K. The False Entries in the Daytimer.

65. With respect to the 1989 Daytimer (which also included the last week of 1988), Anr Mohsen made the following entries of interest:

December 26, 1988:	Drive to S. Lake Tahoe Aly/Take (Eng. Patent NotebooK*)
	(N.B.: The "K*" was an overwrite and cross-out, and will be explained below.)
March 26, 1989:	Meet Aly (PXX Eng. Notebook)
	(N.B.: The "PXX" was another overwrite, and was illegible.)
June 30, 1989:	Fly to Springfield (Take Eng. Notebook)

If these entries were genuine, they would indeed tend to corroborate the Mohsens' story. On the face of the Daytimer, however, two points stand out, before ever considering the forensic evidence.

66. *First*, out of more than 800 entries (a conservative estimate) in the Daytimer, these three entries are the *only* entries in the entire Daytimer that explain with specificity a reason for any trip or meeting or other entry. They are also three of only five entries in the Daytimer with *any* parenthetical matter. In the other entries, all that Anr Mohsen ever typically wrote down was "staff meeting" or "Paul C" or "Board Meeting" or an address or phone number. These three entries are clearly out of character with the custom and usage otherwise set forth in the Daytimer.[7]

67. *Second*, the overwrite and cross-out in the December 1988 entry are significant. The entry reads "Take/(Eng. Patent NotebooK*)" where the K represents an overwrite and the * represents a cross-out. The Court has examined the original (and invited the parties to do so as well and to comment). Based on the Court's own review, there is a very high probability (and the Court so finds) that the original entry — before the alterations — was "Take/(Eng. Patent

[7] The Daytimer has approximately 855 entries, which were made in pencil and at least five inks distinguishable to the casual observer. All three questioned entries uniformly are in black ink even though the vast majority of the 800-plus other entries are in another color or in pencil.

Notebooks)" — *i.e.*, *in the plural*. Of course, in December 1988, there was only supposed to be *one* engineering notebook. These circumstances indicate that Amr Mohsen made the entry later when *both* notebooks existed. After making the parenthetical entry in the plural, however, Amr Mohsen realized the error. Ink having been used, he was forced to make a correcting overwrite and cross-out to change it to the singular. By order dated May 30, 2000, the Court specifically invited Amr Mohsen (and the parties) to clarify this point and Amr Mohsen declined on Fifth-Amendment grounds. The Court finds his silence incriminating and that it confirms the Court's view of the entry.

68. *Finally*, the forensic evidence is convincing that these three entries were made with an ink, a Formulabs "926" ink, that was not manufactured until 1994, five years after the supposed entries. Both sides' experts testified that the test used was valid, a so-called "TLC separation image," although the experts disagreed on the conclusions to be drawn from the test.[8] The test image was compared against several thousand library standard TLC separation images. At the hearing, Expert Speckin showed the standard TLC image for the Formulabs "926" ink and the test image. The Court compared them. They looked identical. Expert Speckin testified there was a perfect match and that the ink used was the Formulabs "926" ink. Expert Speckin testified without contradiction that the Formulabs "926" ink was not available until 1994.

69. Opposing Expert Lyter's response was unconvincing. At his deposition, he had rejected the Formulabs "926" standard image because, earlier, there had been, he said, an additional spot of gray in the Formulabs "926" standard that was not in the images made from the ink taken from the questioned entries. He had based the gray spot on a supposed review by him of the TLC standards from Expert Speckin's library. But Expert Speckin produced his library standard sample both at trial and at the deposition. *The library sample in question (for Formulabs "926") had no spot of gray*. Expert Lyter admitted at his deposition that he could no longer see any spot of gray on the library image in question. At the evidentiary hearing, Expert Lyter said it must have disappeared due to deterioration. That is not credible. The library image was less than two years old

[8] A TLC separation image is an image made on a glass plate, called a TLC plate. The image is made for the purpose of identifying an ink. The questioned ink is dissolved in a vial and then spotted on a TLC plate (Speckin Tr. 89-90). The plate is then put in a mobile-phase solvent, which separates the dyes in the spots on the plate (*ibid.*). These separations then can be compared to standard separations of known inks for a match (*ibid.*).

when Experts Speckin and Lyter examined it (Speckin Tr. 390). Expert Lyter examined the image only a couple of months after Expert Speckin (*ibid*). It is not believable that a gray spot would have suddenly vanished in the brief period between Expert Lyter's original observation and his deposition. Accordingly, the Court finds convincing the conclusion by Expert Speckin that the questionable Daytimer entries were made with Formulabs "926" ink, an ink not available until after 1994.

