evidence in these proceedings, Dr Wright has claimed to have drafted and shared versions of the Bitcoin White Paper while studying at Charles Sturt University, and to have discussed the concepts with teaching staff at Charles Sturt University. [Wright1 [87]; Wright4 [52]].
386. The document contains metadata that purports to pre-date the Bitcoin White Paper, indicating efforts at backdating to support Dr Wright’s claim.
387. The document was created in 2019 in a British time zone, consistent with Dr Wright’s location in London in 2019.
388. Dr Wright is recorded in the metadata as the author of the document.
389. In his evidence in these proceedings, Dr Wright has stated this to be an authentic document. [Exhibit CSW-5]
390. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

391. In Appendix B to Wright11, Dr Wright sought to explain away the fact that the day, hour, minutes and seconds in the metadata timestamp matched those of the published Bitcoin White Paper by saying that this document and the Bitcoin White Paper were both authored in L^AT_EX and that, when producing the Bitcoin White Paper, he manually set the metadata timestamp at the same day and time as had been set for the precursor document: {CSW/2/48} to {CSW/2/50}. When it was put to him in cross-examination that it would be extremely odd to bother to set metadata timestamp information in this way, altering the month and year but not the other time information, he could only say “lots of people call me bizarre” and refer to his ASD: {Day3/163:9}.
392. In Appendix B to Wright11, Dr Wright sought to explain the fact that content of this document matched the March 2009 version of the Bitcoin White Paper, including in respects where it differed from the August and October 2008 versions. He claimed that this was because he worked in a non-linear manner, and that in the March 2009 version

he restored text which he had produced for early versions but had removed / altered in the August and October 2008 versions: {CSW/2/51}.

393. In Appendix B to Wright11, Dr Wright sought to explain the signs of editing out anachronistic content from another of his documents ({{ID_000548}}), which included a URL dating from 2019. He claimed only that this would be a complicated way of fabricating a document and that he could have forged it more easily: {CSW/2/50}.
394. In Appendix B to Wright11, Dr Wright sought to explain the presence of Touchup_textedit tags indicating editing of the document in Adobe in ways corresponding to the differences between the document and the Bitcoin White Paper. Again, he said only that this would be a complicated way of forging a document: {CSW/2/50}.
395. When pressed in cross-examination with the point that one tag referenced Dr Wright's contact details at nChain (which did not exist in 2008), Dr Wright said that this would have been added as a result of somebody merely opening the document in recent times: {Day3/165:23} to {Day3/167:14}.
396. When pressed in cross-examination with the point that Mr Madden had found embedded font files with 2017 copyright information, Dr Wright tried to explain the finding by saying that this artefact would have been added by the document just having been opened at some time since that date: {Day3/167:20}.
397. When pressed in cross-examination with the point that Mr Madden had found four internal metadata streams in the document which contained contradictory timestamps (including from 2019), Dr Wright could only say that these artefacts could appear as a result of the document just being opened in Adobe DC: {Day3/168:24}.
398. Dr Wright's explanation should be rejected as dishonest for the following reasons:
 - 398.1. The Bitcoin White Paper was not originally created in L^AT_EX, as convincingly established by the expert evidence of Mr Rosendahl (which was agreed by Dr Wright's expert, Mr Lynch, in the joint statement). There is equally no basis for saying that this document was originally created in L^AT_EX. Furthermore, no L^AT_EX .tex file has been provided to support Dr Wright's account in relation to the creation of this document.
 - 398.2. Dr Wright's explanation for how he supposedly set the metadata timestamp is entirely unconvincing, being (on his own admission) predicated on bizarre behaviour in setting times.
 - 398.3. Dr Wright's attempt to explain why this supposed early version of the Bitcoin White Paper matches the March 2009 version, including in respects where the latter differed from the August and October 2008 versions, is also unconvincing.
 - 398.4. Dr Wright's explanation for the presence of anachronistic artefacts in the metadata (including the embedded font file with the 2017 copyright information and the metadata stream with 2019 timestamp) is contradicted by the clear expert evidence of Mr Madden, which is that such references could not be inserted

without the document being interacted with by a user, which would in turn result in updating of the metadata timestamps of the document (notably the “last saved” timestamp). The fact that the metadata timestamps for this document were dated to early 2008 but the document contains the elements set out above shows that the document has been forged by backdating. See Madden4 [158]; Madden / Placks joint statement 2 at [8]; {Day16/35:19} to {Day16/38:11}; {Day16/125:7} to {Day16/125:18}.

398.5. In summary, there are a series of independent signs that this document has been backdated, none of which has been answered by Dr Wright’s explanation.

(d) Conclusion

399. I can only agree with COPA’s summary. The document was plainly forged by Dr Wright.

21. OpenOffice 2.4 document (Reliance Document) {ID_000260} / {L2/294/1}

400. The document purports to be a precursor to the Bitcoin White Paper and is presented as if written by Dr Wright. It is dated 8-9 March 2008 in its metadata and Dr Wright states it to be from 2008 in his evidence in these proceedings. [Exhibit CSW-14]

(a) COPA's Reasons for Alleging Forgery

401. The document contains language taken from the Bitcoin White Paper, but the document has been backdated as if to make it appear earlier than it is. [PM23 [41-45]].

402. The document purports to have been created on 8 March 2008 and last saved on 9 March 2008 using OpenOffice.org version 2.4 with internal version number 680m12\$Build-9286. However, this version of OpenOffice.org was not uploaded for use until 16 March 2008 and was not generally released until 27 March 2008, both of which post-date the purported date of {ID_000260}. [PM23 [3, 6, 10, 24-34, 44]].

403. Further, in addition to not being uploaded until 16 March 2008, the software in question (OpenOffice.org 2.4 680m12\$Build-9286) was not even in development until after 14 March 2008. [PM23 [35-40]].

404. The document contains content imported from an external document or documents. No external document has been disclosed. [PM23 [41c]].

405. The document has an implausible edit time, matching precisely the time between its created and last saved timestamp. [PM23 [14-18]].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

406. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (suggesting a precursor document to the Bitcoin White Paper, supposedly prepared in early 2008), contrary to fact.

407. Further, the document has been created using the same software (OpenOffice.org) and same version (version 2.4) as used by Satoshi Nakamoto to write all versions of the Bitcoin White Paper, indicating an intention to create a document within Dr Wright's possession with the appearance of being a predecessor. [PM3 [23, 40, and 47]].

408. Dr Wright has positively asserted that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

409. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright's Explanations and COPA's Rebuttal

410. In Appendix B to Wright11, Dr Wright sought to explain away the fact of this document being created with a version of OpenOffice that was issued after its supposed creation date by saying that he created the document in L^AT_EX on 8/9 March 2008 but set the metadata using L^AT_EX "so that it looks like I wrote this document in the future." He

explained this odd behaviour by saying that he had “taught the process of using versioning in this way to demonstrate aspects of making a determination about a document difficult to students in 2008 to 2012”. See {CSW/2/33}.

411. He sought to explain away the indications that the document had imported content (including from the Bitcoin White Paper, supposedly written a year later) by saying that it was a function of the document having been created in L^AT_EX and then recompiled later. See {CSW/2/34}.
412. He sought to explain away the implausible editing time by saying that it was a result of him using the Sweave program with L^AT_EX, which (as he believed) caused metadata time fields to be updated with re-compilations. See {CSW/2/34}.
413. This explanation should be rejected as dishonest for the following reasons:
 - 413.1. Dr Wright has disclosed no L^AT_EX original of this document. It is inherently implausible that he would recall the production of such an original 15 years on without having a copy.
 - 413.2. His story of setting the metadata to make the document misleadingly appear to have been created later is at odds with his evidence in the Kleiman proceedings that: “I do not manipulate metadata on things for any purpose”: {L15/131/71}.
 - 413.3. His story of using this document in 2008 as a demonstration tool for students is one which beggars belief. It presupposes that, having made substantial efforts to remain anonymous, the real Satoshi used a document relating to his prospective Bitcoin project as a demonstration tool for students, when he could have used any other document to make the point.
 - 413.4. In his oral evidence, Dr Wright was driven to answer this point by claiming that he had been quite open about his identity as Satoshi, revealing that identity to many, many people, including the tax office in Australia, government officials, “individuals at companies I knew” as well as “my students” (all unnamed, save for reference to Shoaib Yousuf and David Bridges, who were clear that Dr Wright had not revealed himself as Satoshi to them before the public revelation in 2015/16): {Day3/43:19} to {Day3/45:8}. This was not only implausible, but also at odds with his evidence in the Kleiman proceedings, where he told the Court that only Don Lynam and Gareth Williams knew his identity as Satoshi by early 2011: {L15/125/102}.
 - 413.5. Dr Wright’s story also requires his explanation of the signs of imported content and of the implausible edit time to be accepted, despite their being unsupported by any independent expert evidence.

(d) Conclusion

414. Dr Wright’s explanations show how he builds lie upon lie in his attempt to explain away Mr Madden’s convincing analysis which wholly supports COPA’s submissions and case. I find this document was plainly forged by Dr Wright.

22. The 12 March 2008 Kleiman emails

415. There are two different versions of the 12 March 2008 email from Dr Wright to David Kleiman. The first was the Third Pleaded Example in COPA's Particulars of Claim, contained in {ID_001318}. The second is {ID_000465}, produced in Dr Wright's original disclosure. Both are alleged by COPA to be forgeries. They differ only in the domain from which the email was supposedly sent and in part of Dr Wright's explanations.
416. Understandably, COPA pleaded the Third Pleaded Example because it was one of the few publicly available documents when COPA commenced this claim. Although the Third Pleaded Example (i.e. {ID_001318}) comes first procedurally, {ID_000465} appears to be the original email and was the focus of the expert analysis.
417. I explain each version first, and then set out the detail concerning ID_000465.

(a) (Particulars of Claim at [28] – [29] {A/2/10}) The Third Pleaded Example ID 001318

418. In the Kleiman litigation in the United States involving Dr Wright (which is still ongoing), it is alleged that Dr Wright stole a substantial amount of Bitcoin and related intellectual property assets from a company named W&K Info Defence Research, LLC, after the death of its founder, David Kleiman, by forging documents (the "Kleiman Litigation"). In those proceedings Wright asserts that he sent an email to David Kleiman on 12 March 2008 which shows him to be the originator of the idea of Bitcoin. This version is the copy forwarded to Ira Kleiman (brother of David Kleiman) on 6 March 2014, when Dr Wright was seeking to persuade the Kleiman family to accept his claim to have created the Bitcoin system in collaboration with David Kleiman {ID_001318}. The email he claims to have forwarded is as follows:

-----Original Message-----

From: Craig S Wright [mailto:craig.wright@information-defense.com]
Sent: Wednesday, 12 March 2008 6:37 PM
To: dave kleiman
Subject: FW: Defamation and the difficulties of law on the Internet.

I need your help editing a paper I am going to release later this year. I have been working on a new form of electronic money. Bit cash, Bitcoin...

You are always there for me Dave. I want you to be a part of it all.

I cannot release it as me. GMX, vistomail and Tor. I need your help and I need a version of me to make this work that is better than me.

Craig

(b) COPA's reason for alleging forgery.

419. The domain used by the sender of this email is 'information-defense.com', which was not created until 23 January 2009. For that reason, COPA allege that the email could not

have been sent in 2008 as claimed from the “craig.wright@information-defense.com” email address and is a forgery.

(c) Dr Wright’s Explanations

420. In his Defence, Dr Wright claimed that he sent an email to Mr Kleiman on 12 March 2008 and that “the body of the email [cited in COPA’s Particulars of Claim] is the same as the email which Dr Wright sent on 12 March 2008”. However, he claimed that the header was different and that he believed “that the difference has arisen as a result of the original email being moved from one exchange server to another”: Defence [50] {A/3/17}. In his fourth statement (from para. 93), he gave a supposed technical explanation for the email address having changed in this email as the result of mailboxes being moved from server to server: {E/4/31}.
421. In Appendices B and C to Wright11, Dr Wright changed his account entirely. He claimed that he had written an email to Mr Kleiman on 12 March 2008 which contained the first two paragraphs of the email above, but not the third paragraph. He accordingly claimed that all versions of the email in disclosure (all of which include the third paragraph) are fake. He said that the document had been faked by his enemies for deployment against him. See: {CSW/2/44}; {CSW/3/7}.
422. Dr Wright’s final explanation was an assertion that the authentic email is on a QNAP server, to which he does not have access.

23. Email: “I need your help editing a paper I am going to release” (1) {ID_000465}

423. This document purports to be an email from Dr Wright to Dave Kleiman dated 12 March 2008 and referring in the future tense to Dr Wright’s purported authorship of the Bitcoin White Paper.

(a) COPA’s Reasons for Alleging Forgery

424. The document has been backdated and is inauthentic. [PM18 [54, 57]].

425. In his Defence in these proceedings, in public articles, and subsequently elsewhere, Dr Wright has offered and repeated a false technical explanation for the irregularities within documents connected to {ID_000465}. Dr Wright’s proffered explanation is unsound. Even if it were accurate, the proffered explanation would not explain all of the irregularities discovered within it. [PM18 [69 to 72]].

426. The document is part of a series of manipulated emails, all of which carry similar content on their face, but which have been edited by degrees to display different timestamps, and different sender and recipient information [PM18 [37-40]]. The various documents in the set are inconsistent with each other but are consistent with a pattern of editing beginning with an artificial precursor email, and ending with a document which would be deployed as if it was original and authentic, in connection with Dr Wright’s claim to be Satoshi Nakamoto.

427. The email was purportedly sent by Dr Wright from his email address at the domain “rcjbr.org”. The date of the email is purportedly 12 March 2008. By that date however, the rcjbr.org domain name had not yet been registered by Dr Wright. It would not have been possible to send the forwarded email at the date recorded in the email message. [PM18 [55-57, 84]].

428. {ID_000465} thus shares similar technical inconsistencies to {ID_000464} as regards being sent from a domain name which was not yet registered to Dr Wright. [PM18 [41-53]].

429. The transmission header of {ID_000465} is identical to that of {ID_000464}, although the documents have different content. The transmission header contains references to the domain rcjbr.org. The purported dates of those emails pre-date the date of registration of the domain name rcjbr.org, but would be contemporary for 2015. [PM18 [55 to 57 and 63-67]].

430. The document purports to be a private exchange between Dr Wright and Mr Dave Kleiman. It is among one of several documents (including {ID_001318}) that Dr Wright purports to have forwarded to Ira Kleiman in apparent support of his claim to be Satoshi.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

431. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (i.e. to create an email indicating that he was working on Bitcoin prior to the release of the Bitcoin White Paper), contrary to fact.

432. In his Defence in these proceedings, in public articles, and subsequently elsewhere, Dr Wright has offered and repeated a false technical explanation for the irregularities within {ID_000465}. Dr Wright's proffered explanation is unsound. Even if it were accurate, the proffered explanation would not explain all of the irregularities discovered within it. [PM18 [69 to 72]].
433. The document is written in the first person from the perspective of Dr Wright.
434. The document is an email sent by Dr Wright from his personal email address, craig@rcjbr.org.
435. The document contains content personal to Dr Wright.
436. In his Defence in these proceedings, Dr Wright claimed to have created the content of this document and maintained its authenticity.
437. In his evidence in these proceedings, Dr Wright relies on interactions with Mr Dave Kleiman in relation to his alleged Bitcoin project (including before the release of the Bitcoin White Paper) as part of his claim to be Satoshi Nakamoto. [Wright1 [89]].
438. The document originates from a computer with the name "cwright" and from an IP address of Dr Wright, being the same IP address as is associated with several other documents identified as originating from Dr Wright. [PM18 [10]].
439. The document is part of a connected pattern of documents that have been edited from one another. Although the sender information changes with each edit, in each case Dr Wright is listed as the sender.

(c) Dr Wright's Explanations and COPA's Rebuttal

440. This document appears to be an original of the "Kleiman email" addressed in the Particulars of Claim (see above), with the sender identified as craig@rcjbr.org. Each of the various versions of this email in the disclosure consist of three short paragraphs, which begin respectively (i) "I need your help..."; (ii) "You are always..."; and (iii) "I cannot release it..."
441. In Appendix B to Wright11, Dr Wright accepted that this document is a forgery, and indeed that all other versions of the email in disclosure are likewise forgeries. He evidently made this admission in order to deal with the numerous forensic signs of these emails being subject to editing (referred to above). He now claims to have sent an email to Mr Kleiman on the date given in the email (12 March 2008) and that that genuine email contained the first two paragraphs seen in all the disclosed versions, but that the genuine email did not contain the third paragraph seen in all the disclosed versions. He claims that the real email was tampered with by disgruntled former employees of his companies who were working with Ira Kleiman against him. He claims that the false version(s) came from these disgruntled individuals, and that Mr Kleiman then deployed such version(s) against him in the US proceedings. See: {CSW/2/44} [12.6(1) to (11)]. In his oral evidence, Dr Wright doubled down on that version: {Day4/74:6} to {Day4/83:20}.

442. Dr Wright also maintains his claim from the Defence that the genuine email would have been sent from a different email address (with a Ridges Estate domain). He attributes the change in domain name (to the rcjbr.org address that did not exist in 2008) to the effects of moving the email from one exchange server to another. See {CSW/2/46}, [12.6(12)].
443. COPA submitted that Dr Wright’s explanation should be rejected as dishonest for the following reasons:
- 443.1. In his Defence (verified with a statement of truth), Dr Wright stated that the content of the email as seen in all the versions in the disclosure (with the three paragraphs identified above) was the same as that of the real email he claimed to have sent to Mr Kleiman on 12 March 2008: see {A/3/17} at [50]. The position he advanced there was that this was a genuine email, sent in this form, but that the email address in the “sent” field had been changed as a result of moves between servers. He took the same position in his fourth statement (also verified with a statement of truth): see {E/4/31} at [93].
- 443.2. In his eleventh statement, Dr Wright starkly contradicted his previous versions by saying that each and every version of the email in disclosure has been deliberately doctored by his enemies and that the version he sent was not the same in content as the versions in disclosure. When confronted with this point, he said that in his Defence he had meant to say that the body of the email in disclosure is “materially the same” as that of the supposed real email: {Day4/68:25} to {Day4/73:11}. He gave no explanation for advancing a position in his Defence that the email had only undergone accidental change through server moves and not mentioning that it was a fake created by his enemies (something he claims to have known when the Defence was settled).
- 443.3. On 9 July 2015, Dr Wright forwarded this supposed Kleiman email of 12 March 2008 to Stefan Matthews in an email with the text “More history”: {ID_001711}. The version he sent included the three paragraphs and so was the version which he now claims was a fake produced by his enemies. It is implausible that he would have sent an email he knew to be doctored to his friend Mr Matthews, presenting it as providing real “history”. When confronted with this point in cross-examination, Dr Wright reacted by claiming that the 2015 email to Mr Matthews was not sent by him but by some unidentified enemy from a compromised email address: {Day4/74:21} to {Day4/77:11}. However, in his fourth witness statement, Dr Wright had specifically stated that the email to Mr Matthews at {ID_001711} was one which he had actually sent: {E/44/33}, para. 98 (“This is an email to Stefan Matthews dated 9 July 2015 at (08.46), in which I forward an email from me to David Kleiman...” [emphasis added]). When pressed with that point in cross-examination, Dr Wright sought to deny the plain meaning of his own statement, saying that he only meant that this was an email to Stefan Matthews, not that it was an email genuinely sent to Stefan Matthews by him: {Day4/77:12} to {Day4/79:22}.
- 443.4. Quite apart from all the internal contradictions in Dr Wright’s story, there is no apparent reason why disgruntled ex-employees and Ira Kleiman would go to great effort to produce and plant fake versions of a real email which, even in those fake versions, still supports Dr Wright’s claim to have authored the Bitcoin White

Paper (and to have used David Kleiman for no more than review purposes). No explanation has been given as to why they went to all this effort just to add the short third paragraph (“I cannot release it [the White Paper] as me. GMX, vistomail and Tor. I need your help and I need a version of me to make this work that is better than me...”).

