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Use of Sources in Ancient Compositions

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[Chapter 3, p. 44→]

The Use of Sources in Ancient Compositions

James W. Barker

—in memory of Larry Hurtado

This essay contextualizes the Synoptic Gospels in terms of ancient writing materials and processes. Greco-Roman writers predominantly used waxed tablets and bookrolls, although codices emerged in the first century CE. Authors could recall texts from memory, but writers could also maintain visual contact when studying, collating, copying, quoting, or paraphrasing sources. Previous scholarship has highlighted the difficulties of interweaving multiple sources and rearranging their sayings and narratives. However, neither operation was unprecedented or overly complicated, as evinced by Septuagint recensions, Josephus's *Antiquities,* and Tatian's Diatessaron. Some writing processes were more complicated than others, but ancient authors did not always work as simply as possible. Every proposed solution to the Synoptic Problem proves feasible according to ancient compositional practices.

Writing Materials and Processes

Quintilian's (ca. 35–ca. 96 CE) *Institutio Oratoria* discusses writing materials, processes, and pedagogy. The ability to paraphrase, abridge, and embellish Aesop's fables was prerequisite to rhetorical education (*Inst.* 1.9.1–3), and students should imitate worthy authors when learning composition (*Inst.* 10.2.1). Imitation is associated with memorizing famous sayings and selections by visual copying and repeated reading (*Inst.* [p. 45→] 1.1.36; 2.7.2). Students were not typically learning entire literary works by heart (*contra* Eve 2016, 82–83; Kirk 2016, 96–97). Quintilian does not recommend dictation, although it was widely practiced (*Inst.* 10.3.18–19). He

says to make frequent revisions during writing (*Inst.* 10.3.5–11) and thereafter, specifically additions, deletions, and alterations (*Inst.* 10.4.1–2). The first draft should be written on waxed tablets, which can be erased easily, and some boards should be left empty for corrections and insertions, even material that was out of order.[1]

The wooden boards of waxed tablets were 4–6 mm thick, and polyptychs were preferable for literary compositions. The outermost boards served as covers, and the inner boards had 1–2 cm margins surrounding the writing area, which was recessed 1 mm and filled with wax. Diptychs had two covers and two inner pages for writing. Additional inner boards were double-sided, so triptychs had four pages, pentaptychs had eight, and so forth. Polyptychs range in size, but boards from multiple sites measure 14 x 12 cm;[2] for comparison, Loeb Classical Library pages measure 16 x 10 cm.

Like codices, tablets were bound inside the long edge. Unlike codices, tablets were typically written horizontally with top and bottom pages rather than *transversa* with left and right pages. A

I thank Christopher Begg, Matthew Crawford, Peter Gentry, Mark Goodacre, William Johnson, John Meade, and Elizabeth Meyer for engaging feedback on various sections of this essay. I also thank Marius Gerhardt for providing dimensions of T.Berol. inv. 10508–10512 as well as Kenneth Foushee and Selina Langford for interlibrary loan assistance.

[1] Waxed tablets were not the only medium for drafts. Quintilian also mentions parchment notebooks (*Inst.* 10.3.31–33), and Catullus (22.5–6) mocks Suffenus for writing everything on new, expensive, papyrus rolls rather than palimpsests. Horace mentions a tablet and stylus (*Sat.* 1.4.15; 1.10.71), but he also began the day with papyrus and pen (*Ep.* 2.1.113), and inked drafts were subject to revision (*Ars* 446–447).

[2] E.g. Tomlin 2003, 41; Meyer 2007; Speidel 1996, 24.

writing area of 12 x 10 cm comfortably fit 300 letters (Tomlin 2003), so the pentaptych in a wall painting at Herculaneum (Turner 1971, 34, Plate 10) could fit 2,000 letters even with one page intentionally left blank; a triptych could easily fit 1,000 letters.[3] Authors also used waxed tablets for excerpting sources at a preliminary writing stage. Pliny the Younger (ca. 61–ca. 112 CE) tells how his uncle annotated and excerpted while someone was reading (*Ep.* 3.5.10–11), and "a shorthand writer with book and tablets" traveled with him (*Ep.* 3.5.14–15). Tablets could be filled quickly, but they lacked permanence, so contents were transferred to rolls.

The contents of twelve pentaptychs would fill eighty percent of a papyrus roll (340 cm long; Elliott 2004, 65–66), leaving empty columns for further revisions. It would take two days to copy that much text in ink. According to a ninth-century colophon (Munich BSB Clm 13347 f. 109r), two scribes copied for seven days, and another scribe made corrections another day (Gullick 1995, 46–50). Factoring in time for corrections, the scribes averaged between 13,000 and 14,000 letters per day.

The cumbersomeness of reading, writing, or copying bookrolls should not be exaggerated (Hurtado 2014, 327–330). Readers could stand, sit, or lie down, and scrolling with two hands would be automatic (Elliott 2004, 82). Bookrolls naturally [p. 46→] want to roll themselves up (Elliott 2004, 71), so they had to be held open. For writing, a roll could be folded under, as depicted in a mosaic of Virgil writing seated in a chair (Martindale 1997, 110–111, Plate 1a). An

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[3] I use the conservative estimate of 2,000 letters per pentaptych throughout this essay, noting here that boards could be smaller or larger and that tablets could contain fewer or additional boards: 250 letters fit an 11.2 x (4.5) cm board (Speidel 1996, 98); 400 letters fit 17 x 14 cm (Kelsey 1923); 500 letters fit 15.5 x 11.9 cm in T.Berol. inv. 10508–10512, which was at least a hexaptych written *transversa* (Calderini 1921, 306–309; Cribiore 1996, 254).

ancient Egyptian statue depicts a scribe sitting cross-legged on the ground (Metzger 1968, Plate IV), as would be advantageous for copying.[4] A *Vorlage* could be held open with a paperweight if the copyist worked alone, as Hermas describes himself (*Vis.* 2.4), but scribes could have copied via dictation (Parker 2008, 156). There is virtually no artistic representation of Greco-Roman copyists "by *any* method" (Elliott 2004, 14), so "we … cannot do more than construct theories" (Parker 2008, 156).