70. Using the same type of test, Expert Lyter concluded the ink was a BIC ink. In doing so, however, he did not have Formulabs "926" ink in his library to compare against the questioned entries (Lyter Tr. 334-36). Expert Lyter thus could not have correctly identified the questioned ink as Formulabs "926." Moreover, the Court has examined the TLC plates and finds that whereas the Formulabs "926" sample is identical to the subject samples, the BIC ink is not.[9]

71. Expert Lyter also testified that, according to his relative-aging analysis, the questioned entries in the Daytimer were more than a year old (Lyter Tr. 324-25). He tested the entries in late 1999. He first identified the type of ink used in the questioned entries as a particular BIC ink (*id.* at 324). Then, to make a relative-aging comparison point, he made a recent writing sample with the type of ink he had identified by applying a stroke of that ink to an unused portion of the Daytimer (*ibid.*). He then compared the extracting rates of the questioned entries with the newly-prepared sample and with the other entries in the Daytimer presumed to be authentic (which he had also identified as being written in the particular BIC ink) (*ibid.*). Under his relative-aging test, extraction rates would differ significantly between writing samples that were written recently and writing samples that were five or more years old. His test required that the writing samples be of the same ink. He found consistency between the questioned and unquestioned Daytimer entries, both of which he found differed from his recently-made BIC black writing sample (*id.* at 324-25). He concluded that the entries from the Daytimer were completely dry (at least three-and-a-half to five-years old) because they differed from his recently-made sample, which he knew to be still in the drying

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[9] The TLC separation image from the March 26, 1989, and July 4, 1989, entries shows a yellow band beneath a close group of several distinct methyl violet bands. Both Expert Lyter's sample image (Exh. 188) and Expert Speckin's sample image (Exh. 1301) showed this. The separation images for the BIC black ballpoint ink do not show three closely-grouped methyl violet bands as set forth in the separation images of the questioned entries from the Daytimer (Exh. 188, lane 13; Exh. 1307). The Formulabs "926" separation image is a match (Exh. 1303, lanes 11 and 12 from right to left).

process. The Court rejects Expert Lyter's conclusion based on this test because, as stated above, Expert Lyter misidentified the ink used in the questioned entries as a BIC ink. His comparison between the extraction rates of the questioned entries and the extraction rate of his recently-prepared sample were between two different inks, and therefore could not form a proper basis for his conclusion.

L. The Return of the Notebook Fragments.

72. More than a year after they were reported stolen, fragments from the notebooks were reportedly returned. On or about January 5, 2000, according to Amr Mohsen, a large priority-mail envelope arrived at his home bearing $1.98 in postage (Exh. 121). It was hand-addressed to Amr Mohsen at his home in Los Gatos with, as shall be important in a moment, the correct zip code (95030). There was no legible return address on the envelope. The envelope was postmarked in San Jose on January 3, 2000. Amr Mohsen testified that he did not open it until January 20, whereupon he found an anonymous note from "FL" stating (in hand printing): "These were discovered lately in our backyard. These look like important documents for you." Also therein he found, according to his deposition testimony, scraps from the 1988 and 1989 Notebooks, nine from the 1988 Notebook and 23 from the 1989 Notebook (Mohsen Dep. 1029-39; Exh. 121).

73. He produced for inspection the envelope and its contents. These are now part of the record (Exh. 121). (The red dust is fingerprint dust.) In some cases, the notebook scraps were most of the page, torn away at the vertical edges. In other cases, the scraps were about a quarter of a page. None of the totally blank pages were inside. None happened to have Amr Mohsen's signature (except one or two had a tiny portion of Amr Mohsen's signature). The witness signature of his brother occurred on six scraps from the 1988 Notebook. At this time, plaintiffs were seeking to use the evidentiary hearing to prove up the foundation for using copies of the notebooks in lieu of the originals at trial, a foundation that required plaintiffs to show that the proponent of the evidence had not lost or destroyed the originals in bad faith (under Rule 1004 of the Federal Rules of Evidence).[10]

[10] Plaintiffs later abandoned all reliance on any form of the notebooks, with the exception of the Skjerven Copy of the 1989 Notebook.

74. The contents contained invoices with Amr Mohsen's address, presumably the basis for "FL" to address the envelope. Significantly, however, those invoices had either the *wrong* zip code, 95032, or no zip code at all. *Nonetheless, "FL" had somehow placed the correct zip code on the envelope* (Exh. 121). In this manner, after missing for more than a year, the scraps miraculously re-appeared before the then-scheduled evidentiary hearing.

M. The Forensic Evidence and the 1988 Notebook.

75. Although certain of the techniques used by the forensic experts are not convincing, other tests and conclusions by them are convincing, as follows:

(a) *The Overwritten 1998s.*

76. Five dates by Amr Mohsen in the 1988 Notebook plainly were overwritten — all in the same basic way: the first eight in 1988 was superimposed over a prior number written by mistake. No expert is needed to see the overwrites nor to tell (in most cases) that the number previously written was either a 9 or a 7. Those dates are July 30, August 7, September 3, July 31 and August 14 (at Pages 2, 4, 6, 14 and 26).