- 443.5. It is wildly implausible that this cabal of enemies of Dr Wright would not only create fake versions for use in the Kleiman proceedings, but take over his email account in July 2015; find out that he was in discussions with Mr Matthews for a bail-out of his businesses at that time; and trouble to send Mr Matthews this fake email, which could and would easily have been found out (as well as being unlikely to do Dr Wright any harm).
- 443.6. It also beggars belief that Dr Wright’s enemies should have produced multiple versions of the fake email, which appear in various places in Dr Wright’s disclosure ({ID_001318}; {ID_001288}; {ID_000464}; {ID_000465}; {ID_001711}) but Dr Wright does not have a single copy of the real email as sent to Mr Kleiman.
- 443.7. In seeking to (i) maintain his story from his Defence that the anachronistic sender address is due to a change of email servers and (ii) come up with the story of his enemies forging the body of the email (in order to account for all the signs of editing in the sequence of documents discussed in PM18), Dr Wright has arrived at a doubly implausible version. He has now to say that the document has been modified from its original form both by his enemies doctoring it and by it undergoing accidental changes of appearance due to server moves.
- 443.8. Dr Wright’s explanation of the sender address in the email header changing as a result of server moves is rejected by Mr Madden in PM18 [71] {H/83/30}. As Mr Madden explains, the sender email address would not change as a result of such moves. Mr Madden’s evidence on this point has never been contradicted and was not challenged in cross-examination.

(d) Conclusions

444. In relation to ID_000465, I am entirely satisfied the email was forged by Dr Wright. His explanations are absurd.
445. In relation to ID_001318, I am also entirely satisfied the email was forged by Dr Wright. In summary:
- 445.1. the sender address relates to a domain which had not been created at the time of the email supposedly being sent.
- 445.2. Dr Wright’s explanation of the sender name changing in the email as a result of moves between servers has been rejected by the forensic documents expert, Mr Madden, whose evidence is the only expert evidence on the point and who was not challenged on this matter in cross-examination.
- 445.3. Dr Wright’s account of all versions of the Kleiman email in disclosure being fakes produced by others in an attempt to harm him should be rejected. Dr Wright’s

account is inconsistent with his own Defence and fourth statement; it lacks any supporting evidence; and it is undermined by a series of other considerations (including that he sent a copy of this email to Stefan Matthews in July 2015, presenting it as genuine).

445.4. Overall and again, his explanations are absurd.

24. Timecoin ODT Whitepaper (Reliance Document) {ID_000254}

446. The document purports to be a precursor draft of the Bitcoin White Paper and is presented as if written by Dr Wright. It is dated in the period 6 May 2008 to 12 December 2008 in its metadata, and Dr Wright states its approximate date to be 6 May 2008 in his Chain of Custody information.

(a) COPA's Reasons for Alleging Forgery

447. The document has been backdated. Rather than being a precursor document to the Bitcoin White Paper as it purports to be, this document has been created from the Bitcoin White Paper subsequently and edited in such a way that it appears as if it was precursor work. [PM2 60-64]].

448. {ID_000254} has apparently been converted from the Bitcoin White Paper (which is a PDF) into a more easily editable format and has then undergone further conversions via intermediate documents [PM2 [60-64]]. Font configurations and the absence of diagrams are consistent with this conclusion [PM2 [17-28]]. No such intermediate document has been disclosed.

449. Diagrams have been omitted from this document as a result of the conversion process from PDF. The inclusion of the object replacement character `☐` within the document [a point where a diagram would be expected to appear is consistent with {ID_000254} being created by a process of conversion of a different document. [PM2 [28]].

450. Where diagrams are absent, the document nevertheless preserves margin indentations from the Bitcoin White Paper PDF, but which do not match the content of the document. [PM2 [29-37]].

451. The document irregularly contains words throughout in which hyphens ought to appear but are missing. This is not consistent with ordinary dictation or typing error but is as an artefact of conversion from PDF and backdating. [PM2 [38-44]].

452. A conversion of the Bitcoin White Paper PDF to editable form would result in corruption of formulae. In each case where those formulae would have appeared corrupted, they have been deleted from {ID_000254}, leaving behind white space. [PM2 [45-48]].

453. The document contains irregular line breaks consistent with conversion from the Bitcoin White Paper PDF into editable form and backdating. [PM2 [49-51]].

454. The document contains text that matches the corrected text of the Bitcoin White Paper (2009 version) [PM2 [12]]. It does not match the October 2008 or November 2008 versions of the Bitcoin White Paper, even though this document purports to be earlier than both of them.

455. The document has been disclosed with irregular metadata listed in relation to its Created and Last Accessed external metadata properties. [PM2 [6-11]].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

456. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (presenting as a predecessor draft of the Bitcoin White Paper and supposedly written by him in early 2008), contrary to fact. Further, the document uses the same software (OpenOffice Writer) as used by Satoshi Nakamoto.
457. Dr Wright has positively asserted in these proceedings that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.
458. The document bears Dr Wright’s name and contact details.
459. The contact details included refer to Charles Sturt University. In his evidence in these proceedings, Dr Wright has claimed to have drafted and shared versions of the Bitcoin White Paper while studying at Charles Sturt University, and to have discussed the concepts with teaching staff at Charles Sturt University. [Wright1 [87], Wright4 [52]].
460. In his evidence in these proceedings, Dr Wright positively relies upon the presence of the word “Timecoin” in documents he has disclosed as being precursor work to the Bitcoin White Paper and thus forming part of the story behind his claim to be Satoshi Nakamoto. Moreover, on the basis of his narrative, this is a detail which would have been known to him and to few, if any, others. [Wright1 [26], Wright4 [6.c.x.]].
461. The document contains metadata that purports to pre-date the Bitcoin White Paper, indicating efforts at backdating to support Dr Wright’s claim.
462. Dr Wright claims, in his chain of custody information, that only he drafted this document.
463. Dr Wright has stated in these proceedings that this was a draft of a document under the name TimeCoin which later became bitcoin. [Exhibit CSW-5]
464. Dr Wright has not disclosed the apparent intermediate document from which this document was created. [PM2 [63]].

(c) Dr Wright’s Explanations and COPA’s Rebuttal

465. Dr Wright sought to explain away a number of the anomalous findings by saying that both this document and the Bitcoin White Paper were originally created in \LaTeX and that the commands in the original code accounted for such features as (a) the notes being in a font which was the same as would later be used for tables in the White Paper; (b) the OBJ character; (c) indentation in empty lines corresponding to the size of flowcharts later featuring in the Bitcoin White Paper; and (d) irregularities in hyphenation. See {CSW/2/26} to {CSW/2/28}; {Day3/139:21} to {Day3/152:8}.
466. Dr Wright sought to explain away the content of the document matching the March 2009 version of the Bitcoin White Paper rather than the earlier released versions by claiming that he does not “write things linearly”. He claimed to have used text in this early document, edited it out again in the August and October 2008 versions of the White Paper and then added it back in again for the March 2009 version. See {CSW/2/28} to {CSW/2/29}; {Day3/153:9} to {Day3/154:10}.
467. Dr Wright sought to explain away the irregular metadata by saying that his use of “Xcopy and related tools” somehow accounted for it: {CSW/2/28}.

468. COPA submitted that this explanation should be rejected as dishonest for the following reasons:

- 468.1. The Bitcoin White Paper was not originally created in L^AT_EX, as convincingly established by the expert evidence of Mr Rosendahl (which was agreed by Dr Wright’s expert, Mr Lynch, in the joint statement). There is equally no basis for saying that this document was originally created in L^AT_EX. Furthermore, no L^AT_EX.tex file has been provided to support Dr Wright’s account in relation to the creation of this document.
- 468.2. The use of L^AT_EX to create the document would not account for the presence of the OBJ (object replacement) character, which on the expert evidence is purely and simply an artefact of conversion from PDF: see PM2 [26-28] {H/17/8}.
- 468.3. Neither would the use of L^AT_EX to create the document account for Dr Wright having predicted in a precursor document precisely the size required for diagrams and having applied coding to mark out indentations for the diagrams in what would be empty space in the document.
- 468.4. Neither would the use of L^AT_EX to create the document account for there being irregular hyphenation in precisely the points where line breaks appear in the text of the Bitcoin White Paper. Dr Wright could only weakly account for this as him doing “unusual things” and deliberately including irregular hyphenation {Day3/10:11}. This explanation was nonsensical. Further, it assumed that his deliberate inclusion of irregular hyphenation just happened by coincidence to fall in the places where line breaks existed in the Bitcoin White Paper.
- 468.5. Dr Wright’s explanation for the irregular metadata was at odds with the independent expert evidence. It also assumed that this irregularity happened by coincidence to co-exist with the other irregularities, when in fact all suggest backdating.
- 468.6. Dr Wright’s explanation for the content of the document including changes which were made to the Bitcoin White Paper between its 2008 and 2009 versions is inherently unlikely. It also assumes that this irregularity happened by coincidence to co-exist with all the other irregularities, when in fact all suggest backdating.

(d) Conclusion

469. The explanations gathered in Appendix 1 to Dr Wright’s Closing confirm his reliance on both this document and the Bitcoin White Paper being based on earlier L^AT_EX files and his allegation that the diagrams were created with L^AT_EX. I find those explanations to be false, in view of my more general finding that the Bitcoin White Paper was not produced in L^AT_EX. Other explanations (the indentations, the supposed ‘steganographic watermarking’ and formatting irregularities) are just a desperate attempt to explain away Dr Wright’s failure to be able to reproduce the Bitcoin White Paper in L^AT_EX. The ‘non-linear’ working explanation (see [468.6] above) is ridiculous, in the light of all the

other evidence which clearly indicates that this document was forged by Dr Wright. I so conclude.

25. “Block diffusion within bitcoin” (Reliance Document) {ID_000367} / {L3/185/1}

470. The document purports to be precursor work to the Bitcoin White Paper relating to network theory and mentioning “bitcoin”. It is dated to the period 15 August 2008 to 8 September 2008.

(a) COPA’s Reasons for Alleging Forgery

471. The document has been backdated. [PM30 [21-24]].

472. The document contains content taken from a third-party source available online which was published not before 29 April 2012 (the “2012 ResearchGate Article”). [PM30 [8-13]]

473. The document includes a reference section that closely matches the 2012 ResearchGate Article. However, five references which would have been anachronistic to 2008 have been deleted from the document. Although the five references have been removed from the references section, the main body of the text still mentions 4 out of 5 of them. [PM30 [14-18]].

474. The document contains text formatted in fonts which are not typical for Microsoft Windows and MS Word documents, but which fonts are included in the 2012 ResearchGate Article. Not only the text, but also its font formatting, has been copied from the 2012 ResearchGate article. [PM30 [19-20]].

475. The document was created within 1 minute before {ID_000371}, another “Lynn Wright document” bearing independent indicia of tampering. [PM27 [17b]].

476. ID_00367 has an implausible edit time in excess of 24 days. During that time it was saved only once, implying that it was left unsaved for 34,881 minutes before being saved. [PM30 [5-8]].

477. The document contains passages of red text and placeholder brackets apparently indicating that the document was in the process of being edited with a view to changing the references, but without that process being finalised before disclosure. [PM30 [24]].

478. The document was emailed from Dr Wright to Lynn Wright on 18 January 2020. The email contains several manipulated documents purported to be in the custody of Lynn Wright. [{ID_003930}, PM30 [1], PM 26 [25-38]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

479. Dr Wright has positively asserted that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

480. In his evidence in these proceedings, Dr Wright relies on purported work of the type referred to in this document as “foundational” for Bitcoin. [Wright1 [53-54]].

481. The effect of the tampering is therefore to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (suggesting work by Dr Wright on a subject of interest to him, but with reference to Bitcoin), contrary to fact.

482. In these proceedings (and previously), Dr Wright has claimed that his development of Bitcoin was influenced by work on networks as covered by this document. It is to be inferred that this forgery was done to support that aspect of his claim. [Wright1 [54]].
483. Although the document metadata presents Lynn Wright to have been the only author, it was actually created by Dr Wright in the name of Lynn Wright after February 2013, and sent from Dr Wright to Lynn Wright by email long after they were separated, contained in a zip file along with many other files bearing evidence of backdating and tampering including several documents on which Dr Wright relies. The metadata of that zip file is itself also irregular. [{ID_003930}, PM30 [1], PM26 [25-38]].
484. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright's Explanations and COPA's Rebuttal

485. In Appendix B to Wright11, Dr Wright sought to explain away the presence of content from the 2012 ResearchGate Article by claiming that he had engaged in academic exchanges in which it was commonplace to share working notes: {CSW/2/36}. When pressed in oral evidence, he doubled down by saying that he had received one or more prior versions of the Chinese academics' article: {Day2/147:14} to {Day2/153:7}.
486. Dr Wright sought to explain the presence in his document of non-standard fonts which appear in the 2012 ResearchGate Article by saying that they were imported from an unidentified Word document: {CSW/2/39}.
487. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 487.1. The document replicates whole sections from the 2012 ResearchGate Article. Dr Wright's story therefore assumes that he had an advanced pre-publication paper from Chinese academics working in a field different from his own, and that he had this document years before those academics actually published their work. That is simply incredible.
- 487.2. Dr Wright has been unable to provide any evidence of ever having had contact with these academics and has not disclosed the supposed pre-publication paper.
- 487.3. The text which Dr Wright copied contained references to at least four works which themselves post-dated the supposed date of Dr Wright's document. His story therefore assumes that either (i) the Chinese academics themselves happened to have pre-publication versions of all those other works while they were writing their pre-publication draft or (ii) he himself had pre-publication versions of the other works and happened to cite them in the places where the Chinese academics would later cite them in their own paper. Each of those possibilities beggars belief.
- 487.4. On Dr Wright's account, either it's a coincidence that his document happens to contain non-standard fonts which also feature in the ResearchGate article or the Chinese academics had produced a draft including those fonts years before its ultimate publication. This is another implausible but essential feature of the story.

487.5. On any view, Dr Wright's document copies extensively from text which appears in the 2012 ResearchGate Article, but it does not reference the Chinese academics whose work is being copied. It is difficult to see why Dr Wright would produce a document in this way for legitimate research purposes.

487.6. Dr Wright's document is a very strange one, for example because (at p3) it includes a scheme of notations (taken from the 2012 ResearchGate Article) for equations which are themselves omitted. It gives every impression of a work which has been created hastily, based on the 2012 ResearchGate Article, as part of the false trail of supposed academic work leading up to production of the Bitcoin White Paper.

(d) Conclusion

488. In my judgment, this document is plainly a clumsy forgery created by Dr Wright.

26. The SSRN Submission (Particulars of Claim at [30]-[35] {A/2/10}) The Fourth Pleaded Example

489. On or about 21 August 2019, Dr Wright uploaded to the Social Science Research Network (SSRN) a document which he asserts to be the ‘final’ version of the Bitcoin White Paper, in which he is named as the author. The post claims that the document was written on 21 August 2008. Dr Wright posted two versions of what he claims to be his original version of the Bitcoin White Paper within SSRN.

(a) COPA’s Reasons for Alleging Forgery

490. The metadata of the actual Bitcoin White Paper has a creation date of 24 March 2009. The first version Dr Wright submitted to SSRN has discrepancies in the document properties. Examination of this first version reveals that its metadata was tampered with - supplemental metadata was added to this version to superficially indicate a creation date of 24 January 2008 and a “modified” date of 21 May 2008. This added metadata displays as the creation and modified date in the user interface of standard consumer software, i.e. the tampered dates are what would appear to a layperson upon cursory examination. However, a forensic examination of the metadata of this first version reveals another “creation date” entry embedded within the metadata, specifying a creation date that corresponds exactly to the creation date of the Bitcoin White Paper, specifically “/CreationDate (D:20090324113315-06:00)”.

491. The metadata of this first version includes an entry indicating that the original creation date is 29 March 2009, which is at odds with the creation date of 24 January 2008 that shows up in other parts of the metadata. In the premises, it is averred that this first version posted to SSRN is actually a copied version of the Bitcoin White Paper with alterations to its metadata (at least that the dates of 24 January 2008 and 21 May 2008 were added to the genuine metadata of the Bitcoin White Paper) to make it appear that it was created in 2008. It is averred that the dates of 24 January 2008 and 21 May 2008 were added to the genuine metadata of the Bitcoin White Paper by Wright to support his attempt to claim that he had drafted the Bitcoin White Paper.

492. The second version that Dr Wright uploaded to SSRN, which is the version he has currently uploaded there, had further changes to the metadata compared to the first version. However, the original creation date of 24 March 2009 from the actual Bitcoin White Paper still exists within the second version’s metadata. COPA allege that Dr Wright again sought to manipulate the metadata a second time but failed to remove the original creation date.

493. The genuine metadata in the actual Bitcoin White Paper and metadata contained within the two versions posted on SSRN by Dr Wright all state the 24 March 2009 date as being the creation date, with the dates/times agreeing to the millisecond.

(b) Dr Wright’s Explanations and COPA’s Rebuttal

494. In his Defence, Dr Wright admits that the two versions of the Bitcoin White Paper which Dr Wright uploaded to SSRN were not created in 2008 or 2009, but in 2019. He claims that his purpose in uploading these versions was not to prove that he was the author of the Bitcoin White Paper but “to assert [his] authorship of the White Paper”: see Defence,

[55-56] {A/3/16}. In his Defence, Dr Wright gives no explanation for the uploaded versions having metadata creation dates of 2008 and 2009 respectively.