Regarding Christian literary activity, Eusebius (ca. 260–ca. 340 CE) describes Origen's (ca. 185–ca. 254 CE) early education and later scriptorium. Since childhood Origen learned Christian scriptures by heart through daily recitation (*Hist. eccl.* 6.2.7–8). In adulthood he dictated to more than seven shorthand writers in shifts; at least that many others wrote full drafts and finished works in calligraphy (*Hist. eccl.* 6.23.2). In old age Origen allowed shorthand transcription of his public discourses (*Hist. eccl.* 6.36.1).

Origen's scripture memorization demands scrutiny. Repeatedly and "almost certainly from memory" (Ehrman et al. 1992, 299), Origen conflates John 12:45 and 14:9c, "He who has seen me has seen the Father who sent me." Yet Origen quotes John 6:51 exactly like Codex Bezae in one place and exactly like Codex Koridethi in another (Ehrman et al. 1992, 173). This is a recurring phenomenon, and Origen expressly identifies textual variants (Metzger 1968, 88–103). Longer quotations agreeing closely with known manuscripts likely entail someone's visual contact with a written source. Origen could read from manuscripts or quote from memory during dictation, and either way someone could revise his quotations later.

The foregoing examples present a range of authorial capabilities and preferences. So when theorizing authors' use of sources, I consider multiple possibilities. Authors could write by

[4] Regarding the lack of writing desks, see Metzger 1968, 123–137; Derrenbacker 2005, 37–39.

themselves or via dictation, and sources could be quoted from memory or through visual contact. Although the scale of authors' enterprises varied, compositions typically developed in stages, beginning with initial drafts on waxed tablets or previously used rolls, and revisions occurred at multiple points. Some processes would have been more efficient than others, but "relatively more difficult" must not be confused with "technically infeasible."

Septuagint Recensions

Septuagint (LXX) recensionists strictly copied and translated, so each Synoptic Gospel evinces more creative rewriting than LXX recensions. Yet the recensionists' use of sources is comparable to the evangelists'. Around the same time as Tatian, Symmachus [p. 47→] likewise used four *Vorlagen*. *Kaige,* named for its literal translation of וגם (also) as καίγε (even), is the earliest LXX recension, and it consistently interwove two source texts decades before the Gospels emerged.

Along these lines, I elsewhere (Barker 2016, 114–115) adduced the *kaige* Minor Prophets scroll from Naḥal Ḥever (8ḤevXIIgr), which dates to the turn of the era (Tov 1990, 26). Perhaps too briefly, I gave two examples respectively showing *kaige's* clear dependence on the LXX and proto-Masoretic Hebrew text. Nahum (3:12) compares fortresses to "a fig tree with first fruits," which the LXX oddly translates, "fig trees for watchmen" (συκαῖ σκοπούς); since *kaige* reads σκοπ… in column 15, that unusual rendering remained unrevised. Numerous translations were revised, however, and *kaige's* threefold occurrence of יהוה τῶν δυνάμεων in Zech 1:3 matches the Hebrew word count.

Some have objected that *kaige* "hardly requires visual access to a Hebrew text of the 12 Prophets," since the translator habitually replaced the LXX's κύριος παντοκράτωρ (Lord

almighty) with יהוה τῶν δυνάμεων (YHWH of the troops) for the proto-Masoretic’s יהוה צבאות (YHWH of the armies).[5] This objection fails to comprehend the particular example of Zech 1:3 as well as the general nature of *kaige*. Were the recensionist merely replacing LXX κύριος with the Tetragrammaton and κύριος παντοκράτωρ with יהוה τῶν δυνάμεων, there would be one instance of יהוה τῶν δυνάμεων and one standalone יהוה in *kaige* Zech 1:3. On the contrary, 8ḤevXIIgr emphatically uses יהוה τῶν δυνάμεων three times in one verse, just as the proto-Masoretic does.

Similarly, beneath visible blank lines in column 4, an initial lambda is written *ekthesis,* clearly beginning the book of Micah. Whereas the LXX began, “And happened a word of the Lord to Micah” (καὶ ἐγένετο λόγος κυρίου πρὸς Μιχαιαν), the Masoretic text commenced, “The word of YHWH, which happened to Micah” (דבר יהוה אשר היה אל מיכה). *Kaige* began ΛΟΓΟϹ ה…, and Tov’s (1990, 33) reconstruction is uncontroversial: “A word of YHWH, which happened to Micah” (λόγος ה[יהו ὃς ἐγένετο πρὸς Μιχαιαν]). If *kaige’s* Hebrew correspondences were realized from memory, then the recensionist memorized the entirety of the Minor Prophets. Though not impossible, this scenario is implausible in light of Dead Sea Scrolls’ scribal tendencies and rabbinic prohibitions of “copying” Scripture from memory (*b. Meg.* 18b; Tov 2004, 11).[6]

The scale of *kaige’s* project required ongoing visual contact with Hebrew and Greek texts, and elsewhere I have elucidated representative examples (Barker 2018, 127–130). *Kaige* Hab 3:14 looks like an independent translation, since the preposition ἐν is the only one of fifteen

[5] Kloppenborg 2018, 26; earlier Kloppenborg 2014, 6, seconded by Kirk 2016, 307.

[6] On the similarities between the Dead Sea Scrolls’ material production and Maimonides’s medieval description, see Poole and Reed 1962, 17–22.