77. Expert Speckin was able to go further, lifting the superimposed number to reveal the number originally written. In each case, the original year was 1998 (Exh. 1268(A)). Plaintiffs' Expert Lyter did not contest these findings. The Court finds the methodology and findings by Expert Speckin persuasive on this point. The Court concludes, in light of this and all other evidence, that Amr Mohsen made the entries in 1998, thus accounting for the recurring mistake, and had to overwrite the mistake to make it resemble 1988.

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(b) *1988 Notebook — Ink Identification.*

78. Plaintiffs' Expert Lyter found that all of the extant signatures of Aly Mohsen were in the same ink, probably a BIC ink, and even shared a common stray contaminant, indicating that the same pen (or ink batch) had been used. This included six signatures from two dates: August 14, 1988, and September 5, 1988. Expert Lyter further found that all of the extant Xs were in a single Uniball ink. He further found that all of the text sampled was in yet another ink, also a BIC ink, save for the sentence on Page 4 beginning "A programmable system . . . ." (This latter exception was based on infrared testing and not on ink testing.) The Court accepts all of these findings.

(c) *1988 Notebook — Infrared Examination.*

79. Infrared examination of questioned documents is used to determine if a questioned document has entries made with different inks. Infrared examination can determine if different inks are present even if they are the same color to the naked eye. Infrared examination of the 1988 Notebook Fragments demonstrated that Page 2 was altered by making additions to the notebook in ink different from the rest of the page. The text added to Page 2 was: "Extending the benefits of programmability to the system level will provide similar benefits for system level designs."

80. Infrared examination also demonstrated, as already stated, that Page 4 of the 1988 Notebook was altered by making additions to the notebook in an ink different from the rest of the page, although both inks appear black (Speckin Tr. 64; Lyter Tr. 348-49). The text added to Page 4 was: "A programmable system such as the one using hierarchical interconnect architecture described last week on 7/31/88" (*ibid.*).

81. Infrared examination also demonstrated that Page 7 was altered by making additions to the notebook in an ink different from the rest of the page (Speckin Tr. 66-67). The text added to Page 7 includes the entire figure at the bottom of the page, the text associated with that figure, the legend "Fig. 2(A)," and several other textual additions at the top of Page 7 *(ibid.)*. This is particularly significant in connection with the witnessing sequence on Pages 7 and 8 described under the "obverse/reverse" section set forth below.

82. Infrared examination showed that Page 22 of the 1988 Notebook was altered by making additions to the notebook in an ink different from the rest of the page. The text added to Page 22 was the X at the bottom of the page.

83. Neither Expert Lyter nor plaintiffs offered any evidence to contradict the conclusions Expert Speckin drew from his infrared testing of the questioned 1988 Notebook Fragments. Expert Lyter affirmatively agreed that the sentence on Page 4 was in a different ink from the rest of Page 4 (Lyter Tr. 348-49).

(d) Obverse/Reverse Intersection Examination.

84. An obverse/reverse-intersection-of-lines examination is performed microscopically and can determine which side of a single piece of paper was written first. Writing on side A of a paper creates a convexity on side B. Thereafter, any writing on side B that crosses that convexity will break that convexity. Thus, observation of a broken convexity indicates that the information on side A was written first. On the other hand, an unbroken convexity on side B indicates that side B was written first (assuming the writings cross each other through the paper).

85. Page 4 was the backside of Page 3 in the 1988 Notebook (Exh. 121). Examination of the 1988 Notebook Fragments demonstrated that substantially all of Page 4 of the questioned 1988 Notebook, which bore the date of August 7, 1988, was written *prior to* Page 3 of the same notebook, which bore the date of July 31, 1988 (Speckin Tr. 47-50). The sentence beginning "A programmable system . . ." in the middle of Page 4, however, was added to Page 4 *after* Page 3 was written (*ibid.*). Thus, the sequence was: Page 4, then Page 3, then the add-on sentence on Page 4, a sequence inconsistent with the dates the pages bear.

86. Examination of the questioned 1988 Notebook Fragments (Exh. 121) demonstrated that Aly Mohsen witnessed Page 8 of the 1988 Notebook *before* the additions referenced above were made to Page 7 of the 1988 Notebook, *i.e.*, the "Figure 2(A)" set forth on the bottom half of Page 7 (Speckin Tr. 58-59). The convexities from Page 7 (the "(A)") in "Figure (2A)" do not break through Aly Mohsen's signature, meaning that Aly Mohsen's signature was already present on Page 8 before the drawing that was added to Page 7 (Speckin Tr. 57-62; Exh. 1258).