495. In Appendix B to Wright11, Dr Wright repeats the account given in his Defence. However, he now adds the assertion that he prepared each document in L^AT_EX and that he set the metadata in L^AT_EX to refer to creation dates of 2008 and 2009 respectively. See: {CSW/3/8}.
496. COPA submitted that Dr Wright's explanation should be rejected for the following reasons:
- 496.1. As established by the evidence of Mr Rosendahl (which was agreed in the joint statement by Dr Wright's expert, Mr Lynch), Dr Wright's account of the Bitcoin White Paper being authored in L^AT_EX is false. There is equally no basis for saying that the versions of the White Paper uploaded to the SSRN in 2019 were created in L^AT_EX.
- 496.2. Accordingly, the only conclusion to be drawn from these versions having been created by Dr Wright in 2019 (as is admitted) but containing metadata referring to 2008 / 2009 creation dates is that the metadata information was deliberately backdated.
- 496.3. In summary, Dr Wright in 2019 posted publicly two versions of the Bitcoin White Paper which he presented as his work and which contained metadata timestamps backdated to 2008. In the context of Dr Wright claiming to be Satoshi Nakamoto and to have written the Bitcoin White Paper, the only plausible explanation is that he was presenting these to the world as early originals of the paper written by him.

(c) Conclusion

497. In addition to the points set out above, I refer also to the analysis in the main Judgment at [489]-[495] of what Dr Wright did with the pdfcreationdate command and how those commands were added to the White Paper LaTeX files in November 2023.
498. Accordingly, Dr Wright's latest explanation, based on the assertion that the Bitcoin White Paper was created in L^AT_EX, is plainly false. The document was deliberately backdated by Dr Wright, in an attempt to present those two versions of the Bitcoin White Paper as early originals written by him. This was all lies.

27. False NAB Account Records {ID_003455} / {L15/100/1}

499. This document is an email sent from Dr Wright to a collaborator, Jimmy Nguyen, on 10 June 2019. There is no reason to doubt the email was sent on that date. The allegation of forgery relates to the screenshots presented by Dr Wright in the email. The screenshots are of banking records from his personal bank account. The text of the email explains the relationship of the information in those screenshots to his claim to be Satoshi Nakamoto.
500. The email and attached screenshots present as showing Dr Wright's purchase, using his Visa Credit card, of a vistomail email address on 30 August 2008. Although this is not explicitly stated, the clear implication is that the vistomail address in question is that which was used by Satoshi Nakamoto in 2008.

(a) COPA's Reasons for Alleging Forgery

501. The banking record in the email has been admitted by Dr Wright to be a false document.
502. Dr Wright did not admit that record to be false until after service of the Madden Report.
503. The filenames of the images embedded within the email indicate that the email was edited through an unusual process by which 6 images were embedded into the email, and the email was saved as a draft. However all but two of these images were deleted before sending. [PM17 [14-15]].
504. The missing images from the email editing process have not themselves been disclosed. [PM17 [16]].
505. The content of the screenshots indicates that they were taken in 2018 or afterwards. [PM17 [18-28]].
506. Native format exports of the documents would have been available to Dr Wright but were not provided in disclosure. [PM17 [11]].
507. Taking into account the transactions shown in the document, it would not have been possible to take authentic screenshots using the software indicated in the screenshots themselves. By the time that software was released (2018), the transactions shown were from a date which was 10 years or more in the past. The bank in question stores records for online access for no more than 2 years. [PM17 [29-35]].
508. The content of web page screenshots is freely manipulable in Google Chrome, being the software shown as being used in the screenshots. [PM17 [36-40]].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

509. The false screenshots in the document are taken from Dr Wright's own personal bank account.
510. The false screenshots in the document include a screenshot of the account holder details specifically identifying Dr Wright as the account holder.

511. Dr Wright must have known that the screenshots in question were false when he sent the email (as indeed he now admits he did).
512. Dr Wright did not admit the documents to be false until after service of the Madden Report.
513. Dr Wright is and at all material times has been in possession of documents that prove this document to be false (in the form of authentic, contemporaneous bank statements for the same account in question, but which do not bear the transaction information on which he relies).
514. Dr Wright did not disclose the authentic bank statements in accordance with his duties of disclosure. Instead, Dr Wright disclosed the false screenshots.
515. Dr Wright has publicly asserted (notably in his “Evidence and Law Article”) that he was in control of records of the kind shown in this document, which he purported to be decisively probative by way of evidence of his claim to be Satoshi Nakamoto. Such public assertions were made at a time contemporaneous to the date of this document being created.
516. Dr Wright’s attempts to explain the records as false documents supplied to him by an unknown person over Reddit, and to explain his email as intended to check the falsity of the documents, are highly implausible. Dr Wright’s attempted explanations rely on information being purportedly passed to him by his previous legal representative who has died, and are unsupported by disclosure.
517. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (i.e. as proving his purchase of a domain associated with Satoshi), contrary to fact.
518. The document is sent from Dr Wright to a collaborator of Dr Wright’s and contains text written by Dr Wright apparently intended to persuade the recipient that the information is supportive of his claim to be Satoshi Nakamoto.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

519. After receiving the first Madden report, Dr Wright through his solicitors admitted that these NAB records were fake (see letter of 27 September 2023 {M/2/205}). Then, in his third statement in the BTC Core proceedings (served on 16 October 2023) {E1/4/1}, he provided his explanation. He claimed that (a) a pseudonymous Reddit user sent the records by direct message to Amanda McGovern, a now-deceased lawyer in the firm Rivero Mestre (his lawyers in the Kleiman proceedings); (b) on 9 or 10 June 2019, Ms McGovern forwarded the records to Dr Wright; (c) Dr Wright did not believe that the records were genuine, so he immediately forwarded them on to Jimmy Nguyen to check. He said that he had not used his NAB credit card for the purchase of the Bitcoin domain but had used “other payment methods”.
520. In his oral evidence, Dr Wright reiterated that account: {Day2/29:14} to {Day2/43:4}. He also added the detail that the card number identified in the email and the records was the number for a debit card (not a credit card) and that that card had been cancelled in

2005 {Day2/31:2}. He said that this supposed feature had led him to suspect the records (“this was part of why I was pointing out the problem”).

521. COPA submitted that Dr Wright’s explanation should be rejected as dishonest for the following reasons:

521.1. The natural reading of this email from 10 June 2019 attaching the screenshots of the NAB records was that these were records of genuine purchases with a number which was (as the email said) “my old credit card” relating to a Vistomail account. The text of the email is not consistent with Dr Wright’s account that he was asking Mr Nguyen to check records he believed to be fake.

521.2. The fact that Dr Wright was putting forward these as real records of purchase of the Bitcoin.org domain and the Satoshi Vistomail account is further reinforced by (i) the fact that he issued a blog “Evidence and Law” in April 2019 saying that he had used “my credit card” to purchase the Vistomail account and the Bitcoin.org domain {L14/451/3-4} and would deploy currently valid records in evidence in court to prove this; and (ii) the fact that he had given an interview in April 2019 saying that he had and would deploy a credit card statement showing that he had purchased the Bitcoin.org domain and the Satoshi email account {O4/25/34}, {O4/25/36}. He acknowledged the blog post and interview, and their plain meaning, in his oral evidence: {Day2/26:11} to {Day2/29:13}.

521.3. The statements in his blog post and interview would have made no sense if, as Dr Wright now says, (i) he had not paid for the domain and email account with a credit card at all; (ii) he did not have credit card records to prove it.

521.4. On Dr Wright’s account now, the sequence of events was that (i) he told the world in April 2019 that he could prove his purchase of the domain and email account with credit card records; (ii) he happened not to have such records; and (iii) the mysterious Reddit user, with (presumably) no basis for knowing that Dr Wright had no such records, happened two months later to create some and seek to plant them on him. This is wholly implausible.

521.5. Furthermore, even if this Reddit user did exist, how did they know all of Dr Wright’s financial details, where he banks, what his credit card numbers were etc. It would mean all of this information was stolen or known to them.

521.6. Dr Wright’s account that he immediately realised that these records were fake but sent them to Mr Nguyen to check their validity is also implausible. Rivero Mestre were his lawyers in the Kleiman proceedings. There is no suggestion that Mr Nguyen had any special expertise in Australian banking records or in forensic document examination.

521.7. The account Dr Wright gave in oral evidence for why he suspected the records (i.e. that the card number was for a debit card, not a credit card, and that it had been cancelled in 2005) was another lie, as was quickly established. Documents in Dr Wright’s disclosure include (i) NAB statements relating this card number to an NAB Low Rate Visa credit card with a credit limit which was still in use in 2008 (e.g. {L7/390/1}); and (ii) receipts for payments actually made with this credit card after 2005, including for instance in May 2009 (e.g. {L5/70/38} –

receipt describing a payment to Lee Rowans Gardens with this “NAB visa credit card”). Dr Wright’s attempts in cross-examination to make his previous evidence fit these records were hopeless: {Day2/79:15} to {Day2/82:12}.

521.8. It is implausible that Dr Wright became aware of these fake documents being planted on him in June 2019, troubled to check that they were fake, but later disclosed them in these proceedings without it any mention that they were false documents planted on him.

521.9. Dr Wright sought to answer the charge that he had first come up with the story involving Ms McGovern after Mr Madden had debunked these records by saying that it was mentioned in court in the *Kleiman* litigation. When he was pressed to confirm this, and plainly realising that transcripts could be checked, he suggested that it may have been mentioned in closed session. When he was pressed again and it was pointed out that it may be possible to check even closed session transcripts, he retreated, saying only that he had “told my various solicitors”, including individuals other than Ms McGovern. When I pressed Dr Wright further to identify these other persons, he spoke of a “Jonny”, who he claimed was a Sikh. He said he would revert with Jonny’s last name, but did not do so. See: {Day2/34:7} to {Day2/35:12}.

(d) Conclusion

522. In addition to COPA’s submissions as set out above in this section, I refer also to [144]-[147] in the main Judgment, all of which demonstrate the absurdity of Dr Wright’s attempted contortions to explain away this document. These records were plainly forged by Dr Wright in order to substantiate his claim to have purchased the vistomail address in 2008. His attempts to blame the forgery on others are absurd.

28. Economics of BitCoin Nodes (Reliance Document) {ID_000227} / {L3/219/1}

523. The document purports to contain notes relating to “The Economics of central core BitCoin Nodes” and is dated as if it was created in the period September-October 2008.

(a) COPA’s Reasons for Alleging Forgery

524. The document has been backdated. Within the document are several hidden embedded zip files containing references to Microsoft Schema dating from 2014-2015 which did not exist in 2008. These references are not visible to someone editing the document or reviewing its internal content without forensic analysis. [PM26 [16-17]].

525. Equations within {ID_000227} were created with MathType software v6.9, a version dating from February 2013 which did not exist in 2008. [PM40 [32, 42]].

526. The document contains redundant hidden content of previous edits which do not appear on the face of the document. [PM26 [19-20]].

527. The hidden embedded text within the document includes references to a web page URL which did not exist until on or after 11 April 2019. [PM26 [21]].

528. The reference to the 11 April 2019 URL has been deleted from the face of the document and replaced with a footnote which appears to be a “note to self” about what would need to be added in a future draft (“Note: I will need to link to laws such as the CFAA (USA) – see LLM[...]”). Other footnotes have been introduced or edited to refer to Bitcoin in the future tense. The misleading effect of these edits is to make the document appear as if it was created at a time before Bitcoin was created. In fact, the document was created later, after 11 April 2019, and the anachronistic content was obscured by editing. [PM26 [19-24]].

529. The document was created from a precursor document after 11 April 2019. No precursor document has been disclosed by Dr Wright. [PM26 [23]].

530. The document {ID_000227} has an implausible edit time of 20 days 19 hours and 22 minutes consistent with the use of clock manipulation techniques. [PM26 [6-10]].

531. The document was emailed from Dr Wright to Lynn Wright on 18 January 2020. The email contains several manipulated documents purported to be in the custody of Lynn Wright. The metadata of that zip file is also irregular. [{ID_003937}, PM26 [1, 25-38]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

532. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (suggesting work done by him in September / October 2008 which looked ahead to Bitcoin), contrary to fact.

533. Although the document metadata purports Lynn Wright to have been an author, it was actually created by Dr Wright in the name of Lynn Wright after 11 April 2019, and a copy later sent from Dr Wright to Lynn Wright by email long after they were separated, contained in a zip file along with many other files bearing evidence of backdating and

tampering including several documents on which Dr Wright primarily relies. The metadata of that zip file is itself also irregular. [{ID_003927}, PM26 [1, 25-38]].

534. Dr Wright shared a document with identical content on social media on 16 January 2020, contemporaneously with the aforesaid email to Lynn Wright. Upon request in these proceedings, Dr Wright has repeatedly declined to disclose a copy of his posts to social media accounts. Since the date of the Request, Dr Wright has claimed to have lost access to the relevant social media account.
535. The content introduced into the document, having the effect of making it appear to date from earlier than its true date, is phrased in the first person as a note from Dr Wright to himself.
536. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.
537. Dr Wright is recorded in the metadata as the first author.
538. Dr Wright has not disclosed the precursor documents [PM26 [23]].

(c) Dr Wright's Explanations and COPA's Rebuttal

539. Dr Wright sought to explain away the presence of anachronistic references to Mathtype software and Microsoft schemas by referring to the effects of his computing environment in supposedly causing such elements to be inserted into documents merely through a document being opened (without any user interaction): Wright11 Appendix B, [6.3 to 6.4]{CSW/2/20}.
540. Dr Wright sought to explain the presence of remnant text, including the URL in the footnote dating from 2019, by saying that text from another document had become merged with the text of this document as a result of features of his computing environment: Wright11 Appendix B, [6.5 to 6.6] {CSW/2/20}. He also suggested that the article at the URL had limited relevance to the material content of his document.
541. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
 - 541.1. Dr Wright's explanation is contradicted by the clear expert evidence of Mr Madden, which is that the Mathtype references and schema references could not be inserted without the document being interacted with by a user, which would in turn result in updating of the metadata timestamps of the document. The fact that the metadata timestamps for this document were dated to 2008 but the raw data contained the elements set out above shows that the document has been forged by backdating. See Madden4, [158]; Madden / Placks joint statement2 at [8]; {Day16/35:19} to {Day16/38:11}; {Day16/125:7} to {Day16/125:18}.
 - 541.2. It is wildly implausible that the features of a shared computing environment would cause two documents to become merged, and to do so in a way which resulted in the document not being corrupted and appearing normal on its face. See Madden4, [159]; Madden / Placks joint statement2 at [8].

541.3. In his evidence, Dr Wright tried to justify his position by going so far as to claim implausibly that any digital document more than a few years' old could be expected to have anomalous features in its raw data. He claimed never to have seen a file older than five years which was pristine in metadata, before being compelled to accept that the Bitcoin White Paper is pristine {Day3/20:5} to {Day3/20:25}.

541.4. In his evidence, Dr Wright attempted to explain that the footnote in the edited version of the document was obviously more apt to the text than the footnote in the remnant text. In doing so, he put forward a bizarre interpretation of the Bitcoin system in which the availability of injunctive relief is supposedly essential to preventing subversion of the system: {Day3/7:18} to {Day3/15:16}.

(d) Conclusion

542. The points on this document gathered in Appendix 1 to Dr Wright's Closing repeat a number of points I have already found to be unconvincing in relation to {ID_000217} above and they are equally unconvincing here. Furthermore, the argument that this document is the result of text from another document becoming merged into the document is particularly absurd. The argument presupposes disk read errors such that a disk sector containing a portion of another document is merged into the saved version of this document but without any trace of corruption or discontinuity.

543. In short, I found Dr Wright's explanations wholly unconvincing, especially in the light of the detailed specific points made by Mr Madden. This document was plainly forged, and forged by Dr Wright.

29. “Noncooperative finite games” (Reliance Document) {ID_000396} / {L3/203/1}

544. This document purports to be precursor work to the Bitcoin White Paper relating to network theory and mentioning “bitcoin”. It is dated to 10 September 2008.

(a) COPA’s Reasons for Alleging Forgery

545. The document has been backdated. [PM27 [38]].

546. The document was created within 3 minutes after {ID_000395}, another “Lynn Wright document” bearing independent indicia of tampering. [PM27 [17.a.]].

547. The document was created in the same user session as {ID_000371}, another “Lynn Wright document” which contains common content as well as independent indicia of tampering.

548. Along with {ID_000371}, this document was created by copying content from an intermediate document deriving from a publicly available source document. [PM27 [18-25]].

549. The document contains a redundant reference section listing sources which do not relate to the main body content of the document. [PM27 [20]].

550. The document contains hidden, embedded text of previous editing history, including comments which have since been deleted from the document. Among the embedded text is a series of comments dating from 22 October 2008. However, that was some 6 weeks in the future at the purported Created and Last Modified date in the internal metadata of the file. [PM27 [26-30]].

551. The document has an edit time of 1 minute, but the content within the document would have taken longer to create, indicating that the content was imported from a donor source [PM27 [13-15]]. No donor source document has been disclosed.

552. The document was conducted by an unlikely sequence of saves between two authors in two minutes. [PM27 [5-6]].

553. The document editing period overlaps with other similar documents in Dr Wright’s disclosure. [PM27 [32]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

554. Dr Wright is recorded as an author within the metadata of this document.

555. Dr Wright has positively asserted that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

556. In his evidence in these proceedings, Dr Wright relies on purported work of the type referred to in this document as “foundational” for Bitcoin. [Wright1 [53-54]].