LXX words left intact. Conversely, in Hab 2:18 *kaige* reproduces twenty of the LXX's twenty-three words; the three alterations align with the Hebrew. In Hab 2:7 *kaige* reproduces ten of the LXX's fifteen words, and again *kaige's* variations match the Hebrew. In Septuagint studies it is axiomatic that the *kaige* recension of the Minor Prophets resulted from thoroughgoing comparison of written Greek and Hebrew *Vorlagen*.[7]

[p. 48→] *Kaige* interwove two source texts by simple collation, and its successors maintained and increased the degree of difficulty. Aquila (ca. 120 CE) based his recension on *kaige*-Theodotion and made additional revisions toward the Hebrew (Greenspoon 1983, 235–253). Working primarily from Aquila's recension, Symmachus (ca. 200 CE) added numerous renderings from the Hebrew while occasionally agreeing verbatim with the LXX and *kaige*-Theodotion (Salvesen 1991, 255–262; van der Meer 2018). In the third century, Origen was producing the Hexapla by collating the Hebrew, LXX, Aquila, Symmachus, and Theodotion, plus three other revisions. A century earlier, Justin Martyr (ca. 100–ca. 165) conflated the LXX and *kaige* in the Minor Prophets (Barker 2018, 130–139).

Decades before any Gospel, *kaige* unquestionably combined two sources to produce a new text. The question is how the translator(s) worked. One person could read the Hebrew text with another reading Greek and someone writing the revised translation. Alternatively, one person could use two sources simultaneously. The recensionist worked phrase by phrase and only needed one column in view at any time. Even with wide columns like1QIsaiah and 8ḤevXIIgr, two juxtaposed *Vorlagen* would measure approximately the same length as an open copy of *Q Parallels* (Kloppenborg 1988).

[7] Fernández Marcos 2000: 109; Tov 1990, 102–158.

At a preparatory stage, a recensionist could have collated sources and noted minor alterations on the Greek *Vorlage*. The presence and absence of *kaige's* definite articles often realign with the proto-Masoretic against the LXX (Tov 1990, 106–108), and other alterations could fit between lines or columns. More complicated revisions could have been drafted on waxed tablets, versos of documentary texts, or ostraca. The sections of *kaige* most closely resembling the LXX could have been drafted onto rolls initially. The entire project also could have been drafted on waxed tablets. Based on Tov's reconstruction (1990, 9), the Minor Prophets would fill three papyrus rolls. The recensionist could draft one book at a time on thirteen pentaptychs; thirteen triptychs would suffice if working through the three longest books one-half at a time. Any of these reverse-engineered materials and processes would have been uncomplicated at the turn of the era.

Josephus's *Antiquities*

Josephus published the *Antiquities* in the last decade of the first century CE, roughly contemporary with the synoptists. Half of the *Antiquities* follows the chronology of the Tanakh, and Josephus condensed, expanded, and reinterpreted while paraphrasing. Although he lacks the synoptists' verbatim agreements, Josephus is comparable because he worked with different books telling the same stories. Gerald Downing and Robert Derrenbacker have examined the *Antiquities'* parallels with Samuel–Kings and Chronicles, but Josephus's redactional work is more complex than has been acknowledged.

Josephus interweaves 2 Samuel and 1 Chronicles throughout *Ant.* 7.46–64 regarding the consolidation of David's reign (Begg 2005, 218–223). Josephus narrates an assassination of Saul's son (*Ant.* 7.46–52//2 Sam 4:1–12), which the Chronicler omits. [p. 49→] Samuel–Kings

and Chronicles converge for David's anointing at Hebron (2 Sam 5:1-5//1 Chr 11:1–3//*Ant.* 7.53). There Josephus includes the Chronicler's reference to Samuel (1 Chr 11:3), who goes unmentioned in 2 Samuel. Additional *Sondergut* relates the three-day feast (1 Chr 12:23–40), which the Chronicler narrates via flashback. Josephus advances the feast to the proper time and place (*Ant.* 7.54–60), and then David's army captures Jerusalem (2 Sam 5:6–10//1 Chr 11:4–9). Only in 2 Samuel (5:6) is David taunted as though hypothetically disabled people could defeat him. Josephus depicts literally disabled people mocking David (*Ant.* 7.61). Only in 1 Chronicles (11:6) does Joab distinguish himself and became a commander; Josephus incorporates Joab's valorous promotion (*Ant.* 7.63–64).

Derrenbacker rightly identifies 2 Samuel as framing Josephus's sequence, but Derrenbacker wrongly denies Josephus's use of the Chronicler's wording (2005, 102–103). Derrenbacker reiterated that Josephus does not move "back and forth between sources *within* episodes" (2011, 441), but that is precisely the case in *Ant*. 7.63–64. Downing more accurately explained the source combinations in this passage (1980, 63), but he characterized Josephus as giving up and writing "a completely fresh account of his own" (1980, 62). Josephus did write a new account, but it straightforwardly combined elements from both sources.

The same is true of Josephus's list of David's descendants (*Ant.* 7.70) via 2 Sam 5:13–16, 1 Chr 3:5–9, and 1 Chr 14:3–7. Each biblical list differs from the others, and Josephus diverges yet again (Begg 2005, 223). Josephus's placement corresponds to 2 Samuel's narrative sequence, but two features show dependence on 1 Chronicles 3 (Avioz 2015, 180). Josephus concludes with David's daughter Tamar, who is listed only in 1 Chr 3:9. And although Josephus names eleven sons, he says that there were nine. This mistake is explicable, since the Chronicler distinguishes David's four sons by Bath-shua (1 Chr 3:5) from his nine other sons (vv. 6–8). Josephus thus

found nine sons and one daughter Tamar together in 1 Chr 3:8–9. Downing granted, “Just occasionally (Josephus) seems to glance across at Chronicles, to check a list of names” (1980, 61). In material terms, Josephus could hardly glance at the Chronicler’s first list. Josephus had advanced as far as 1 Chr 11:6, if not 14:1–7, so scrolling back to chapter 3 covered a minimum of sixteen wide columns.