557. The effect of the tampering is therefore to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (suggesting work by Dr Wright on a subject of interest to him, but with reference to Bitcoin), contrary to fact.
558. In these proceedings (and previously), Dr Wright has claimed that his development of Bitcoin was influenced by work on networks as referred to in at least the references section of this document. It is to be inferred that this forgery was done to support that aspect of his claim. [Wright1 [54]].
559. Dr Wright has not disclosed the donor document or intermediate source document from which the content of {ID_000396} has been generated.
560. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright's Explanations and COPA's Rebuttal

561. In Appendix B to Wright11, Dr Wright sought to explain away the embedded text in the metadata containing a date / time reference for 22 October 2008 by saying that, while the document was created in September 2008, it could have been accessed in December 2008. He suggested that a user on a shared computing environment could have accessed the document, causing that reference to be inserted, but not interacted with the document (even to save it), thus accounting for the last saved timestamp remaining at 10 September 2008. See {CSW/2/40}.
562. In Appendix B to Wright11, Dr Wright sought to explain the anomalous edit time of just one minute by claiming that the document was produced by extremely quick cut-and-paste operations. See {CSW/2/42}.
563. In the relevant section of Appendix B, Dr Wright did not address the fact that this document featured a list of references at the end despite the text not actually referring to any of the reference works. That list of references originated in a paper by Olfati-Saber, from which Dr Wright copied when creating another of his documents: {ID/000371}: see PM27 [18-24].
564. COPA submitted that Dr Wright's explanation should be rejected as dishonest for the following reasons:
- 564.1. Dr Wright's explanation for the presence of the date / time reference is contradicted by the clear expert evidence of Mr Madden, which is that such a reference could not be inserted without the document being interacted with by a user, which would in turn result in updating of the metadata timestamps of the document. The presence of the anachronistic reference shows that the document has been forged by backdating. See Madden4, [158]; Madden / Placks joint statement 2 at [8]; {Day16/35:19} to {Day16/38;11}; {Day16/125:7} to {Day16/125:18}.
- 564.2. On Dr Wright's account, he created this document within just one minute by cutting and pasting sections from other (unidentified and apparently undisclosed) documents. It is implausible that he would produce a genuine research paper in this way. It is also highly unlikely that he would remember this method of

creation 15 years on without having access to, and being able to identify, the underlying documents.

564.3. Dr Wright has failed to give any account for his addition to this document of a references section consisting entirely of works not referenced in the body of the text. The fact that this section matches a section from another of his document, which in turn copied from a published work, supports COPA's case that this is another forgery produced in haste.

(d) Conclusion

565. The points made by and on behalf of Dr Wright do not begin to provide a viable alternative explanation to the detailed points made by COPA. Once again, I find this document was plainly forged by Dr Wright.

30. Coffee-stained printout of Bitcoin White Paper (Reliance Document) {ID_004011} / {L2/234/1}

566. {ID_004011} is a scan of the same document shown at {ID_003330}. It purports to be a photograph of the front page of a printout of the Bitcoin White Paper with Dr Wright's name and contact details at the top and a note in Dr Wright's own handwriting. The document is stapled and bears coffee stains. Dr Wright claims the original date of the document to be 3 October 2008 in his Chain of Custody information.
567. Compared to {ID_003330}, {ID_004011} shows further manuscript amendments added by Dr Wright in his own handwriting which were not present in {ID_003330}.

(a) COPA's Reasons for Alleging Forgery

568. {ID_003330} and {ID_004011} bear the same coffee stain and other physical characteristics. They are plainly two records of the same hard-copy document at different points in time (the 'Coffee-Stained Printout').
569. {ID_004011} has additional handwritten annotations which do not appear in {ID_003330}.
570. The Coffee-Stained Printout is a copy of an A4-size printout of the Bitcoin White Paper said to date from 3 October 2008. It bears Dr Wright's name and contact details [Charles Sturt University, in a manner identical to {ID_000536}, {ID_000537}, and {ID_000538}], and those details in those other documents are otherwise identical to this document's face-value content [PM3 [10]: Style 4 in relation to ID_00536 to ID_00538, and Style 8 in relation to {ID_004011}].
571. The Coffee-Stained Printout is a printout of a digital document. When imaged (whether as {ID_003330} or as {ID_004011}), it carries no internal metadata for forensic examination of its original content. [PM15 [1, 8]; PM3 [245]].
572. No underlying digital document has been identified by Dr Wright. However, the title of the Coffee-Stained Printout contains the same hyphenation error as present in the title of {ID_000537} (a native PDF), which reads "Peer-toPeer" [PM3 [138-139]]. That hyphenation error does not appear in any other versions of the Bitcoin White Paper, or any other documents, in Dr Wright's disclosure. It is to be inferred that the Coffee Stained Printout is a printout of an edited version of {ID_000537}.
573. At this point, COPA repeated the Reasons for Alleging Forgery relating to {ID_000537}.
574. The document was identified as follows in COPA's Schedule of Dr Wright's Forged Documents:
- 574.1. {ID_000537} purports to be a PDF version of the White Paper with the same Adobe properties as ID_000536, with a creation timestamp of 24 January 2008 and a last modification on 21 May 2008.
- 574.2. The original filename of this document is given as "SSRN-id3440802.pdf". This filename is understood by COPA to be related to the document referred to in

COPA's Particulars of Claim at [30-35] and in Dr Wright's Defence at [52]. However, it is not in fact the same document.

575. Then, COPA's Reasons for Allegation of Forgery were as follows:

- 575.1. Rather than being a precursor document to the Bitcoin White Paper as it purports to be, this document has been created from the Bitcoin White Paper subsequently, and edited in such a way that it appears as if it was precursor work. [PM3 [145]].
- 575.2. The metadata of this document has been edited in its year and month, so as to appear to date from over a year before the authentic Bitcoin White Paper. However, the timestamps otherwise match in their day, hour, minutes, and seconds. [PM3 [91]].
- 575.3. The document includes a redundant metadata field listing the true creation date of 20090324113315-06'00', which is consistent with the date of the authentic Bitcoin White Paper. It is not consistent with the purported date of the document. [PM3 [133]].
- 575.4. The document contains "Touchup_textedit" flags indicating that the document text has been edited in Adobe software [PM3 [95-98, 137]].
- 575.5. The effect of the "Touchup_textedit" changes shown on the face of the document includes adding Dr Wright's name and contact details in place of those of Satoshi Nakamoto.
- 575.6. The document contains additional, hidden "Touchup_textedit" flags relating to changes which are not shown on the face of the document. The hidden changes are identical to those observed in ID_003732, indicating that ID_000537 was created subsequent to the creation of ID_003732. ID_003732 dates from 22 May 2019. On that basis, ID_000537 could not have been created before 22 May 2019. [PM3 [98-99, 137]].
- 575.7. The document purports to have been authored using a version of XMP Core that does not exist. The version referenced in the internal metadata is invalid and does not relate to any real-world versions, indicating content manipulation. [PM3 [108-114 and 136]].
- 575.8. The date of the XMP Core version is given as October 2008. If this format were valid, which is denied, it would in any case post-date the purported date of authorship of the document. [PM3 [115]].
- 575.9. ID_000537 contains a textual error, in that a hyphen is missing in the title. This textual error does not appear in the authentic versions of the Bitcoin White Paper. The same textual error does not appear in other similarly dated documents in Dr Wright's disclosure. [PM3 [139-140]].
- 575.10. This document is listed as having the same filename as the SSRN document to which COPA (in its Particulars of Claim) and Dr Wright (in his Defence) have both pleaded. However, the document is not the same document, and differs by electronic hash. [PM3 [140-142]].

576. Thus, as explained above in relation to {ID_000537}, that document could not have been created before 22 August 2019. On that basis, the Coffee-Stained Printout could not have been created before that date.
577. {ID_003330} has been disclosed with external metadata indicating that it was created and/or sent by WhatsApp on 4 September 2019 [P15 [6-10]. Taking this point with those above, Dr Wright’s handwritten annotations visible on the face of {ID_003330} (the “Initial Handwritten Annotations”) date from the period 22 August 2019 to 4 September 2019.
578. {ID_004011} was created by scanning using a Canon Multifunction Scanner/Printer device on 10 September 2019 [PM3 [245]]. Dr Wright’s further handwritten annotations, visible on the face of {ID_004011} (the “Further Handwritten Annotations”), do not appear on the face of {ID_003330}. The Further Handwritten Annotations therefore date from the period between 4 September 2019 and 10 September 2019.
579. In each case, the Initial Handwritten Annotations and the Further Handwritten Annotations are of a nature tending to present the document and the annotations as if it was a printout of a draft of the Bitcoin White Paper containing annotations from 2008, contrary to fact.
580. In addition to the handwritten annotations, the Coffee-Stained Printout (as seen in {ID_003330}) contains physical characteristics including tears, marks, warped paper, and the prominent presence of a coffee stain. These characteristics are of a nature tending to present the document as if it was an aged document, contrary to fact. In fact, for the aforesaid reasons, the Coffee-Stained Printout was not two weeks old by the date that the photograph {ID_003330} was taken. It is to be inferred that these indicia of age were added during that period, in an attempt to make the document to appear to be older than it was.
581. Following receipt of the Madden Report, Dr Wright has accepted in his Chain of Custody information that {ID_003330} was taken using his Samsung Galaxy S10 Plus Mobile Phone, a device that was not released until 2019, and he has said that some annotations in red ink were added between 2017 and 2020. This account is implausible. COPA contends that the document itself, including all the annotations, are inauthentic to their purported date in 2008.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

582. I first set out the reasons given by COPA for inferring Dr Wright’s knowledge of /responsibility for the forgery of {ID_000537} because these underpin the reasons given for {ID_004011} and {ID_003330}. These are as follows:
- 582.1. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (presenting as a predecessor draft of the Bitcoin White Paper and supposedly written by him in early 2008), contrary to fact.
- 582.2. The purpose of the tampering was apparently for upload to a public website, SSRN, in order to cause it to appear to the public that Dr Wright is the author of the Bitcoin White Paper, contrary to fact.

- 582.3. COPA's Particulars of Claim recited several of the indicia of tampering set out above, in respect of a document bearing an identical file name to the original filename of ID_000537. Dr Wright (in his Defence) then admitted that the document in question was not created at the time purported in its metadata, but actually created in 2019. Dr Wright has admitted that he uploaded the document to SSRN and that it was created for this purpose. Dr Wright has thus accepted that these documents are not true versions of the Bitcoin White Paper only after their veracity has been called into question.
- 582.4. Even while admitting the document to have been altered in 2019, Dr Wright declines to admit that the purported 2008 dates stated in its metadata are inauthentic "[p]ending a technical examination of the documents" [Defence [59]. Following receipt of that technical examination in the form of the Madden Report, Dr Wright has not (to date) altered his position.
- 582.5. In his Defence, Dr Wright has provided an explanation for his creation of this document which not plausible. [Defence [53-55]].
- 582.6. The contact details included refer to Charles Sturt University. In his evidence in these proceedings, Dr Wright has claimed to have drafted and shared versions of the Bitcoin White Paper while studying at Charles Sturt University, and to have discussed the concepts with teaching staff at Charles Sturt University. [Wright1 [87]; Wright4 [52]].
- 582.7. In his evidence in these proceedings, Dr Wright has stated this to be an authentic document. [Exhibit CSW-5]
583. Reverting to the reasons given for {ID_004011} and {ID_003330}, Dr Wright has positively asserted that both of these documents are documents on which he primarily relies as supporting his claim to be Satoshi Nakamoto.
584. Dr Wright has chosen to rely in these proceedings on two copies of the Coffee-Stained Printout ({ID_004011} and {ID_003330}) both of which are stripped of metadata by reason of their creation process, but he has not relied on or disclosed any underlying digital document that contains relevant metadata.
585. The documents both contain notes in Dr Wright's own handwriting.
586. Dr Wright accepts that he deliberately altered the Coffee-Stained Printout in his own handwriting at some time during 2017-2020.
587. Dr Wright accepts that the photograph {ID_003330} was taken on his own mobile phone.
588. The effect of the creation of Coffee-Stained Printout in the way described is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (i.e. as a predecessor version of the Bitcoin White Paper, recorded for posterity), contrary to fact.
589. Dr Wright refused to provide information about the dating of his Reliance Documents, including these, when requested. Only following service of the Madden Report did he provide an alternative account of the origin of these documents. As noted above, his account is implausible.

590. The effect of the alterations has been to introduce annotations referring to matters on which Dr Wright relies in his evidence in these proceedings.
591. The document bears Dr Wright's name and contact details.
592. As for {ID_000537}, the contact details included refer to Charles Sturt University. In his evidence in these proceedings, Dr Wright has claimed to have drafted and shared versions of the Bitcoin White Paper while studying at Charles Sturt University, and to have discussed the concepts with teaching staff at Charles Sturt University. [Wright1 [87]; Wright4 [52]].
593. Dr Wright claims, in his Chain of Custody information, to have drafted this document.

(c) Dr Wright's Explanations and COPA's Rebuttal

594. In Appendix B to Wright11, Dr Wright accepted that this document {ID_004011} was created by scanning a hard copy document on 10 September 2019. He claimed that some of the annotations in the document had been made between August and September 2019, while others had been made earlier. He denied that the document at {ID_000537} was the source for this document, despite the two having the same irregular hyphenation in the title and there being no other document in disclosure with that feature (other than {ID_003330}, which is a photograph of the first page of the document later scanned as {ID_004011}). He claimed that both documents had been originally created in L^AT_EX but that the prior versions had not been retained. See: {CSW/2/64} to {CSW/2/65}.
595. COPA submitted that this document is a forgery, plainly created to give the appearance of a document dating from 2008, contrary to fact, and furthermore that Dr Wright's explanations should be rejected, for the following reasons:
- 595.1. Mr Madden established in appendix PM44 that this document derived from {ID_000537}. Apart from the two documents sharing the irregular hyphenation in the title and other features of the title (including Dr Wright's contact details at Charles Sturt University), they were found to be entirely identical on their face once {ID_000537} (a PDF document) was opened in MS Word and a footer removed. Although Dr Wright attempted to deny Mr Madden's findings in his oral evidence while boasting of his own supposedly superior expertise ({Day4/13:11} to {Day4/17:25}), Mr Madden was not even challenged on these findings in cross-examination.
- 595.2. The document at {ID_000537} contained numerous artefacts in its metadata which were indicative of backdating: a metadata reference to an invalid version of XMP Core; Touchup_textedit history shared with {ID_000536}; a redundant metadata field for creation date which matched that of the published (2009) version of the White Paper. See PM3 [133-137]. Dr Wright had no proper explanation for those anomalous artefacts in the source document.
- 595.3. It follows from the above points that this document {ID_004011} is not a genuine prior draft of the Bitcoin White Paper, as Dr Wright has claimed it is (see Exhibit CSW5, row 22 {L19/257/5}).

- 595.4. Dr Wright and Stefan Matthews have since 2015 claimed that Dr Wright gave Mr Matthews a copy of the Bitcoin White Paper in 2008 with a view to interesting him and his company, Centrebet, in the project. This document bears all the hallmarks of a document forged to provide false support for that story, in particular in that it has been given signs of age (coffee stains, etc) and the following notes have been added: “Stefan – Will Centrebet use a token that is transferable + audited” (p1) and “Stefan Matthews – Would Centrebet use this” (p8). There are other documents suggesting that this was the intention. Calvin Ayre has referred in a Tweet supporting Dr Wright that he had “old versions of the white paper... printed and with his notes and coffee on them and rusty staples” {L15/453/1}. According to an IRC log chat from September 2017 excerpted in an article, Dr Wright claimed in that chat that Mr Matthews had a copy of the White Paper “complete with coffee stains” {L17/390/118}.
- 595.5. Dr Wright’s cover story for this document relies upon his account that the Bitcoin White Paper and its precursor drafts were written in L^AT_EX. For the reasons given in detail in the expert report of Mr Rosendahl (and as agreed in the joint expert statement with Mr Lynch), that account is itself false.
- 595.6. Dr Wright’s attempt to explain away the notes apparently addressed to Mr Matthews as notes for himself, at least one of which he said was written in 2019 as a note for the purposes of the Kleiman litigation, was not credible. These were notes addressed to Stefan, asking him if Centrebet could use the Bitcoin system.

(d) Conclusion

596. I find COPA’s submissions to be wholly convincing. Dr Wright’s explanations (as summarised in Appendix 1 to his Closing) do not begin to counter the force of COPA’s submissions. Once again, I find this document was plainly forged by Dr Wright and his explanations were lies.

31. “Economic Security.doc” (Reliance Document) {ID_000258} / {L3/286/1}

597. The document purports to be work associated with the development of Bitcoin. It refers to “BitCoin” in the future tense and is dated 5 to 7 November 2008.

(a) COPA’s Reasons for Alleging Forgery

598. The document has been backdated, with signs of apparently contradictory metadata. [PM29 [17-18]].

599. The document is an altered version of a document actually published by Dr Wright in May 2019 (the “Economic Security Medium Article”). [PM29 [10-15]].

600. From the Economic Security Medium Article to ID_00258, the tense has been changed from past to future, to give the document the appearance of predating Bitcoin, contrary to fact. [PM29 [14-15]].

601. From the Economic Security Medium Article to {ID_000258}, the capitalisation of Bitcoin has been adapted to “BitCoin” (which would more closely align to Dr Wright’s account of his claim to be Satoshi Nakamoto and his use of terminology). [PM29 [15]].

602. The document contains hidden embedded text of previous edits. The hidden embedded text is adapted from the Economic Security Medium Article, and text sections are phrased in the present tense (as is the Economic Security Medium Article). The hidden embedded text does not appear on the face of the document. [PM29 [15]].

603. The Economic Security Medium Article has not been disclosed by Dr Wright. Further, no corresponding draft document or donor document has been disclosed by Dr Wright. [PM29 [16]].

604. The internal metadata records an anomalous edit time in excess of 57 days, despite a very short period between file created and last modified date, indicative of the use of clock manipulation techniques (1 day 19hrs 14 mins). [PM29 [5]].

605. The period of editing this document overlaps with a number of other documents in Dr Wright’s disclosure. [PM24 [33-35]].

606. The document was emailed from Dr Wright to Lynn Wright on 18 January 2020. The email contains several manipulated documents purported to be in the custody of Lynn Wright. The metadata of that zip file is also irregular. [{ID_003934}, PM29 [2]; PM26, [25-38]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

607. Dr Wright has positively asserted that {ID_000258} is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

608. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (suggesting work done privately by him and looking ahead to Bitcoin), contrary to fact.

609. The document is written in the first person from the perspective of Dr Wright.
610. Dr Wright is listed as the original author in the internal metadata of the file.
611. The Economic Security Medium Article was posted by Dr Wright on his own account on the website Medium.com.
612. Although the document metadata present Lynn Wright to have been an author, it was actually created by Dr Wright in the name of Lynn Wright, and a copy sent from Dr Wright to Lynn Wright by email long after they were separated, contained in a zip file along with many other files bearing evidence of backdating and tampering including several documents on which Dr Wright relies. The metadata of that zip file itself are also irregular. [{ID_003934}, PM29 [2], PM26 [25-38]].
613. Dr Wright shared a document with identical content on social media on 16 January 2020, contemporaneously with the aforesaid email to Lynn Wright. Upon request in these proceedings, Dr Wright has repeatedly declined to disclose a copy of his posts to social media accounts. Since the date of the request, Dr Wright has claimed to have lost access to the relevant social media account.
614. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.
615. Dr Wright has not disclosed associated relevant documents.

(c) Dr Wright's Explanations and COPA's Rebuttal

616. In Wright11, Appendix B, Dr Wright sought to explain away the presence of the other version of the document in its redundant space by saying that his former wife (Lynn Wright) edited the document and “would have taken out my rants”. He tried to explain the fact that the version in the redundant space spoke of Bitcoin as a system already in operation, while the face text of the document spoke of it as a system yet to take effect, by saying that there were debates about the operation of the system even before it came into effect: {CSW/2/30}, at [8.6 to 8.7]. He sought to explain away the fact that the remnant text matched parts of his 2019 article by saying that that article was not a final product: {CSW/2/31, [8.8]}.
617. In oral evidence, when pressed on the fact that the remnant text was plainly written after Bitcoin had come into operation as a system, Dr Wright changed his story again, claiming that the document was or may have been subject to editing not only by Lynn Wright but also by one or more unidentified members of staff: {Day3/29:22} to {Day3/30:14}.
618. Then Dr Wright sought to explain away the deleted, hidden/embedded references in this document (from 2008) to contemporaneous attacks on Bitcoin by his assertion that Bitcoin was being criticised even before it became operational in 2009 (Day3/31/3 to Day3/32/5).
619. Dr Wright sought to explain away the fact that the edit time was far longer than the period between the created and last saved dates by claiming that it resulted from a combination of the use of Citrix and copying of documents using the X-copy command: {Day3/26:8-11}.

620. COPA submitted that this explanation should be rejected as dishonest for the following reasons:

620.1. Dr Wright's account is that (i) in 2008, before the Bitcoin code had even been released, he wrote a bizarre document which referred to and described Bitcoin as a system already in operation (as reflected by the remnant text); (ii) his wife and possibly some employees edited the document one or more times to produce a version which spoke of Bitcoin as a system yet to take effect (as reflected by the face value text); and (iii) 11 years later, in 2019, he modified the text again to bring it closer to the original and issued the resulting text as the Medium article. This is wildly implausible.

620.2. Dr Wright's account of his wife removing "rants" from the document is plainly wrong. If one compares the face text, redundant draft and Medium article text (as shown against each other in Exhibit PM29.2 {H/1281/}), it can be seen that the changes were not to remove "rants" but to change the document from speaking about Bitcoin in the present tense to speaking of it in the future tense.

620.3. For Dr Wright's account, Lynn Wright would need to have been very familiar with his Bitcoin project. However, she told the Court in the Kleiman proceedings that Dr Wright had never mentioned Bitcoin to her: see {L16/116/74}. Dr Wright sought to answer this point by saying that she had been giving evidence while medically unfit, and he even claimed that she had not been asked about her medical fitness {Day2/97:15} to {Day2/98:4}. However, that was false: at the start of her deposition evidence in the Kleiman proceedings, Lynn Wright was asked about her medical fitness and said that she was fit to give evidence: {L16/116/8}.

620.4. Dr Wright's account also relies upon his explanation of the editing time anomaly, which is at odds with the only independent expert evidence. It should be stressed that the anomaly in this instance is not merely a long edit time (which might be explained by a Citrix session being left open) but an edit time longer than the difference between created and last saved times, which on the expert evidence is only explained by backdating: PM29 [7] {H/126/4}.

620.5. As for the explanation that Bitcoin was being criticised even before the system was launched in 2009, no documents were identified to support this argument. Furthermore, it is an explanation which is wholly unconvincing in the light of Mr Madden's detailed analysis.

(d) Conclusion

621. Once again, I found Mr Madden's analysis to be wholly convincing and Dr Wright's explanations to be utterly unconvincing.

**32. “Bitcoin: SEIR-C Propagation models of block and transaction dissemination”
(Reliance Document) {ID_000550} / {L3/237/1}**

622. The document purports to be precursor work to the Bitcoin White Paper, dated 12 December 2008.

(a) COPA’s Reasons for Alleging Forgery

623. The document has been backdated. It is an altered version of a document actually published by Dr Wright in 2017 (the “2017 SSRN Paper”). [PM1 [25-38] and [55]].

624. The document contains hidden, embedded Grammarly timestamps indicating its true date to be 15 April 2017 or later. [PM1 [48-53]].

625. The Grammarly software did not exist in 2008 [Madden1 [62c]] but is contemporaneous for 2017. [Madden1 [70-72]].

626. {ID_000550} contains hidden, embedded traces of the 2017 SSRN paper, indicating that both are derived from a common source document. [PM1 [25-33]].

627. The content referred to in the hidden, embedded traces of the 2017 SSRN paper includes news articles and government publications which did not yet exist in 2008 but which are contemporaneous for 2017. [PM1 [19-21] and [55]].

628. The document contains equations and formulae which have been corrupted in a manner consistent with conversion from a more modern format to an older format [PM1 [34-45]]. The document includes tampered content that apparently represents an attempt to explain away this problem as the result of using older equation-editing MathType software. However, analysis indicates that equations in the document were in fact authored with much later version of that software, which did not yet exist in 2008 but which are contemporaneous to 2017. [PM40 [22-42]].

629. The document contains references to Microsoft schemas which did not yet exist in 2008 but are contemporaneous to 2010 onwards (including 2017). [PM1 [46-47]].

630. The document includes anachronistic references to events that had not occurred by 2008 but which had occurred by 2017 [PM1 [21-22]].

631. The internal metadata records an anomalous edit time in excess of 70 days and the editing period of this document overlaps with several other documents in Dr Wright’s disclosure, consistent with being created using clock manipulation techniques.

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

632. The effect of the tampering is to make the document appear to be supportive of Dr Wright’s claim to be Satoshi Nakamoto (suggesting academic work done by Dr Wright in his supposed development of Bitcoin), contrary to fact.

633. Dr Wright has positively asserted that {ID_000550} is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

634. Dr Wright is recorded as an author of the metadata. The doctored content is phrased by Dr Wright in the first person: “Note- I have released online as an anonymous programmer using the pseudonym "Satoshi Nakamoto"”.
635. Dr Wright is a user of Grammarly software.
636. {ID_000550} contains hidden text embedded within the document which contradicts the information presented on the face of the document, a characteristic of manipulation of a series of MS Word .DOC files found throughout Dr Wright’s disclosure in these proceedings.
637. The 2017 SSRN Paper is a version of the same document that was published on the SSRN website by Dr Wright himself, bearing a “date written” of 28 March 2017. The “date written” is contemporaneous with the hidden Grammarly timestamp in {ID_000550} and not to the purported date of the document.
638. The metadata of the 2017 SSRN Paper lists “craig” as the creator of the document.
639. {ID_000550} contains hidden, embedded traces of the 2017 SSRN paper, indicating that both are derived from a common source document.
640. Dr Wright has not disclosed the 2017 SSRN paper or the common source document.
641. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

642. In Appendix B to Wright11, Dr Wright attempted to explain the presence of embedded text showing a remnant version which referred to Bitcoin as an existing system and included various references to events after 2008 (including for instance to a report of May 2013). He claimed that these references were added “as a result of the corruption of the document, probably while it was kept at nChain or one of the other corporations”: {CSW/2/54}. In cross-examination, he claimed that two documents became merged into one another as a result of both being open at the same time on a Citrix environment and an edit not happening correctly on one of them: {Day2/135:1} to {Day2/138:19}.
643. In Appendix B to Wright11, Dr Wright sought to explain away the presence of the anachronistic Grammarly timestamps, the references to Mathtype software dating from 2017 and references to Microsoft schemas dating from 2010 and later by saying that they resulted from “someone in nChain opening the document in 2017 or later” and these elements becoming embedded: {CSW/2/53}; {Day2/143:1} to {Day2/143:23}. It is inherent in that explanation that these elements could become embedded without the person saving or otherwise interacting with the document (since such interaction would cause the metadata timestamps to update).
644. When pressed in cross-examination with the point that the remnant text in the document matches text in a 2017 version of the document uploaded by Dr Wright to the SSRN website, Dr Wright could give no coherent answer. When further pressed that this reliance document contains clear signs of corrupted equations (which appear properly

readable in the SSRN version), thus suggesting errors resulting from conversion, he likewise failed to give any intelligible answer. See {Day2/140:7} to {Day2/142:25}.

645. Dr Wright also claimed that the references to CheckBlockHeader, UTXO and Bitcoin Core in this document were there because he used them. {Day2/134:14} to {Day2/140:5}

646. COPA submitted that Dr Wright’s explanation should be rejected as dishonest for the following reasons:

646.1. It presupposes that the features of a shared computing environment would cause two documents to become merged, with remnant text added in the way seen here, but in a manner which resulted in the document not being corrupted and appearing normal on its face. This possibility is rejected by the independent expert evidence. See Madden4, [159]; Madden / Placks joint statement 2 at [8].

646.2. Dr Wright’s explanation for the presence of anachronistic artefacts in the metadata (including the anachronistic Grammarly timestamps, the references to Mathtype software dating from 2017 and references to Microsoft schemas dating from 2010 and later) is contradicted by the clear expert evidence of Mr Madden, which is that such references could not be inserted without the document being interacted with by a user, which would in turn result in updating of the metadata timestamps of the document (notably the “last saved” timestamp). The fact that the metadata timestamps for this document were dated to 2008 but the document contains the elements set out above shows that the document has been forged by backdating. See Madden4, [158]; Madden / Placks joint statement2 at [8]; {Day16/35:19} to {Day16/38:11}; {Day16/125:7} to {Day16/125:18}.

646.3. The correspondence between parts of the hidden remnant text of this document and the 2017 SSRN version of the document can only rationally be explained by this document being a copy forged and backdated in recent years.

646.4. This conclusion is further reinforced by the corrupted equations, which are clearly indicative of a document having been converted from a later version of MS Word into an older format which does not support the correct font or automatically applies an incorrect text editing format: see PM1 [44] {H/1/19}.

646.5. The anachronistic terms Dr Wright says he used are not found in other genuine documents before their first use. These first uses were as follows:

646.5.1. **CheckBlockHeader** was first introduced into the code in March 2014, Wuille1 [25] {C1/1/6};

646.5.2. **Bitcoin Core** was first introduced in version 0.9 of the software in 2014 Wuille1 [50] {C1/1/12}; and

646.5.3. **UTXO** first introduced in version 0.8 of the software by Mr Wuille, with him first seeing the term on 21 June 2012 Wuille1 [29-32] {C1/1/7}.

(d) Conclusion

647. In addition to COPA's submissions in this section, I also refer to [737]-[759] in the main Judgment, all of which demonstrate that the points gathered in Appendix 1 to Dr Wright's Closing in relation to this document do not begin to explain all the indications of forgery set out above. Dr Wright plainly forged this document from the 2017 SSRN paper.

33. C++ Code {ID_004712} {PTR-F/69/1} and {ID_004713} {PTR-F/70/1}

648. In this and the following two sections, I turn to consider documents which concern the Bitcoin Source Code. The two documents purport to be C++ source code, presented as code files for models of Bitcoin, as if Dr Wright had in October 2007 already been working on such code using C++ (the same coding language as used by Satoshi Nakamoto).

(a) COPA's Reasons for Alleging Forgery

649. These documents are among the 71 New Reliance Documents that were inserted into the BDO Drive by the editing process and which the parties' experts agree were manipulated [Madden / Lynch1 [12] Q/6/5].

650. These documents have been backdated. They refer to the use of C++ elements that were not in existence at their purported date of October 2007. In particular,

650.1. They call on the use of the libraries “<chrono>”, “<thread>” and “<random>”. These libraries are part of the C++11 standard, first released in 2011. [Stroustrup1 [4] C/23/1]

650.2. <chrono> was not first proposed until 11 June 2008. [Hinnant1 [4] C/18/1]

650.3. The first discussion of what became <chrono> was not published until 19 January 2008, and was not at that time called <chrono>. [Hinnant1 [5] C/18/2]

650.4. Within <chrono>, these documents call for the use of the function “sleep_for”. By 19 January 2008, the function was referred to as ‘sleep’ (not yet ‘sleep_for’). [Hinnant1 [5] C/18/2]

650.5. By that time, neither <chrono> nor “sleep_for” yet existed, even on the personal computer of its developer. [Hinnant1 [5] C/18/2]

651. The documents were sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. These documents were added by the Manipulation User.

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

652. The effect of the tampering is to make the documents appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto, contrary to fact.

653. The further effect of the tampering is to lead to source code files being presented as if they are relevant to the case, contrary to fact. This includes human-readable comments within the source code such as “// Calculate Total Proof of Work”.

654. These documents were added to BDOPC.raw by the Manipulation User. The Manipulation User is Dr Wright. The section “BDOPC.raw” above is repeated.

655. Dr Wright has attached particular importance to these documents:

- 655.1. Both are said to be important to Dr Wright’s case because they are “C++ code files code for a simplified model of Bitcoin to evaluate transaction processing, cryptographic security, and consensus mechanisms. This is analysed and described in {ID_004710}, which is a LaTeX file that codes for a paper setting out a “Game Theoretical Analysis of Node Strategies in a Decentralised System”” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/6].
- 655.2. They are said to be one of Dr Wright’s “Notes, drafts and articles addressing technical concepts that underpin the concepts developed in the Bitcoin White Paper” [Wright6 E/21/3; Schedule 1 to Field1, L20/223/4]
656. The documents were not disclosed at the proper time. They were disclosed instead from the BDOPC.raw image. BDOPC.raw is not a reliable source because it has been manipulated by Dr Wright. The section “BDOPC.raw” above is repeated.
657. The documents were sourced from BDOPC.raw. The section “BDOPC.raw” above is repeated. These documents were added to BDOPC.raw by the Manipulation User.

(c) Dr Wright’s Explanations and COPA’s Rebuttal

658. Dr Wright claimed that this was a simplified model of Bitcoin in C++ code. It contains the Chrono time utility that was first standardised in 2011. Dr Wright said that he produced his own time library from Project Chrono, a physics engine first developed in 1998. He said that he had developed C++ libraries and commercially produced these when he was running Integrys in Australia. His account was that he used a modified version of the Project Chrono physics engine (which simulates movements of cars etc.) because he was looking at movements from one node to another. He said that he also used the “sleep_for” syntax in his code. He asserted that the reference to “random” in his code was explained by him creating random number generators since the 1980s including for a large number of online gambling sites: Wright11 {CSW/1/87} {Day5/113:24} and following.
659. COPA submitted that this explanation should be rejected as dishonest for the following reasons:
- 659.1. If the BDOPC.raw is accepted as being forged, it follows that documents on it should be treated as being forged unless they are documents which Mr Madden says are original to the image that was taken in October 2007.
- 659.2. It was not possible to use <chrono> and “sleep_for” in C++ code in October 2007 prior to its public release in 2011. Whilst an earlier version of what became <chrono> was mentioned publicly on 19 January 2008, the word “chrono” was not used: Hinnant{C/18/1}.
- 659.3. Project Chrono is a physics simulation library. The only thing that it shares with the Chrono library is the name. Mr Hinnant’s evidence was that it would take a huge amount of work to turn Project Chrono into Chrono and that it would be far quicker to build Chrono (as a time library) from scratch. He added that “the mere fact that somebody says that they derived a date time library from a physics library indicates to me that they don’t have the technical expertise to even write Chrono

from scratch” because it would actually take more work to write it from a physics library than from scratch: {Day14/43:2}.

- 659.4. Dr Wright does not have a good understanding of C++ code, as was clear from his inability to understand what an unsigned integer is: {Day8/143:4} and following.
- 659.5. There is no evidence that he, or any company associated with him, has sold commercial C++ packages.
- 659.6. Dr Wright’s story that he used a modified physics engine to consider movements inside a computer network from one node to another is not only a fiction, but it also reveals that he simply does not understand the difference between modelling of real-world movements affected by gravity and the movements of signals in a computing network.
- 659.7. His excuse means that even if he did all of the above, he still managed to land on the exact nomenclature and spacing used in Chrono, which would not be developed for another four years, as set out in Mr Hinnant’s evidence (references above).
- 659.8. Even if Dr Wright had created his own version of a personalised Chrono library, as this was not standardised it would be regarded as “undefined behaviour” by the compiler, the effect of that being that the compiler may or may not do what the programmer intends, as “literally anything can happen when the compiler comes upon undefined behaviour”: {Day14/44:12}.
- 659.9. His boasts of creating random number generators for a host of online gambling sites are not backed up by any evidence, and furthermore, the evidence that there is of his work for these sites is that he was involved in IT security, not programming on the gaming side of things.
- 659.10. Mr Lynch agreed with Mr Madden that ID_004712 and ID_004713 were manipulated: {Q/6/5}.

(d) Conclusion

660. In addition to COPA’s submissions set out above, I refer also to the following sections in the main Judgment, [258]-[263], [637]-[646] and [647]-[650], all of which demonstrate very clearly, in my judgment, that these two documents were forged by Dr Wright.

34. Converted Code2Flow source code flowchart (Reliance Document) {ID_000554} / {L3/326/1}

661. This is the second document which relates to the Bitcoin Source Code. The document is described by Dr Wright as maps of the Bitcoin Source Code. The document contains a date on its face of 9 June 2008, which is before the release of the Bitcoin White Paper or the Bitcoin Software by Satoshi Nakamoto.

(a) COPA's Reasons for Alleging Forgery

662. The document is a monochrome (pure black and white) picture file, in a format and encoding consistent with a fax transmission or low-quality scan of a physical document. However, the document has been electronically created by conversion from a PDF. [PM10 [5-9]].

663. {ID_000554} has its origin in a PDF document, {ID_000375}. [PM10 [10-21]].

664. The document has been backdated. [PM10 [74]].

665. ID_000375, (the original document from which {ID_000554} was created), reveals that the specific parts of the text required to support Dr Wright's claim to be Satoshi (title and year of creation) are encoded within the PDF metadata differently to the other parts of the text (page number, day, and month), consistent with having been added at a different time by different means [PM10 [24-31]]. This indication of tampering has been removed from Dr Wright's Reliance Document {ID_000554} by the process of conversion to a low-quality picture file.

666. The internal, raw metadata content of {ID_000375} contains embedded fonts bearing copyright statements dating them to 2015 or later. [PM10 [34]].

667. The internal metadata of {ID_000375} contains hidden embedded metadata streams indicating that the original title of the file was "code2flow – online interactive code to flowchart converter" which was edited to read "bitcoin main.h". [PM10 [36, 41]].

668. The online Code2Flow software used to create these flowcharts did not exist in 2008 but was created at some time after 2012. [PM10 [42-47]].

669. The PDF document {ID_000375} (the origin document for {ID_000554}) was created with XMP Core software which did not exist in 2008, and which dates the document to February 2016 or later. [PM10 [39]].