Given the scope of Josephus’s project, it is highly unlikely that he memorized sources verbatim.[8] Yet I grant that some references could be reminiscences. For example, Josephus notes that Joshua had not expelled the Jebusites from Jerusalem centuries before David (*Ant.* 7.67–68; cf. Josh 15:63). Conversely, the name of Tamar and the solecism of nine sons likely indicate visual contact. Good recollection of texts does not preclude visual contact with manuscripts, for recollection was prerequisite to searching and finding parallels.

Josephus’s text reveals unmistakable traces of two sources being combined within one pericope. He could achieve this by writing in a group via dictation. One person [p. 50→] could read 2 Samuel, another could read 1 Chronicles, and yet another could write the harmonized version. Regardless, Josephus could have drafted on waxed tablets, the contents of which would be transferred to bookrolls at regular intervals. *Antiquities* 7.1–70 would fill ten pentaptychs or two-thirds of one papyrus roll. Josephus also could have drafted on used bookrolls, three of which would contain book 7.

It is also possible that Josephus worked through sources sequentially by himself. On this model, he could paraphrase what he wanted from 2 Samuel, leave considerable margins in his draft, and later incorporate elements from 1 Chronicles. Or Josephus could have worked

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[8] The LXX’s historical narratives paralleling *Antiquities* 1–10 are longer than the *Iliad* and *Odyssey* combined (>230,000 words).

economically by himself with both source texts in view. For the conquest of Jerusalem, 2 Sam 5:6–10 and 1 Chr 11:4–9 each comprise less than 600 letters, so a maximum of two columns of each source needed to be unrolled. Assuming wide columns as in 8ḤevXIIgr, each source would stretch 29 cm across, the spatial equivalent of opening two copies of Rahlfs's Septuagint pocket edition side by side.

Downing posited that ancient authors worked "as simply as possible," particularly with "little or no scrolling to and fro" (1991, 111). For Josephus's list of David's descendants, a simpler process would have ignored 1 Chronicles 3 and used the text(s) already in view. Yet Josephus voluntarily traversed one-third the length of a 1 Chronicles scroll to quote the earlier list. Josephus further complicated matters by occasionally conflating Hebrew and Greek versions of the same text.[9] I conclude, then, that Josephus did not work as simply as possible but that he did work simply: collation, conflation, harmonization, moving forward and backward through scrolls, and even working with two scrolls at once would have been relatively simple processes for a first-century author.

Tatian's Diatessaron

In the second half of the second century, Tatian constructed the Diatessaron, one Gospel "out of the four." Since the direction of dependence is certain, Tatian offers valuable insights

[9] E.g., Josephus combines "ransoming" [=Hebrew] Jonathan with "praying for" [=Greek] him (1 Sam 14:45//*Ant*. 6.128; Avioz 2015, 199–200; Begg 2009, 25–26), and the ghost of Samuel tells Saul that his children will "fall" [=Greek] in battle and "be with me" [=Hebrew] (1 Sam 28:19//*Ant*. 6.336; Avioz 2015, 200). Derrenbacker (2005, 115) undervalues Josephus's text-critical conflations.

into the synoptists' compositional practices. Some scholars hesitate to draw this analogy, since none of the Synoptics is a harmony per se (Kloppenborg 2014, 8-9; Derrenbacker 2005, 158). Thus it is crucial to clarify how Tatian compares to his canonical counterparts. Each synoptist rewrites sources more than Tatian, who quotes the Gospels with barely a trace of paraphrase. Moreover, Tatian includes every episode from each Gospel and adds nothing original.[10] On the whole, none of the canonical Gospels [p. 51→] is so comprehensive and unoriginal, for each one adds or lacks something vis-à-vis the others.

The Diatessaron admittedly lacks originality in those regards, yet Tatian hardly lacked innovation. Above all, he fashioned a coherent narrative out of conflicting accounts. And in individual episodes, Tatian generated new meanings by selective omission and creative juxtaposition (Watson 2016, 111). Francis Watson determines, "Tatian's treatment of his sources is on a continuum with Luke's or Matthew's" (2016, 95), and current scholarship considers Tatian an evangelist in his own right. He likely wrote within a century of the Synoptics, and Tatian offers incontrovertible evidence of a subsequent evangelist managing four source texts simultaneously, including the very sources that must be disentangled in the Synoptic Problem.

In the foremost western witness to the Diatessaron, Codex Fuldensis,[11] the feeding of the five thousand comprises 170 Latin words (f. 73). In fifty lines, the scribe switched sources nine times, excising between three and forty-four words: Matt 14:15 (3), Luke 9:12 (24), Matt 14:16 (12), John 6:5–6 (14), Mark 6:38 (6), John 6:8–9 (28), Luke 9:13 (11), Matt 14:18 (7), Mark

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[10] According to ancient testimonies, the exceptions are omitting Jesus's genealogy, which is present in extant witnesses, and adding light at Jesus's baptism, which is absent from extant witnesses.

[11] Fulda MS Bonifatianus 1 (Victor Codex).

6:39–40 (21), Matt 14:19–21 (44).[12] The length of this passage is minute within Fuldensis (<0.5%), but such intricacy characterizes much of Tatian's work. I approximate the Diatessaron's makeup as follows: harmonization of the Synoptics (55%), harmonization of the fourfold gospel (20%), long Johannine blocks (19%), long Lukan blocks (5%), and the Matthean nativity (1%).[13] It is thus inaccurate to characterize "the major part of the Diatessaron" as "block-by-block" (*contra* Mattila 1995, 205), since three-fourths of the time Tatian worked with three or four sources simultaneously.

Before he could harmonize the wording, Tatian had to locate parallels, and he shows remarkable dexterity when traversing sources. Tatian repositions more than twenty medium-sized columns (>20,000 Greek letters) within each Gospel. He moves from a Matthean Sabbath controversy (Matt 12:2; Arabic 7.38) to the Sermon on the Mount (Matt 5:1; Arabic 8.27) and from the Markan deaf-mute healing (7:31–37; Arabic 21.1–7) to the leprosy healing (1:40-45; Arabic 22.1-8). There Tatian harmonizes with Luke (5:12–16), which was last used for a handwashing controversy (11:37–41; Arabic 20.12–16), and Tatian moves from John's Sukkoth material (ch. 7; Arabic 28) back to the temple disruption (2:14–22; Arabic 32.1–11). Without a standardized numbering system, readers had to scan the text, and these relocations cross between one-fifth and one-third the length of each Gospel.

Adeptly moving forward and backward to and from any point in any Gospel, Tatian even creates narrative sequences disrupting synoptic unanimity (*contra* Downing 1992: 36). After the

[12] Although that may seem complicated, the (western) Fuldensis text represents a simplification of Tatian's original harmonization as represented by the (eastern) Arabic harmony (18.27–43; Hogg 1896).

[13] Estimates come from column counts of Fuldensis.

Transfiguration, Jesus exorcises a demon causing epilepsy (Matt 17:1–21//Mark 9:2–29//Luke 9:28–43). Rejecting this ready-made sequence, Tatian repositions [p. 52→] approximately eighteen columns in a manuscript of Luke (13:31–33) to insert the Pharisees' warning about Herod Antipas (Arabic 24.25–29; Fuldensis ff. 88v–89r).

Tatian relied on his memory, but that does not mean he had the Gospels memorized. Memorization required exponentially more reads-through than simply composing with source texts in view.[14] I nonetheless presuppose that Tatian had read his sources repeatedly and likely made his own copies at some point.[15] Tatian could have composed the Diatessaron using dictation (Mattila 1995, 215). Separate individuals could read each Gospel, and one person could write the harmony after discussing possible combinations. A group of three could have one writer, while two readers managed two Gospels apiece, and numerous other combinations are plausible. Extensive harmonizations would be easier to draft on tablets, although it is conceivable that sections were drafted directly onto rolls.

Tatian also could have composed the Diatessaron by himself. For such passages as the feeding of the five thousand and the passion narrative, he could indeed manage four sources simultaneously. Four open copies of the pocket edition of NA[28] occupy approximately the same space as four bookrolls open two columns or four open codices the size of Papyrus 75. Another approach would be first to collate a pericope from any two sources, then to draft a harmony of

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[14] Though not impossible, such memorization would have been extraordinary, like Augustine's friend Simplicius, who knew Virgil's *Aeneid* forward and backward (*Nat. orig.* 4.7.9; Carruthers 2008, 21–22); the *Aeneid's* word count (ca. 64,000) is comparable to the Greek Gospels (ca. 65,000).

[15] For building a library by copying manuscripts yourself, see Houston 2014, 13–14.

those two, and finally to revise the draft by incorporating the remaining sources. The trade-off is between juggling and revising: the more sources apprehended at one time, the fewer revisions while drafting, and vice versa. However Tatian worked, the Diatessaron's combination and traversal of sources handily surpasses any synoptist's degree of difficulty as determined by every synoptic hypothesis.

Writing the Synoptics

Orality and memory are central concerns regarding the synoptists' writing processes. Grounded in Homeric theories, some scholars argue that the Gospels were composed during oral performance (Dewey 2004, 499–500; Wire 2011). Conceivably following centuries of oral transmission, the *Iliad* and *Odyssey* became relatively fixed in writing by 600 BCE (West 2011, 392). By 500 BCE the works of the Epic Cycle might have been composed using "essentially the same poetic language derived from an oral tradition of hexameter verse" (Sammons 2017, 3). According to this model, the Gospels are "written 'transcriptions' of oral narratives that had been composed in performance" (Rhoads 2006, 118), although the performers neither read nor memorized scripts (Rhoads 2006, 118, 123). The surviving transcripts came from listeners remembering lengthy performances "with great faithfulness" (Rhoads 2006, 124).

[p. 53→] I am skeptical that this model applies to the Gospels.[16] Even if the *Iliad, Odyssey,* and Epic Cycle were composed in performance, the Hellenistic period marked a shift. Around 300 BCE the Muses began dictating to solitary poets writing on tablets for eventual readers (Bing 2008, 14–20). Similarly, Apollonius of Rhodes mastered Homeric *imitatio* in the third-

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[16] Similar skepticism comes from Hurtado 2014, 335; Eve 2016, 67–72. Oral composition models may nonetheless illuminate Jesus's original storytelling.

century BCE *Argonautica,* but he did not likely compose in oral performance (Hunter 2012, 122). Moreover, the transcript model of Gospel textualization—albeit not impossible—would be highly exceptional, surpassing any memory capability that Quintilian describes. Despite having trained his memory since childhood, Quintilian found it difficult to memorize by listening to someone reading repetitively (*Inst.* 11.2.34), and prose was harder than poetry (*Inst.* 11.2.39).

A more plausible model is that the synoptists, whether by themselves or using dictation, drafted texts on used bookrolls or waxed tablets. It is inaccurate to call tablets unwieldy (*contra* Eve 2016, 54), and it is misleading to allege their limited capacity (*contra* Kirk 2016, 49). Works were drafted on waxed tablets from the Hellenistic period through the middle ages, and Quintilian's twelve-volume *Institutio Oratoria* is longer than the New Testament; three of Quintilian's books exceed the length of Luke's Gospel. Assuming Quintilian drafted on tablets, his longest book would fill fifty-six pentaptychs spanning approximately 1.7 m spine to spine. It would take eleven days to copy so much content onto bookrolls, so he likely transferred fewer tablets more regularly. We cannot know exactly how many tablets authors typically used, but Anselm of Canterbury had enough to draft nearly half of Luke's Gospel.[17]

Luke would need sixteen pentaptychs to draft the Gospel one-third increments, as John Poirier (2012, 23) suggests. Or Luke could use twelve pentaptychs and transfer the contents when he could fill most of a bookroll.[18] The more tablets an author filled initially, the more time

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[17] Anselm drafted the *Proslogion* (>23,000 letters) on tablets, which later disappeared, so he rewrote it on a second set (Rouse and Rouse 1989: 179).