670. {ID_000375} (the origin document for {ID_000554}) was created with a PDF Producer software "Acrobat Distiller 15.0 for Windows" which did not exist in 2008 but which date to November 2015 or later. [PM10 [48-54]].

671. The above indications of tampering were removed from Dr Wright's Reliance Document ID_000554 by means of converting it to a low-quality picture file.

672. The content of the manipulation and the origination of the timestamps in question is consistent with the use of clock manipulation. [PM10 [71-74]].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

673. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (i.e. a map of the Bitcoin Source Code supposedly prepared in June 2008 and in the possession of Dr Wright), contrary to fact.
674. Dr Wright has positively asserted that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.
675. Dr Wright has chosen to rely in these proceedings on this document, which is stripped of relevant metadata by reason of its creation process. Dr Wright has chosen not to rely on the equivalent PDF digital document which is the apparent predecessor, which contains clearer details and which contains both relevant metadata and reveals indicia of tampering.
676. {ID_000554}, Dr Wright's Reliance Document, contains no legible text or colour, and is blurred by conversion, rendering it impossible to relate to the underlying PDF by text searching or other means other than by visual comparison and subsequent corroboration. [PM10 [10-13]].
677. Dr Wright (craig.wright) is recorded as the author in the metadata of the document from which {ID_000554} was created.
678. Although other documents in Dr Wright's disclosure bear similar hallmarks to {ID_000554} (including {ID_000553}, another Reliance Document), Dr Wright has not disclosed their equivalent underlying PDFs.
679. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright's Explanations and COPA's Rebuttal

680. Despite this document being one of Dr Wright's primary reliance documents, he stated in Appendix B to Wright11 that he could not recall how it was created or even whether "this is my original document or something other people have used." He sought to explain away the findings summarised above by denying that the PDF document {ID_000375} was the source for this document {ID_000554}. He claimed that the PDF document {ID_000375} had been created after 2012/13 by unidentified "employees of DeMorgan Ltd", and that the two documents were thus unrelated. See {CSW/2/55}. He repeated this explanation in his oral evidence: {Day4/31:11} to {Day4/37:14}.
681. Dr Wright sought to explain the finding that the PDF document {ID_000375} had internal raw metadata indicating that its previous title had been the standard template title for a document created with a code2flow online conversion tool created in 2012. As well as claiming that that document was not the source of {ID_000554}, he also suggested that previous tools existed which he could have used to create that document in its current form in 2008. See: {Day4/41:18} to {Day4/42:12}.
682. COPA submitted that Dr Wright's explanation should be rejected as dishonest for the following reasons:

- 682.1. Dr Wright's attempt to deny that the PDF document {ID_000375} is the source for the TIFF document {ID_000554} is implausible. It is obvious from visual comparison of the two documents that, although the latter is less legible, both depict an absolutely identical code structure, a point which Dr Wright was compelled to admit in his oral evidence {Day4/34:13}. In addition, both have the same header (Bitcoin main.h) and the same footer (1 of 1 // 9/06/2008 11:24). Furthermore, there is no other document in the disclosure which could qualify as a source for the TIFF document {ID_000554}.
- 682.2. Dr Wright has been driven by the forensic findings to accept that {ID_000375} was created years after 2008, despite that document (in his disclosure) having a face date of 2008. He has sought to distance the two documents from each other (despite all their similarities) for the obvious purpose of avoiding the natural conclusion that {ID_000554} was created from {ID_000375} years after 2008.
- 682.3. Dr Wright's explanation does not account for the signs of backdating of the source document, {ID_000375}, which are set out in PM10 [22-41 {H/63/9}], including (i) the document title and footer date having the year (08) being encoded differently from the other parts of the footer (indicating manipulation); and (ii) the internal created and modified metadata indicating creation of the document in 2008 (despite it now being common ground that the document was created years later). If this document was simply created by DeMorgan employees some time after 2015, and there was no intention to create a backdated forgery, it is impossible to see why these findings would appear.
- 682.4. Dr Wright has provided no documentary or witness evidence to back up his account that DeMorgan employees created the PDF document {ID_000375}. If he really can remember that that document was created for a distinct purpose by DeMorgan employees, it is surprising that he cannot identify (still less call as a witness) the person who supposedly created it.
- 682.5. Dr Wright had previously given an account of the creation of this document in Chain of Custody information which Mr Madden conclusively debunked in PM43 [69-74 {H/219/28}].

(d) Conclusion

683. I found COPA's arguments to be entirely convincing. This was another clumsy forgery by Dr Wright.

35. *bitcoin.exe* - hex-edited{ID_000739} / {L3/474/1}

684. This the third document relating to the Bitcoin Source Code. The document purports to be a copy of *bitcoin.exe*, the Windows executable bitcoin software. Its purported date is 4 January 2009, i.e. before Satoshi Nakamoto released the Bitcoin software. Within its “About Bitcoin” dialog, the software displays the purported version “Version 0.0.8 Alpha” and the purported authorship information “Copyright © 2008 Dr. Craig Wright.”

(a) COPA’s Reasons for Alleging Forgery

685. The document has been backdated. [PM12 [49-50]].

686. The document has been edited to cause changes to the text displayed within the “About Bitcoin” dialog box. The authentic “About Bitcoin” dialog box lists Satoshi Nakamoto as the author and copyright holder of the software. {ID_000739} instead lists “Dr. Craig Wright” as the author and copyright holder of the software. [PM12 [20a-b]].

687. The document has been edited to cause changes to text relating to example bitcoin addresses and IP addresses shown within the software. [PM12 [12]].

688. The document is purportedly from 4 January 2009, but contains an internal embedded timestamp indicating that it is based on software that was compiled on 10 January 2010. [PM12 [45-48]].

689. Other than differences in human-readable text, the content of the document is otherwise identical to the authentic *bitcoin.exe* v0.1.1 released by Satoshi Nakamoto. [PM12 [10-12]].

690. The authentic *bitcoin.exe* v0.1.1 contains an internal checksum which validates that its content has not been altered. Such checksums are unique to the content of the file that bears them. The checksum of the authentic *bitcoin* v0.1.1 is valid. However, although {ID_000739} (purported v0.0.8) contains different content, its internal checksum is a copy of the checksum for the authentic *bitcoin.exe* v0.1.0. In the case of {ID_000739}, the checksum is invalid: the calculated checksum for the file does not match the static stored checksum within it. The integrity of the file has been compromised after it was compiled into EXE format. [PM12 [33 to 44 and 50]].

691. The changes are consistent with hex-editing of a binary file by hand, in particular by editing solely bytes representing strings of text content (and not bytes which involved the binary operation of the software code itself), and by replacing previous text content with new text content of precisely the same length. [PM12 [13, 24-26]].

692. No source code file has been disclosed which corresponds to the purported ‘version 0.0.8’. Certain source code files have been disclosed which purport to be contemporaneous to {ID_000739}, but which match only approximately and do not match exactly in their relevant textual content. [PM12 [28 to 32]].

(b) COPA’s Reasons for Inferring Dr Wright’s Knowledge / Responsibility

693. The document bears Dr Wright’s name.

694. Dr Wright has relied on this document as evidence in previous litigation.
695. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (i.e. by presenting as a document showing Dr Wright's authorship and/or ownership of copyright in the bitcoin.exe software prior to the date of release of the authentic software by Satoshi Nakamoto), contrary to fact.
696. Dr Wright has disclosed two other related documents in these proceedings, being screenshots corresponding to the text displayed in the "About Bitcoin" dialog box (similar to those depicted in Appendix PM12 [20a-b]). {ID_003948} is a photograph sent on WhatsApp with a date of 20 January 2020, displaying the authentic information corresponding to the authentic v0.1.1 software. {ID_003951} is a photograph sent on WhatsApp with a date of 21 January 2020, one day later, displaying the inauthentic text corresponding to that of {ID_000739} [Exhibit PM15.1]. COPA infers that Dr Wright created {ID_000739} on 20 January 2020.
697. Dr Wright has not disclosed any WhatsApp chats relating to the files {ID_003948} or {ID_003951}.
698. Following receipt of the Madden1, Dr Wright responded to a request to identify all copies of the Bitcoin software by list. {ID_000739} (and all duplicates of it) have been omitted from Dr Wright's list. Dr Wright has thus accepted that these documents are not true versions of the Bitcoin software only once their veracity has been called into question. [Wright4 [46]].
699. In his first witness statement in these proceedings, Dr Wright lists this document as a document to which he has been referred when preparing his evidence.

(c) Dr Wright's Explanations and COPA's Rebuttal

700. In Appendix B of Wright11, Dr Wright accepted that this is a forged document, created by hex-editing of a publicly released version of bitcoin.exe. However, he claimed that this document was forged in this way by an unidentified former employee of one of his Australian companies. He says that this person was in collaboration with Ira Kleiman. See {CSW/2/56}. He repeated this version in his oral evidence: {Day4/43:22} to {Day4/46:25}.
701. His account of why this was done is confusing, but it appears to be that this enemy created a poor-quality forgery in order to suggest that Dr Wright could not produce a more sophisticated forgery and thereby cast doubt on his computer programming abilities, apparently with the ultimate purpose of establishing that he required the assistance of David Kleiman to create the Bitcoin code. See {CSW/2/56} to {CSW/2/58}. He repeated this version in his oral evidence: {Day4/47:1} to {Day4/48:7}.
702. COPA submitted that Dr Wright's explanation should be rejected as dishonest for the following reasons:
- 702.1. It posits an extremely elaborate conspiracy theory, whereby a disgruntled ex-employee went to the trouble of hex-editing a public version of the Bitcoin executable file (a process which Dr Wright claimed would have involved some effort – {Day4/53:4}) in order to create a document which appeared on its face to

support Dr Wright's claim to be Satoshi Nakamoto, but for the sinister purpose of enabling Ira Kleiman to hold it up as an unsophisticated forgery by Dr Wright (even though Mr Kleiman's case was that Dr Wright had been involved in producing the Bitcoin code). This story is inherently outlandish and unlikely.

702.2. Dr Wright could not point to a shred of evidence in support of this story. He could not identify the ex-employee responsible or precisely why they had engaged in this dishonest activity against him. He insisted that the document had been deployed against him in the *Kleiman* proceedings, but he gave no reference in Appendix B to Wright11 to say when and how that was done (see {Day4/51:1} to {Day4/51:17}).

702.3. When Dr Wright gave disclosure in the present proceedings, his solicitors gave no indication to COPA that this document (which Dr Wright claims to have known all along was a fake planted to discredit him) was a forgery. It is implausible that Dr Wright was aware of such a toxic document in his disclosure but did not inform his solicitors about it. It is equally implausible that he told his solicitors and they failed to tell COPA, thus exposing their client to an allegation that a document disclosed by him had been forged to support his claim to be Satoshi Nakamoto.

702.4. Under cross-examination, Dr Wright tried to answer that point by saying that his chain of custody noted that some of his employees had been fired and that this document came from the laptop of an employee: {Day4/ 48:15} to {Day4/50:25}. However, since this was not a primary reliance document, Dr Wright's solicitors did not provide chain of custody information for it. In any event, even if such information had been supplied, simply saying that it came from an employee laptop would plainly not have been sufficient to signal that this was a document Dr Wright knew had been forged by his enemies to discredit him.

(d) Conclusion

703. I found Dr Wright's increasingly desperate explanations to be absurd. This is plainly a forgery created by Dr Wright.

36. MYOB accounting screenshots (Reliance Documents) {ID_004077} / {L5/150/1}, plus ID_004078 and ID_004079.

704. {ID_004077} presents as one of a series of disclosed screenshots from an MYOB accounting database apparently recording a series of transactions of Dr Wright, dated to 2009, connected to mining bitcoin and accounting for it in relation to Wright International Investments Limited, Seychelles.

(a) COPA's Reasons for Alleging Forgery

705. The accounting entries have been backdated. MYOB software allows accounting records to be created with any date selected by the user. It is possible, and has at all times been possible, to create identical records to those shown in these Reliance Documents by simple entry and manual backdating, and freely to populate information within the record system. [PM7 [33-45]].

706. The accounts are dated as if from 2009-2010 [PM9 [23]]. However, the accounting entries ascribe high monetary values to bitcoin which are not consistent with the actual value of bitcoin at the purported date of the entries.

707. The relevant accounting audit logs demonstrate that the entries were inputted on 6-7 March 2020 and edited during that time, so that they are not authentic to their purported dates. [PM21 [59-65]].

708. The accounting records refer to an invalid ABN (Australian Business Number). [PM7 [50-55]].

709. The document contains screenshots of information contained within an accounting database that was included incidentally with Dr Wright's disclosure by reason of being embedded within a zip file containing other documents. It was not disclosed with its own ID number.

710. Each version of the accounting software in which these records were created is freely downloadable from the MYOB website. [PM7 [17]].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

711. Dr Wright has positively asserted that this is a document on which he primarily relies as supporting his claim to be Satoshi Nakamoto.

712. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (i.e. as supposedly evidencing transactions featuring within his narrative), contrary to fact.

713. The session audit logs associated with this document indicate that the person using the database attempted to log in with the usernames "Administrator" and craig@panoptcrypt.com in quick succession. Craig@panoptcrypt.com is Dr Wright. [PM7 [64]].

714. Dr Wright has chosen to rely on non-native screenshot versions of his accounting database. Dr Wright has not chosen to rely on native documents.

715. The only corresponding native document disclosed in these proceedings is a file that has been backdated.
716. The backdated native document was not disclosed as part of Dr Wright's list, nor was it described or given a date. It was disclosed incidentally, buried within a zip file within a zip file within an attachment to an otherwise blank email [Madden main report, paragraph 166.d.]. It is to be inferred that Dr Wright did not intend to disclose the native file, but intended for the native file to remain unavailable.
717. The document was created in the course of litigation between Dr Wright and others to be deployed in that litigation in support of his claims, as they have been deployed in this litigation.
718. The company Wright International Investments Limited was an inactive shelf company which did not operate before 2014 when it was purchased by Dr Wright. It could not therefore have been responsible for the accounts entered into these records, as Dr Wright must have known.
719. Since service of the Madden Report, Dr Wright has altered his position in respect of this document and has put forward an explanation by way of references to purported facts that are implausible and do not explain the indicia of tampering.

(c) Dr Wright's Explanations and COPA's Rebuttal

720. In Appendix B to Wright11, Dr Wright sought to explain away the evidence that he had entered the relevant transactions into the MYOB system in March 2020. He had to acknowledge Mr Madden's finding that an myox file attached to an email he had sent to Steve Shadders on 17 April 2020 produced audit logs showing that from 6 March 2020 he had made entries apparently corresponding to the transactions in the screenshots. He claimed that an unnamed person had organised an extract from the online MYOB accounting system in a QIF file and that he had then transferred entries from that file to a local version of MYOB. He said that he had done this item-by-item, in order to allow a listing of his Bitcoin holdings to be produced thereafter.
721. In his oral evidence at trial, Dr Wright claimed that the screenshots on which he relied (including {ID_004077}) had not been affected by the entries he had made on the system from 6 March 2020. He stated that they had been produced by his former solicitors, Ontier, who he claimed had been provided with login details for the live version of the MYOB system. He said that they had been provided with these login details in late 2019 and that they had produced the screenshots before he made the entries which were reflected in the logs produced from the myox file. See: {Day3/114:12} to {Day3/128:9}. He was categorical that Ontier had received the login details in late 2019 {Day3/127:10} and produced the screenshots before 6 March 2020 {Day3/128:2}. He maintained this position on Day 4, despite indications in related screenshots that the set had been produced on 9 March 2020: {Day4/4:3} to {Day5/7:16}. He reiterated it on Day 5, in the face of Ontier having told Shoosmiths that they first received the login details on 9 March 2020 and took the screenshots over the following days: {Day5/42:16} to {Day5/45:9}.
722. COPA submitted that Dr Wright's explanation should be rejected as dishonest, for the following reasons:

- 722.1. His claim that the screenshots were taken before 6 March 2020, so that they could not reflect the entries he made on the MYOB system (as reflected in the logs produced from the myox file), has been shown to be a lie. The information from Ontier, a reputable firm of solicitors, is not contradicted by any reliable documentary or other evidence and should be taken as true.
 - 722.2. The fact that Dr Wright later (during trial) chose to create a further forged document to try to undermine the information from Ontier, as discussed in Section 40 of this Schedule, compounds his dishonesty.
 - 722.3. The natural conclusion to be drawn from the fact that Dr Wright made entries reflecting the transactions in the screenshots on 6/7 March 2020 and then provided login details to allow his solicitors to take the screenshots on 9 March 2020 is that the two events are related. He made the entries so that they would show up on the later screenshots.
 - 722.4. Dr Wright's account of having made the entries in a local version of MYOB in order to enable work to be done to present his Bitcoin holdings to the US Court makes no sense, even on its own terms. If his account were true and all the entries were available on the live version of the MYOB system, why would he not give access to that system to those representing him in the US proceedings?
 - 722.5. Dr Wright's account has no supporting evidence. He cannot identify the person who supposedly produced the QIF file, nor has he produced the file itself.
723. COPA also relied on a further aspect of the saga concerning these MYOB records. Dr Wright tried to provide replacement MYOB records by directing his expert, Dr Placks, to MYOB databases containing records which supposedly supported aspects of his claim (including a supposed entry for purchase of the bitcoin.org domain hosting) {Placks1 at {I/1/32}, [9.15 to 9.42]}. However, Mr Madden showed in his Second Report (see {Appendix PM42 at {H/209/7}, especially [31ff]}) that the "new" database records were forged in May / June 2023 – in the course of this litigation – by person(s) using the email addresses of Dr Wright and his current wife (Ramona Ang). This finding was agreed by Dr Placks in the first joint statement {Q/2/9}.
724. Dr Wright tried to answer this point in Wright11 by claiming that both Mr Madden and Dr Placks had failed to understand how MYOB works, and that Mr Madden's findings of entries being associated with very recent versions of MYOB software were explained by system updates. This evidence did not account for all Mr Madden's findings, because (for example) he had found clear evidence of backdating of entries by simply producing a log showing entries in the order in which they had been committed to the database. Mr Madden explained this clearly in his fifth report, produced during trial {G/9/4} – {G/9/10}. Dr Wright's account was also plainly flawed on its own terms, since if system updates caused previous entries misleadingly to be associated with the most recent version of software, all entries would naturally show the same version. When cross-examined on these points, Dr Wright insisted upon his version, asserting features of MYOB for which he had no supportive evidence {Day15/20:16} – {Day15/43:25}. Quite apart from all the expert evidence ranged against him, it would be very surprising if accounting software caused such misleading and confusing entries to be committed to logs as he suggests MYOB routinely does.

725. In my judgment, Dr Wright gave Dr Placks access to MYOB databases which themselves showed clear signs of forgery. Those substitute records are addressed in more detail in the main body of the Judgment.

Conclusion

726. In view of COPA's submissions in this section and my own analysis in section 1, I can only agree with COPA's position on these MYOB accounting records. None of the explanations gathered in Appendix 1 to Dr Wright's Closing are persuasive. The documents were plainly forged by Dr Wright, as were the replacement records provided by him to Dr Placks.

**37. The Tulip Trust Deed (Particulars of Claim at [66A] {A/2/10}) ({ID_001186}) /
{L8/20/1}) The Fifth Pleaded Example**

728. In the *Kleiman* Litigation, Dr Wright proffered a Deed of Trust document as evidence of the existence of a trust called the Tulip Trust. Dr Wright has claimed that the Tulip Trust held Bitcoin and/or an encrypted file with keys to that Bitcoin. The Deed of Trust document that was adduced by Dr Wright was dated 23 October 2012.

(a) COPA’s Reasons for Alleging Forgery

729. The date of 23 October 2012 was false. Computer forensic analysis of this document shows that it was backdated and that it was not created until at least 22 May 2015 (over two years after the death of David Kleiman on 26 April 2013). This document was therefore forged. As to the basis on which the Claimant alleges forgery, the Claimant relies on the above matters and the fact that this Deed of Trust document was found to be backdated in the Order of Justice Reinhart dated 27 August 2019.

730. A copy of this document is at C00000560 {L8/17/1}, which was included in the Extended Disclosure served on 7 March 2023. The Re-Re-Amended Defence was served on 20 April 2023.

(b) Dr Wright’s Explanations and COPA’s Rebuttal

731. The document appears as a Deed of Trust between two Seychelles companies, Wright International Investments (“WIIL”) and Tulip Trading Ltd (“TTL”) with a date of 23 October 2012.

732. In Wright11 Appendix C, Dr Wright addressed this 23 October 2012 Deed of Trust document by reference to one particular version of it. There are a number of copies disclosed which are all identical in substance:

732.1. (C00000560) / {L8/17/1} – (includes the Kleiman case reference at the top).

732.2. (ID_001186) / {L8/20/1};

732.3. (ID_003790) / {L8/28/1};

732.4. (ID_003982) / {L8/14/1}; and

732.5. (ID_003329) / L15/86/1} – this is the version Dr Wright refers to in Wright11.

733. Mr Madden addresses the identical nature of the above documents in PM48, {H/304/8}. In PM48, Mr Madden notes that the documents analysed indicate that WIIL was purchased as an aged shelf company in 2014, not being active prior to that date: PM48 at [29] {H/304/9}. Mr Madden also notes the effect of similar analysis in respect of other similar documents relating to TTL (PM4 [119-127], {H/29/38}).

734. In his Defence (after various amendments), Dr Wright states that, pursuant to an order of the US Court in the *Kleiman* proceedings, he disclosed a copy of a Deed of Trust document between two Seychelles companies, WIIL and TTL, with a date of 23 October

2012 (Defence [85A(1)] {A/3/26}). Dr Wright claims that: “*The date 23 October 2012 is not a false date as the Deed of Trust was executed on 23 October 2012*” (Defence [85A(5)] {A/3/27}).

735. In Wright11, Dr Wright gives the following account. He says that he set up the trust structure with the intention that he did not have any rights to see documents until 2020 (Wright11 Appendix C, [6.6] {CSW/3/14}). Dr Wright says that Dianne Pinder of Lloyds solicitors in Brisbane Australia drafted a deed of trust to replace a former trust structure that had been set up in such a way that he did not have a right to see documents until 2020 (Wright11 Appendix C, [6.6] {CSW/3/14}). Dr Wright says that, as he was not a party to the Tulip Trust Deed, he can only comment on what appears on the face of the documents, and that the version at {ID_003329} is not the trust deed for the Tulip Trust (Wright11 Appendix C, [6.11] {CSW/3/15}). The position stated in Wright11 therefore appears to be that, whilst a trust was settled on 23 October 2012 which was called the Tulip Trust, the disclosed versions set out above do not represent the deed of that trust or record its terms.
736. Dr Wright further states in Wright11 that he thinks that the version at {ID_003329} has been doctored by someone, as some of the parties acting for Savannah Ltd as noted in the document held no authority with the company, which he did not find out until after 2022 (Wright11 Appendix C, [6.12] {CSW/3/15}).
737. In his oral evidence at trial, Dr Wright at first accepted that he had sworn in the *Kleiman* proceedings that the Tulip Trust Deed put to him in those proceedings (which was the version at {L8/17/1}) was an authentic document {Day4/107:4} to {Day4/109:5}. However, he then went on to say that it does not record the terms of the trust. He said that this particular Tulip Trust Deed is not a real document and that it is not part of the trust. Dr Wright claimed that he told the Judge in *Kleiman* that it was a real document but that he did not know any different to say otherwise at that time: {Day4/109:2} to {Day4/112:2}. He claimed that he had subsequently spoken to some of the individuals whose signatures appear on this Tulip Trust Deed and they told him that they did not sign it: {Day4/113:6}.
738. Dr Wright claimed that this particular version of the Tulip Trust Deed was formed by someone merging documents together: {Day4/114:5}. Dr Wright said that it was a fake document used by Ira Kleiman, and that there had never been any agreement made between Wright International and Tulip Trading: {Day4/115:10} to {Day4/115/20}.
739. COPA submitted that Dr Wright’s explanation should be rejected for the following reasons:
- 739.1. On Dr Wright’s own admission, the Tulip Trust Deed is not a genuine document on the basis that (on his account) (i) there never has been any agreement between WIIL and TTL at all; (ii) the signatures are said not to be genuine; and (iii) the terms do not reflect what he understood to be the terms of the Tulip Trust Deed actually executed on 23 October 2012. It is, however, remarkable that he failed to mention this in his Re-Amended Defence.
- 739.2. There is no evidence of any of other version of the Tulip Trust Deed dated to 23 October 2012 with different terms. Dr Wright has not brought any of those who

are said to deny signing this deed to Court as witnesses, nor has he called anyone as a witness to say what the “real” terms of the Tulip Trust are.

- 739.3. WIIL is purportedly a party to the Tulip Trust Deed, but that company was only first purchased as an off the shelf company by Dr Wright in October 2014. Mr Madden's findings in Appendix PM48 to the effect that alteration of documents supports that proposition {H/304/9} were not challenged in cross-examination.
- 739.4. Paragraph 3 of this Tulip Trust Deed {L8/17/2} refers to bitcoin having been transferred into TTL on 10 June 2011, although that company likewise was not purchased until October 2014 (as explained in relation to {ID_001421} and {ID_001930} in COPA's original Forgeries Schedule at {A/2/91} and {A/2/101}).
- 739.5. There is nothing in the terms of this trust (as recorded in this Deed) to say that trust documents cannot be shown to Dr Wright. He claimed that he did not know the terms of the document, but also that those terms precluded him from talking directly to any of the individuals involved. He then said that he had spoken to them and found out that the signatures on the document were not genuine. Dr Wright's evidence about this document, and the Tulip Trust more generally, has been confused and internally inconsistent. In particular, he has invented the excuse of having been precluded from seeing the document to explain away his having sworn to its authenticity in the *Kleiman* proceedings and made a sworn declaration based on its terms, but then having denied its authenticity in the *Granath* proceedings. See generally: {Day3/105:2} to {Day3/119:5}.

(c) Conclusions

740. I found Dr Wright's contorted explanations to be wholly unconvincing and false, including his final excuse that this document was ‘doctored by someone’.
741. There is strong evidence that (and I so find) both Tulip Trading Limited and Wright International Investments Ltd were acquired by Dr Wright in 2014 as aged shelf companies, and that the ‘Tulip Trust’ itself was a fabrication designed to shield Dr Wright's assets against possible bankruptcy. Dr Wright's explanations of the terms of the Trust were inconsistent and did not ring true. He has never explained the plain inconsistency between his assertion that the Trust put his assets (including his IP in various documents) beyond reach, yet his continued ability apparently to reference and use all such documents to yield the large number of ‘White Papers’ which are said to have given rise to all the claimed patent filings for nChain.

38. Spoofed email from Dr Wright in the name of Satoshi Nakamoto (1) {ID_001546} / {L8/338/1}

742. This document presents as an email sent in January 2014 from Satoshi Nakamoto to Dr Wright's collaborator (Uyen Nguyen), as if the writer was in fact Dr Wright making use of the email address Satoshi@vistomail.com.

(a) COPA's Reasons for Alleging Forgery

743. The document is an inauthentic, spoofed email. [PM21 [32-34, 93]].

744. The email was not sent from the account recorded as the sender. [PM21 [94]].

745. The email was not sent from a permitted source and did not authenticate with the purported Vistomail origin server. [PM21 [20-34]].

746. Email replies to this message would have been directed to Dr Wright at his email address craig.wright@hotwirepe.com. [PM21 [9-13]].

747. The document originates from a computer with the name "cwright" and from an IP address of Dr Wright, being the same IP address as is associated with several other documents identified as originating from Dr Wright. [PM21 [14-18]].

748. The document was recorded in its transmission header as being "for craig@rcjbr.org" and "Delivered to craig@rcjbr.org". It was not retrieved from the mailbox of Satoshi Nakamoto, but a received item from within Dr Wright's personal email inbox consistent with him being included as a blind copy (BCC) recipient. [PM21 [18-19]].

749. No equivalent sent item has been disclosed by Dr Wright. [PM21 [35]].

750. This email is not authentically from the controller of the email account "satoshi@vistomail.com". [PM21 [34]].

(b) COPA's Reasons for Inferring Dr Wright's Knowledge / Responsibility

751. The effect of the tampering is to make the document appear to be supportive of Dr Wright's claim to be Satoshi Nakamoto (i.e. as suggesting that he was using a Satoshi vistomail account in 2014), contrary to fact.

752. The document is an email sent in Dr Wright's style of language using Dr Wright's personal and hotwirepe email addresses.

753. The document is an email sent to a collaborator of Dr Wright.

754. The text of the document discourages its recipient from showing the content of the email to others.

755. The document was recorded in its transmission header as being "for craig@rcjbr.org" and "Delivered to craig@rcjbr.org". It was not retrieved from the mailbox of Satoshi Nakamoto, but a received item from within Dr Wright's personal email inbox consistent with him being included as a blind copy (BCC) recipient. [PM21 [18-19]].

756. No equivalent sent item has been disclosed by Dr Wright. [PM21 [35]].

(c) Dr Wright's Explanations and COPA's Rebuttal

757. Dr Wright does not dispute that this is a spoofed email, but denies that he created it. In Appendix B to Wright11, he claimed that it had not come from him or his mailbox; that somebody had sent it to the ATO; that the ATO had disclosed it to Ira Kleiman; and that Mr Kleiman had then disclosed it back to Dr Wright in the Kleiman litigation. Dr Wright said that it was likely that Ms Nguyen created this email, thinking that it would help him. See: {CSW/2/61}.

758. In his oral evidence, he said that this document was among those collected from the computer of a former employee of one of his companies who had access to emails to which they ought not have had access. He no longer said that it was likely that Ms Nguyen had created the email, saying only that it was a possibility. See: {Day4/64:3} to {Day4/68:2}.

759. COPA submitted that Dr Wright's explanation should be rejected as dishonest for the following reasons:

759.1. Mr Madden's unchallenged expert evidence is that two distinct entries in the email's transmission header indicate that the message provided in disclosure has been taken as a received item from the mailbox craig@rcjbr.org [PM21 [18-19]]. That conclusion is at odds with Dr Wright's evidence that the message was not taken from his email system.

759.2. Mr Madden's unchallenged evidence is also that another entry in the transmission header indicates that the email was authored on a computer, the network name for which was "cwright" and which had an assigned IP address of 14.1.17.85 (which corresponds to a location in New South Wales, Australia) [PM21 [14-17]]. There are a large number of other emails in disclosure with those identifiers which appear to come from Dr Wright. They are discussed in Appendix PM18.

759.3. Dr Wright's account posits a bizarre sequence of events in which Ms Nguyen (or possibly someone else) supposedly faked this email with a view to helping him (somehow), after which it found its way from an unidentified staff laptop to the ATO, then to Ira Kleiman, then back to Dr Wright. There is no evidence whatsoever to support this story. Nor is there any explanation given for the supposed steps in the sequence of events (how the email was originally supposed to be deployed; how, why and by whom it was sent to the ATO; why the ATO sent it to Mr Kleiman; etc.).

759.4. The simple explanation, which fits with the unchallenged forensic findings, is that Dr Wright created this email to support his claim to be Satoshi and later disclosed it in his legal proceedings, but is now seeking to distance himself from a patently forged document.

(d) Conclusion

760. Dr Wright's explanations are absurd. He plainly forged this email.

39. The Sartre Message (Particulars of Claim at [23]-[25] {A/2/8}) The First Pleaded Example

761. On 2 May 2016, the various press outlets with whom Dr Wright had collaborated to try to demonstrate he was Satoshi published their articles on the ‘proof’ that Dr Wright had given. Dr Wright had sought to show that he was Satoshi to BBC and Economist journalists by demonstrating current possession of one of Satoshi’s private keys. Dr Wright sought to demonstrate his possession of such a private key by signing a message with the private key.
762. Dr Wright claimed to present a message, a hash of the message, and a signature of the hash in the form of the text of a speech by Jean-Paul Sartre (the “Sartre Message”). The signature was purported to correspond to a private key associated with Bitcoins mined in Block 9 of the Bitcoin blockchain (which are believed to be Bitcoins mined by Satoshi).

(a) COPA’s Reasons for Alleging Forgery

763. The Sartre Message offered no such proof. COPA allege that Dr Wright took a signature from a transaction on the public Bitcoin blockchain published first in 2009 and republished it. Dr Wright presented a fragment of the Sartre Message and claimed that the signature corresponded to the Sartre Message. However, the provided signature was that of a 2009-era Bitcoin transaction that was publicly available in the blockchain and not one that was contemporaneously generated with regard to the Sartre Message (or one that corresponded to the Sartre Message).

(b) Dr Wright’s Explanations and COPA’s Rebuttal

764. Dr Wright has accepted that the digital signature in the Sartre Message was one relating to a pre-existing transaction which was and remained publicly available on the Bitcoin Blockchain (Defence, [42] {A/3/15}). As his expert in cryptocurrency technology, Mr Gao, agreed, the signature was the same information as in the signature used in the Satoshi Nakamoto / Hal Finney transaction, but presented in base 64 rather than base 16 {Day18/42:22}.
765. Dr Wright claimed that, as would have been obvious from the text of the Sartre Message, it was never intended to provide proof of his possession of the private key associated with the Block 9 coinbase transaction. COPA submitted that that claim should be rejected for the following reasons:
- 765.1. Multiple emails setting out arrangements for the “big reveal” of Dr Wright as Satoshi (which were sent to Dr Wright among others) made clear that this message was supposed to present a genuine digital signature of a new message using this private key: see for instance {L13/40/1}.
- 765.2. Dr Wright and his representatives had led the journalists with whom they had dealt to believe that the Sartre Message would present such a genuine digital signature of a new message, as can be seen from the articles they published on 2 May 2016: {L13/205/11} (the Economist); {L18/330/4} (GQ).

- 765.3. When Dr Wright’s own group of supporters (including Stefan Matthews and Calvin Ayre) became aware that online commentators had demonstrated that the Sartre Message had not contained a genuine digital signature of a new message, they reacted with surprise and great disappointment: see email chain of 2 May 2016 at {L13/97/1}.
- 765.4. Mr Matonis and Mr Andresen (one of the Bitcoin developers) with whom he had conducted private “signing sessions”, reacted in the same way: see their emails at {L12/213} and {L13/166} and Mr Andresen’s evidence in the Kleiman proceedings at {E/17/132} and {E/17/154} (Dr Wright “certainly deceived me about what kind of blog post he was going to publish, and that gobbledygook proof that he published was certainly deception”).
- 765.5. Dr Wright did not respond to the concerns of his own supporters by saying what he now says; viz, that the Sartre Message had never been intended to present a genuine digital signature. Rather, he claimed that the problem was that the wrong copy had been uploaded: see {L13/97/1}, {L13/169/1}. That was false: the Sartre Message had been discredited because it did not include the promised genuine digital signature.
- 765.6. Dr Wright told the Court that it was easy to tell that the signature presented in the Sartre Message was a representation of an existing signature {Day7/164:22}. That was false. As his own expert (Mr Gao) told the Court, it had taken “extraordinary internet detective work to connect the signature with one of the early bitcoin addresses”: see {I/2/62}; {Day19/43:23} to {Day18/44:6}.
- 765.7. In the Sartre Message, Dr Wright claimed that he would explain the process of verifying a cryptographic signature {L18/257/3}. He also claimed that the signature would be of a new message relating to Sartre (i.e. a new text not previously used for a signature) {L18/257/6-7}. In the Sartre Message, he presented a single digital signature for verification {L18/257/11}. The clear indication was that this was a signature of the new message. Further, he drew a direct link between his supposed signing of messages in private sessions (with journalists, Mr Matonis and Mr Andresen), by saying that he “could have simply signed a message in electrum as [he] did in private sessions” rather than adopting the more complex Open SSL method of signature verification used in the Sartre Message. Overall, while it was written in a complex and occasionally obscure manner, the Sartre Message represented that a new message was being signed with a key associated with Satoshi Nakamoto (as had supposedly happened in the private signing sessions).

(c) Conclusion

766. Dr Wright’s forgery in the Sartre message was particularly clumsy, which is why the true nature of the message was quickly identified by many in the Bitcoin community. Dr Wright’s excuse – that he never intended to provide a genuine digital signature of a new message – was plainly false and dreamt up, in my judgment, after the event.