[18] Downing's (2013, 391) estimate of 500 letters per page is plausible, albeit the uppermost limit for a single board (e.g. T.Berol. 14004). However, Downing shows no awareness of polyptychs, thereby vastly overestimating 180–200 tablets for Luke's Gospel or 60–70 for each of Poirier's

needed for transferring to rolls eventually, but an author might lose momentum from frequent transference. I infer that ancient authors discovered a range of preferences, and I emphasize that the Gospels are relatively short literary works.[19]

Christians' preference for the codex is well attested (Hurtado 2006, 43–93), and the papyri of the Synoptics are from codices. First-century copies could have circulated this way, but that would be remarkably early, since rolls overwhelmingly outnumber codices through the second century (Hurtado 2006, 92). By 85 CE (Citroni 2012, 905) Martial [p. 54→] (14.184–192) offers the earliest description of parchment codices, although their legal status was debated a few decades earlier (Bülow-Jacobsen 2009, 18), and the earliest material remains are P.Oxy. 1.30, dated ca. 100 CE (Mallon 1949, 7). The safest bet is that the synoptists were still using bookrolls.

A key question is how subsequent synoptists accessed sources. Evangelists could work without direct access to texts, particularly when writing *Sondergut*. Luke (7:11–17) casts Jesus in a motif common to Elijah and Elisha, but Luke did not need 1 Kings 17 or 2 Kings 4 in view. Matthew's parable of the dragnet (13:47–50) could be an original composition or reminiscence of oral tradition, neither of which necessitates a written source. Such invention and composition could be "completely mental" (Carruthers 2008, 241), but *Sondergut* contrasts sharply with close verbal agreements elsewhere.

(2012, 23) divisions; Eve (2016, 144) uncritically accepts these estimates. Similarly Kirk (2016, 49) references Baldric of Bourgueil regarding tablets' limited capacity. In fact, Baldric's poem about his octoptych (Vatican MS Reg. lat. 1351 ff. 24v–25v) reveals that the tablet could fit 3,785 letters (14 pages of 8 lines averaging 33.8 letters).

[19] E.g., Josephus's *Antiquities* is twice as long as the New Testament, and book 7 is longer than Luke's Gospel. In *scriptio continua* this essay is approximately half the length of Luke's Gospel.

For close verbal agreements, the evangelists could remember content from written sources. Mary Carruthers argues that inexact quotations arise via memory and visual contact alike, so an author might read or recall something precisely but intentionally alter the wording (Carruthers 2008, 111). I do not disagree in general, but in particular cases I consider exactness or inexactness of wording an indication of visual contact or the lack thereof, for example, Origen's long verbatim quotations versus his customary conflation of John 14:9 and 12:45.

I apply this principle to the Gospels as well. Nothing in the Tanakh says that the Messiah "shall be called a Nazorean" (Matt 2:23), so Matthew misremembers something and attributes the phrase to the plural "prophets," like saying, "Scripture says somewhere …" (e.g. 1 Clem 23.3, 42.5). Conversely, on the supposition of Markan priority, Matthew (13:14–15) adds a verbatim quotation of forty-seven words to Mark's (4:12) allusion to Isa 6:9–10. Matthew might have remembered his Old Testament quotations, some of which he reproduced better than others. Or Matthew might have drafted from memory and subsequently checked some quotations against sources while leaving others unrevised. Regardless, I incline further toward visual contact the longer and more precise the verbal correspondence.

To the contrary, Eric Eve suggests, "It is thus possible that the Evangelists had memory command of all their written sources, and so made little or no use of direct eye contact with any of them while composing their own work" (2016, 41). Similarly, Alan Kirk highlights the "memory assimilation of a cultural tradition" via "ruminative reading and recitation" (2016, 94, 96).[20] Yet Kirk does not specify "whatever level of manual and visual engagement Matthew

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[20] Kirk often invokes memory to mitigate the alleged cumbersomeness of bookrolls (e.g. 2016, 165, 218), so it sounds like Matthew memorized sources (Derrenbacker 2017, 218–221; Goodacre 2017, 227–228), yet Kirk stops short of memorization (2017, 235–236, 250).

might have with the source" (2016, 221). I presuppose that the evangelists relied on memory, in the sense that they knew where to locate parallel pericopes with written texts in view. Given so much verbatim agreement among the Synoptics, I reject memory as the "default working hypothesis" (Eve 2016, 50) and accept instead that the evangelists maintained "regular visual/physical contact with source texts" (Derrenbacker 2017, 221) when composing parallel stories and sayings.

[p. 55→]

Synoptists' Visual Contact with Sources

The collection and study of similar works is well attested in the Greco-Roman era (Johnson 2010), and LXX recensions exemplify scholarly projects of collecting and collating earlier editions to produce new ones. Elsewhere I have contextualized the proliferation of Gospels in these terms (Barker 2019).[21] According to this model, subsequent synoptists could write via dictation with multiple readers handling separate sources while someone drafted revised pericopes after study and discussion.[22]

Another model for source combination involves an individual collating two texts and glossing one of them. This process could underlie numerous "minor agreements." For example,

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[21] E.g., Plutarch's is the lone survivor of nine attested lives of Cato the Younger written within two centuries (Barker 2019, 115–16), and Plutarch used multiple sources. He cites Caesar's accusation of Cato's incest but adds that Cato honorably cared for his widowed sister (*Cat. Min.* 54). Although the exculpating source goes uncited, Plutarch's combination of sources should not be denied (*contra* Pelling 2002, 21, followed by Derrenbacker 2005, 46; Downing 1988, 72–73; Eve 2016, 57; Kirk 2016, 56–57).