40. The MYOB Ontier email (aka ‘the Ramona Version’) dated 18 February 2024.

(a) Background

767. I deal with the MYOB Screenshots above. These comprise 3 documents which appear to be screenshots of MYOB accounting system records dating from 2009-2010. By way of example {L5/150/1}, which purports to show the sale of ‘node assets’ from Information Defense Pty Ltd to WIIL on 11 August 2009 for the sum of Aus\$795,000. This, and other screenshots from the relevant MYOB account supposedly show Bitcoin-related assets being transferred from Information Defense to other companies controlled by Dr Wright. These screenshots were amongst his Primary Reliance Documents. His evidence was that it was only in the first week of Bitcoin operation that he personally carried out mining. After that, he said it was done by Information Defense.
768. In his Chain of Custody schedule, he had said that these screenshots were taken by Ontier.
769. On Day 4 (8 February 2024), Dr Wright was cross-examined about the screenshots of MYOB accounting system records. He confirmed they had been taken by Ontier.
770. After this evidence had been given, Bird & Bird wrote to Ontier requesting information as to when the screenshots were made. Ontier then wrote to Shoosmiths with the requested information. Shoosmiths then obtained my permission to take instructions from Dr Wright (since he was still under cross-examination). Having taken instructions, Shoosmiths then passed on this information in a letter dated 9 February 2024 (M2/1000). Ontier were unequivocal:

“Dr Wright first provided this firm with log-in details for the MYOB accounting software on 9 March 2020 and we first accessed the software on that same date. We did not have access to MYOB in “late 2019” (line 8, page 2 of Bird & Bird’s letter).

We created a series of screenshots from that system on 9 and 10 March 2020, including screenshots that correlate with the screenshots which appear at Doc IDs: ID_004076; ID_004077; ID_004078; and ID_004079.”

771. Dr Wright was therefore faced with his previous solicitors, who are of good standing, providing the Court with confirmation that Dr Wright had never provided them with MYOB logins in 2019, contrary to his claims stated under oath.
772. Armed with the Shoosmiths letter, Counsel returned to the subject on Day 5 (9 February 2024). Dr Wright insisted that he had provided Ontier with access to the relevant MYOB account in late 2019. He challenged Ontier’s version when it was put to him on 9 February 2024, maintaining: “I also know, and I have the emails in disclosure stating that they had access from 2019” {Day5/44/24}.

(b) The email

773. The MYOB Ontier email was created to substantiate that assertion, and to support his case that the MYOB screenshots were genuine and thereby to support his claim to be Satoshi Nakamoto.
774. The effect of the tampering was to make the email appear to be a document supportive of Dr Wright's evidence during his cross-examination that he had provided Ontier with login details to MYOB in 2019, contrary to fact.
775. The MYOB Ontier Email was forwarded by Dr Wright on Sunday 18 February 2024 at 11.39 to his wife, Ms Watts, who then forwarded the email on to Shoosmiths at 12.56 the same day, stating that the emails being forwarded were "*communications between Simon Cohen from Ontier in respect of 2019 MYOB login.*" Her email forwarded an email supposedly sent by Dr Wright to Simon Cohen of Ontier at 14.52 on 2 December 2019 which purports to show that Ontier were provided with login details to a MYOB account in late 2019. It was this forwarded email which is said to be a forgery.
776. The email from Ms Watts went on to explain that the email was being forwarded to show that Ontier's position, that they had not received the login details in 2019, was false. Ms Watts was providing the email on Dr Wright's behalf, after it had been sent by Dr Wright to her. In all the circumstances, it is plainly to be inferred that the information she supplied had come from him. Dr Wright was therefore deploying this email to undermine his previous solicitors and back up his own false evidence.
777. The email was sent by Dr Wright to his wife with the evident intent that she would pass on the doctored email to Shoosmiths to support his position, which she duly did.
778. On Friday 23 February 2024, less than a week after creating the forged MYOB Ontier Email, Dr Wright repeated his false evidence and his denial of Ontier's account, reiterating that Ontier had received MYOB login details in late 2019 and adding that he had the emails to prove the point {Day15/14/23}. Dr Wright was therefore relying on emails he knew he had recently forged when he stated under oath that such emails existed and supported his account.
779. The forwarded email was not in disclosure. In order to provide access to it, Dr Wright waived privilege in the MYOB Ontier email on 26 February 2024 and it was disclosed to the solicitors for COPA and the Developers. The circumstances of the disclosure were explained by Lord Grabiner KC in submissions on Day 16, which were made by reference to a bundle of documents, later tabulated into X/55 to X/59. The MYOB Ontier email is at X/56/2.
780. The genuine emails sent on 2 December 2019 were as follows (see X/59):
- 780.1. The first email in time was sent from craig@rcjbr.org to Simon Cohen at Ontier at 12.38 with the subject header 'Old ID Email' and a single word message 'Attached', with Dr Wright's signature block as Chief Scientist, nChain.
- 780.2. The second email in the chain was Simon Cohen's reply at 1.45 pm, headed RE: [EXT] Old ID Email, in which Mr Cohen said 'Thanks Craig. What does this relate to? Simon.'

- 780.3. The third email in the chain was Dr Wright's reply at 15.56, headed Re: [EXT] Old ID Email, in which Dr Wright said 'An old Information defense file about the IP. Including Blacknet. To my lawyer in Au. I will waive privilege with Michael.'
781. X/58 contains a three email string in which the first two emails are the same as in X/59. However the third email in the chain purports to have been sent from craig@tuliptrading.net at 14.52, subject: '[EXT] RE: [EXT] Old ID Email' with the following content. Again, this is the email which is alleged to have been forged:

'It links data we have in MYOB. When you log in you will understand - it is the WII and TTL accounts from 9/11 AP have already accessed this. Though- I do not like that they need admin - I disagree strongly that admin is ever needed in forensic captures and think this is a problem.

I sent a login to Alix Partners that they have ace[ted, so now I have added you.

Note - I do not have a direct login, and your user login will be from MYOB live directly - not me.

Regards,

Craig'

782. Fast forward to 18 February 2024. At X/56/1, the first email in time is craig@tuliptrading.net forwarding the three email string from X/58 to his wife Ramona Watts ramona@rcjbr.org on Sunday 18 February 2024 at 11.39 with the Subject: Simon. The second email in time is Ramona Watts forwarding all four emails to various people at Shoosmiths at 12.56, Subject: Fwd: Simon, Attachments: RE: [EXT] Old ID Email, with this message:

'Please see communications between Simon Cohen from Ontier in respect of 2019 MYOB login. Ontier had said that they only received log in details in 2020, but they, as well as Ali Partners had it in 2019 as Craig had explained.'

(c) COPA's Allegation

783. The MYOB Ontier Email purports to be dated 2 December 2019. However:
- 783.1. The transmission header of this document (the Ramona Version) records interaction with Google Gmail servers including an ESTMPESA id that is formatted in a manner which was not used by Google Gmail servers prior to February 2022. The internal content of the email is therefore anachronistic to the purported date on its face.
- 783.2. The internal metadata properties of this document (the Ramona Version) record that the image attached to it was added on 18 February 2024, during the true course of authorship of the email.

- 783.3. The Ramona Version of the email is a sent item retrieved from Dr Wright's mailbox. Ontier has disclosed another version of the email, which was in fact received by them (the "18 Feb 2024 Received Version"). The internal metadata of the 18 Feb 2024 Received Version show that this email was sent to Ontier on 18 February 2024 and delivered to Ontier by way of a series of transmission hops between servers which took place in the course of 6 seconds between 11:06:06 and 11:06:11 on 18 February 2024. The series of transmission hops take place on the server infrastructure of third parties including Google, Mimecast, and Ontier before delivery to the intended recipient mailbox. Such third party servers accurately record the time at which they acted upon the email to cause it to be delivered. Further, Ontier have themselves stated that the MYOB Ontier Email "was in fact received on our systems on Sunday 18 February 2024": {M3/22/1}.
- 783.4. By contrast, the timestamps shown on the face of the MYOB Ontier Email are manipulated, and backdated, causing the face value content of the document to appear to date from 2 December 2019 contrary to fact.
784. Another email has been disclosed by Ontier which was genuinely sent and received on 2 December 2019 at 14.52, from Dr Wright to Mr Cohen of Ontier: {M3/20/1} (the "Ontier Version"). This (genuine) Ontier Version, and the (forged) MYOB Ontier Email (the Ramona Version), both follow two earlier emails, creating in each case a short three email chain. The two earlier emails in each chain are materially identical between the two chains, being (a) an email timed at 12.38 on 2 December 2019 from Dr Wright to Mr Cohen of Ontier and (b) Mr Cohen's response at 1.45pm on the same day. Those earlier emails are genuine emails sent between those individuals on the times asserted on their face.
785. The authentic Ontier Version email contains no reference to MYOB logins in any part of its chain, and it carries a subject line indicating that it relates to an "Old ID Email". That abbreviation (ID) is plainly in context a reference to Dr Wright's company Information Defense. The genuine Ontier Version email timed at 14.52 from Dr Wright to Mr Cohen states that the details provided in the earlier emails in the chain relate to "*An old Information defense file about the IP. Including Blacknet*".
786. The MYOB Ontier Email was forged on 18 February 2024 in the following manner. First, a new email with new text ("*It links data...*") was created as a reply to Mr Cohen's email of 2 December 2019 (timed at 1.45pm), and that was done with the local computer clock backdated to 2 December 2019. Second, that new email was sent to Mr Cohen at Ontier, who (as Dr Wright was aware) no longer worked at the firm. Third, the internal content of the resulting email was then manipulated between 11.06am and 11.39am on 18 February 2024 in order to alter the internal timestamps recorded in the header of that email. Fourthly, the resulting copy of the email (i.e. the Ramona Version) was then sent by Dr Wright to Ms Watts and then by her to Shoosmiths, Dr Wright's intention being that it would then be deployed in support of his case in these proceedings.
787. In his sixth report, Mr Madden gave a coherent explanation of the sequence of creation and sending of the various emails, which accounts for their transmission header information and timestamps: see Madden6 [36] {G/11/14}. His evidence accords precisely with COPA's case, as set out above.

(d) Dr Wright's contention

788. In Wright15, Dr Wright appears to have been originally prepared to say that the genuine email sent to Mr Cohen in 2019 with different content (which did not mention MYOB) was spoofed, since his statement says that an entry in the transmission header of that email indicates spoofing. That story appears to have been dropped before or during cross-examination, where he claimed that there had been *two replies* to Mr Cohen's email on 2 December 2019. The first was said to be the genuine 2019 email of which Ontier had a copy and the second was said to be a reply matching that forwarded by Ms Watts to Shoosmiths. Dr Wright also claimed that there were other emails including a follow up on 5 March 2020 that were other parts of this chain: {Day19/9:13} and following.
789. Dr Wright claimed that the email he had sent to Ms Watts which she forwarded to Shoosmiths was genuine, but that the same email in substance sent to Ontier on 18 February 2024 was spoofed by some unknown bad actor. To explain the fact that both emails were sent on the same day, Dr Wright suggested that this bad actor must have bugged his house. He claimed that all this had been done because this unknown individual wanted doubt to be cast on the email Dr Wright was forwarding to his wife by making it look like there was an attempt to forge the email earlier that day. Dr Wright said there were hundreds of people who could have done this as they all had access to his emails. He also claimed that he was migrating away from his rcjbr.com email address as his main email account to tuliptrading.net due to the Kleiman litigation. Dr Wright claimed that the 18 February 2024 timestamp in the nChain logo in the version of the email sent to Shoosmiths by Ms Watts was due to someone using Outlook (presumably his wife, although it was not entirely clear).
790. As COPA submitted, Dr Wright's story requires a series of almost impossible events to have occurred. It is worth setting out this supposed sequence of events because it shows the depths of absurdity to which Dr Wright had to descend in order to try to defend his plain forgery.
791. Dr Wright's version of events requires the following to have happened:
- 791.1. On 2 December 2019, he forwards an email to Simon Cohen of Ontier which concerns documents related to Information Defense. Mr Cohen replies by asking what this relates to. Dr Wright then writes two separate replies in short order: (a) first (at 14:52) an email referring to MYOB data which has no obvious relevance to the previous emails and which actually provides no login details {X/56/2}; and (b) second (at 15:56) an email which is relevant to the rest of the chain and concerns Information Defense (i.e. the one COPA says is real) (the "**Ontier Version**") {X/59/1}.
- 791.2. The second of those December 2019 emails remains on Ontier's system until February 2024 and is ultimately accessible to the firm when they come to investigate at that time. For some reason, the first of them is lost and not accessed when Ontier come to investigate in February 2024.
- 791.3. At some point before 18 February 2024, somebody opposed to Dr Wright (let's call them the "Bad Actor") gets hold of a native version of the first of those emails (the one talking about MYOB log in details). Dr Wright has no idea who this Bad Actor could be, since hundreds of people have had access to his emails.

- 791.4. On 18 February 2024, Dr Wright decides to forward to his wife (Ramona Watts), and she decides (independently) to send to Shoosmiths, a copy of the email from 2 December 2019 talking about MYOB log in details (the “**Ramona Version**” – {X/56/2}). (The email was forwarded by him at 11:39, so the decision must have been made some time before then.) Very unluckily for Dr Wright, the Ramona Version email contains forensic signs of having been created on 18 February 2024 (the ESTMPSA timestamp format and the encoded timestamp for the image file) which the only expert evidence indicates could not be explained in the way he says. Madden6 {G/11/14}. The time stamp in the image file, usually created when the email starts being composed, is 10:17 on 18 February 2024.
- 791.5. At 11:06 on 18 February 2024, the Bad Actor sends to Ontier a spoofed version of the 2 December 2019 email concerning MYOB login details (the “**18 February 2024 Received Version**”) {X/58/1}. Assuming that the timing of this in relation to Ms Watts’ email is not a gigantic coincidence, what must have happened is as follows. The Bad Actor must have discovered (through an undiscovered bug in Dr Wright’s house) that the Ramona Version was about to be sent to Shoosmiths. The Bad Actor must have discovered this even before Dr Wright had sent the Ramona Version to Ms Watts. The Bad Actor must have spotted their chance, sprung into action and spoofed a copy of the original version of the Ramona Version email, doing so in such a way that it appeared to come from Dr Wright (something the only expert evidence indicates is at least exceptionally difficult, if not impossible, on the forensic materials). The Bad Actor must have managed to complete the spoofing in time to send the email at 11:06 (when it arrived on Ontier’s systems).
- 791.6. Tragically falling into the Bad Actor’s trap, Dr Wright forwards the Ramona Version email to Ms Watts at 11:39 and Ms Watts forwards it on to Shoosmiths at 12:56.
- 791.7. In the days that follow, the Bad Actor waits as, despite their resourcefulness and despite Dr Wright having fallen for the trap, it seems likely that the trap may have no effect. Shoosmiths do not raise any queries with Ontier and the MYOB issue goes unmentioned.
- 791.8. On the morning of Friday 23 February 2024, during COPA’s cross-examination of Dr Wright, the topic of the original MYOB screenshot documents is revisited. Dr Wright confidently says in his cross-examination that he has the emails to prove that Ontier received the MYOB login details in late 2019. That response drives Shoosmiths (whilst Dr Wright is still in the witness box) to raise a question with Ontier by emailing them the Ramona Version to check it {X/57/2}. The Bad Actor must have either foreseen COPA’s cross-examination and what followed or must have been very lucky.
- 791.9. The Bad Actor’s spoofed 18 February 2024 Received Version email is discovered by Ontier and everything falls into place, as Ontier inform Shoosmiths that they do have that email with a date header of 2 December 2019, but that the email metadata shows it was sent to Mr Cohen (who has left Ontier some time ago now) on 18 February 2024 {X/57/1}.

- 791.10. At this point the Bad Actor’s luck transcends good fortune, and Dr Wright’s misfortune is compounded, because (despite maintaining meticulous records in all other respects) Ontier must also have lost the original true MYOB email that Dr Wright originally sent on 2 December 2019, as that is apparently nowhere to be found.
- 791.11. On 26 February 2024, Lord Grabiner KC runs in detail through the set of newly disclosed emails, including the 18 February 2024 Received Version, having accepted that privilege has been waived. There is no mention in Court of this 18 February 2024 Received Version having been spoofed. It is to be assumed that Dr Wright tragically failed to mention that to his counsel, as no doubt they would otherwise have noted the point in their presentation to the Court.
- 791.12. On 29 February 2024, Dr Wright prepares Wright15 {E/34/1}. He forgets to mention, in spite of his claims to be a leading IT security expert, that the 18 February 2024 Received Version is a fake email which must have been planted by this unknown Bad Actor. Instead, he spends his time arguing that the “received-spf: none...” entry in the Ontier Version email (which he later accepts in cross-examination is a real email) suggests that that is a spoofed email.
792. The second possible account is that Dr Wright faked an email (the Ramona Version) to back up his story and had it sent to Shoosmiths. Having read Madden6, he flailed around for a cover story and initially came up with (in Wright15) one which involved denying the authenticity of the Ontier Version email, relying on server DNS records he had changed the day before. Then he either changed his mind or got confused when being cross-examined about which email he wanted to claim was fake. Ultimately, he was forced to claim that an unknown Bad Actor (from a cast of hundreds) spoofed an email with the same content as one he says is genuine in order for him to say that he has been set up.
793. I agree with COPA that simply setting out these competing versions makes clear how absurd was the account to which Dr Wright was ultimately driven. In all of this, the responsibility for the forgery and lies sits firmly at Dr Wright’s door. No blame attaches to any of the solicitors who acted on his behalf at various times. Indeed, both Ontier and Shoosmiths behaved entirely properly and their actions enabled the forgery to be exposed.

(e) The timestamps and other points raised by Dr Wright.

794. In his sixth report, Mr Madden explained that the supposed 2 December 2019 email forwarded by Ms Watts to Shoosmiths on 18 February 2024 cannot be authentic to its stated date, because (i) the logo image attached has an encoded timestamp dating it to 18 February 2024 (Madden6 [13] {G/11/8}); and (ii) the email bears an ESTMPSA timestamp in a format which was not used before early 2022 (Madden6 [25-30 {G/11/12}). Dr Wright’s account of these timestamps (at {Day19/15:18} and {Day19/20:11}) was disputed by Mr Madden as providing no answer ({Day19/60:22} and following). It was not seriously disputed, beyond Dr Wright’s counsel asking whether specific tests had been performed, which Mr Madden explained as not feasible: {Day19/90:19} and following.

795. Dr Wright's attempt under cross-examination to argue that the email received by Ontier on 18 February 2024 must be spoofed, based on its transmission header information, was rejected by Mr Madden: {Day19:63:11} and following. Mr Madden defended that position cogently under cross-examination: {Day19/83:13} to {Day19/88:23}. There was no countervailing expert evidence.
796. Other emails which Dr Wright referenced during his attempted explanation, such as the supposed 5 March 2020 email follow up to Oliver Cain, have not been disclosed. Privilege has been waived in relation to this topic, so the Court can infer that no such emails exist.
797. There has also never been any disclosure of this 2019 MYOB email sent to Ontier from any one of the hundreds of other sources that Dr Wright says have copies of his native emails.
798. The story about Dr Wright swapping his email accounts does not make sense and again appeared to be intended to distract and confuse the issue.

(f) Conclusion

799. I am entirely satisfied that the MYOB Ontier Email was forged by Dr Wright.