[22] Eve (2016, 59–60) mentions dictation as one possibility among others.

when Jesus heals paralysis,[23] Matthew and Luke align against Mark by adding "look!" and specifying that the person was "on a bed;" after the healing they clarify that he "went away into his house." Comprising 1,007 letters in NA[28], Mark 2:1–12 would occupy one full column or two partial ones in a manuscript. At a preparatory stage, Luke could gloss Matthean omissions, additions, and alterations directly on his Markan *Vorlage*.[24] By adding forty-one letters as annotations,[25] the Markan manuscript could be the only one in view, yet Luke's version would combine both sources throughout.

Excerpting is a related process for gathering disparate pieces of one text. Watson (2009, 406) suggests that "in the course of reducing Matthew's Sermon on the Mount to his own Sermon on the Plain, Luke has copied into a notebook those Matthean items he wishes to set aside for subsequent use."[26] Hence Luke's distribution of Sermon on the Mount material does not require "breathtaking" leaps across a manuscript of Matthew (*contra* Kirk 2016, 150; cf. Goodacre 2017, 229). The reverse process works for Matthean Posteriority: Matthew copies Lukan sayings into tablets and composes his sermon with the tablets of excerpts beside a

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[23] Matt 9:1–8//Mark 2:1–12//Luke 5:17–26.

[24] I presume that Luke discriminated among Matthean omissions rather than marking them all.

[25] Luke could write ἰδού above and between καὶ and ἔρχονται (Mark 2:3); ἐπὶ κλίνης above παραλυτικόν (v. 3); εἶπεν above λέγει (v. 5); dots under or over τῷ παραλυτικῷ signifying omission (v. 9); ἀπ- above ἐξῆλθεν and εἰς τὸν οἶκον αὐτοῦ interlinear or intercolumnar (v. 12); and φόβος somewhere (v. 12). Such annotations are attested at Qumran (Tov 2004, 178–235) and Oxyrhynchus (Johnson 2010: 179–192).

[26] Eve (2016, 145) also makes this suggestion.

manuscript open to Luke's Sermon on the Plain. Similarly, for the Two-Source Hypothesis, it is indeed "compositionally feasible" for Matthew to excerpt Q based on multiple readings.[27]

[p. 56→] Excerpting is not a necessary postulate, however, for authors could relocate within their source texts in one sitting. Supposing Markan priority, Matthew (10:14, 17–22) moves from Mark 6:11 to 13:9—nearly half the length of the Gospel—to use apocalyptic sayings in the mission discourse.[28] Luke brings the anointing woman forward from the passion (Mark 14:3–9) and next uses Mark for the parable of the sower (4:1–9; Luke 8:4-8), thereby traversing two-thirds of Mark's Gospel.[29] According to the Two-Source Hypothesis, Mark was the only narrative source for Matthew and Luke, and each literarily dependent synoptist voluntarily rearranged their sources—Matthew more so than Luke.

It takes far more time to write than to read,[30] and the time for repositioning within a manuscript is negligible compared to cogitation and rewriting. Supposing that Matt 8:1–9:26 was

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[27] *Contra* Kirk (2016, 163–164, 168–69); if Kirk means that Matthew recalled Q without visual contact (e.g. 2016, 218), then Matthew must have read Q many more times than are required for scanning and excerpting.

[28] Kirk (2016, 295) deems Matthew's reach from Mark 6:11 to 13:9 "as far as" Matthew ever reaches within Q; Matthew's leap here is actually fifty percent longer than the entirety of Q (Robinson et al. 2000) and more than double Matthew's longest reach within Q (Kirk 2016, 218).

[29] Greg Carey elucidates this as a Lukan redactional *Tendenz,* and he cautions against appeals to memory, since written sources can be in view even for extensive rewriting (2013, 312).

[30] E.g., Matt 1:18–25 NA[28] (775 letters) takes me two minutes to read aloud but fourteen minutes to scribble, reading and writing miniscule with quill and ink on papyrus and with a stylus on wax; reading and writing majuscule in *scriptio continua* takes me twenty-five minutes.

initially drafted as is, Matthew transposes two healings (Matt 8:14–17//Mark 1:29–34; Matt 8:1–4//Mark 1:40–45), but both Markan stories could be in view with two columns unrolled.[31] Next Matthew scrolls forward eight columns and writes two more miracle stories in 1,053 letters (Matt 8:23–34//Mark 4:35–5:20). Matthew then scrolls back ten columns to write 1,640 letters for the paralysis healing and subsequent episodes (Matt 9:1–17//Mark 2:1–22). Finally Matthew scrolls forward eight columns and writes 668 letters for the hemorrhaging woman and Jairus's daughter (Matt 9:18–26//Mark 5:21–43). Matthew 8:1–9:26 entails three relocations within Mark, each of which could be accomplished in a minute or two. Conversely, the minimal, physical writing time of Matthew's shortest rendition was fifteen minutes, bracketing altogether the process of cogitation.[32]

Although Matthew's traversals are unproblematic, others worry about the "sheer scale of (Markan) transpositions in Matthew 8 and 9" (Kirk 2016, 248). In this case, one need not presuppose that Matthew's draft proceeded in the same sequence as the published version, for the Gospels were not likely written "in a single pass" (Eve 2016, 143). Matthew could have followed Mark's order initially. Matthew (8:1–9:26) uses less than 3,000 letters from Mark 1–2, which could fill most of two tablets. In a separate pentaptych, Matthew (8:1–9:26) could fit less than 2,000 letters from Mark 4–5. Later, when transferring the tablets to a bookroll, Matthew could easily rearrange the sequence by alternating between tablets. Two juxtaposed 14 x 12 cm polyptychs occupy no more space than an open copy of Kirk's *Q in Matthew* (2016).

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[31] The following calculations approximate 1,000 letters per column, as attested in select prose texts from Oxyrhynchus (Johnson 2004, 217–230); cf. ca. 1,500 letters per column in 8ḤevXIIgr.

[32] Fifteen minutes presumes 16,000 letters per day; Matthew's shortest rendition would take twenty-four minutes at 10,000 letters per day.

Moreover, an individual could feasibly place two manuscripts side by side. It is impossible to hold a bookroll in two hands and copy it at the same, but scribes managed [p. 57→] to copy manuscripts by themselves (Hermas *Vis.* 2.4). The simplest solution is that *Vorlagen* were held open by paperweights. It is inconsequential that we lack any such artistic representation (*contra* Small 1997, 167; Kirk 2016, 54), since there are no ancient depictions of Greco-Roman manuscript copying at all (Elliott 2004, 14). Ancient visual art does, however, portray bookrolls open wider than an adult's shoulders.[33] A stretch of 50 cm would expose four or five columns in a single bookroll, but the same span could easily fit two bookrolls open two columns each; for comparison, an open copy of *The Critical Edition of Q* (2000) measures 46 cm across. Objections to simultaneous use of two written sources cannot be sustained.

Conclusion

Authors could remember texts without rereading them, but higher degrees of verbatim agreement increase the likelihood of visual contact. If evangelists are envisioned working predominantly from memory, then no evangelist or hypothesis should be privileged (Barker 2016, 121). Luke can remember Matthew's text (Goodacre 2017, 229) just as Matthew can remember Q (Kirk 2016), and so on. Special pleading should likewise be avoided if the Gospels are imagined circulating in codices in the first century. Matthew could use a codex of Q (Derrenbacker 2005, 25), or Matthew could use a codex of Luke according to Matthean Posteriority, and so forth. Synoptists could draft works on rolls or waxed tablets by themselves or via dictation, and by all means it was feasible to maintain visual contact with multiple manuscripts and to reposition repeatedly within them.

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[33] Birt 1907: 155–170.

Every solution to the Synoptic Problem requires an evangelist to interweave multiple sources and rearrange their sayings and narratives. The Two-Source Hypothesis is hereby absolved of any charge of impracticality regarding laborious scrolling through source texts.[34] The same absolution for scrolling and, more importantly, for the number of sources regularly combined extends to the Farrer, Griesbach, Augustinian, and Three-Source hypotheses, as well as Matthean Posteriority.

Figure 3.1 diagrams those six theories of Synoptic interrelations, and Table 3.1 ranks the modus operandi of real and hypothetical first- and second-century authors from most to least difficult. The primary factor in degree of difficulty is the number of sources regularly used, and a secondary concern is the extents to which sources were reordered; when theories are roughly equal on those grounds, I consider the amount of original composition as a tiebreaker.[35]

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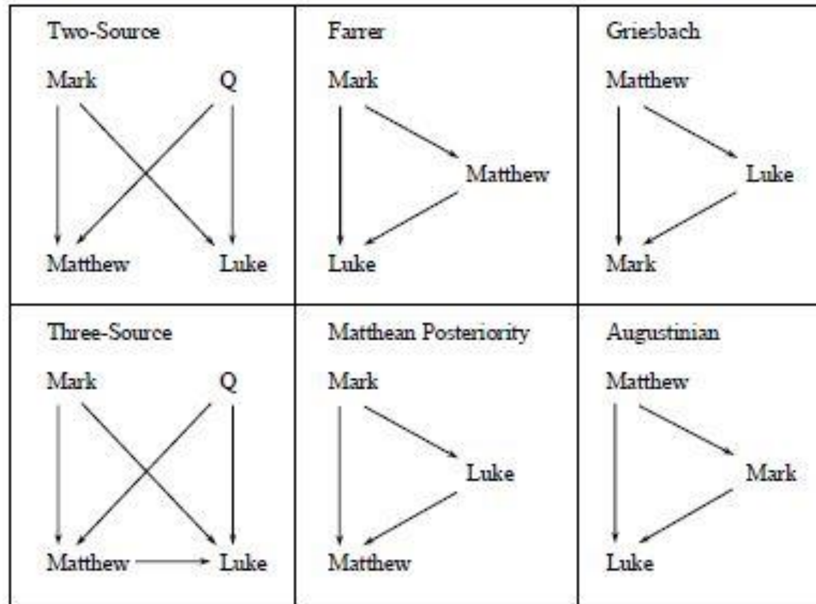
[34] Exaggerations such as scrolling "furiously" (Kirk 2016, 218) and "absurdly furious" scrolling (Kirk 2017, 250) should thus be avoided.

[35] Elsewhere (Barker 2016, 121) I neglected how much more *kaige* works with two sources simultaneously than does Griesbach Mark. The same applies to Farrer and Augustinian Luke vis-à-vis Two-Source Matthew. I also excluded Matthean Posteriority and Three-Source theories.

[p. 58→]



Relative Degrees of Difficulty for Use of Sources in First- and Second-Century CE Texts		
1	Tatian	Tatian predominantly works with three or four sources, which are frequently reordered, while adding no new material.
2	Symmachus	Symmachus consistently uses Aquila and the proto-Masoretic and occasionally uses the LXX and *kaige*-Theodotion as well.
3	Three-Source Luke	Luke uses Matthew, Mark, and Q in Mark-Q overlap; Matthew and Mark in triple tradition; and Matthew and Q in double tradition.
4	Josephus *Antiquities* 7	Josephus closely coordinates two sources, 2 Samuel and 1 Chronicles, even when he alternates between them. Josephus occasionally uses at least one additional source, since he knows Hebrew and Greek versions of 2 Samuel.
5	Matthean Posteriority Matthew	Matthew uses one fewer source than Three-Source Luke with more reordering than Farrer Luke and more original material than *kaige*-Theodotion.
6	*Kaige*-Theodotion and Aquila	These recensionists reflect constant, close coordination of the LXX and proto-Masoretic Hebrew. *Kaige*-Theodotion and Aquila likely reordered the books of the Dodekapropheton, which exceeds the length of each canonical Gospel.
7	Farrer Luke = Augustinian Luke	Luke uses Matthew and Mark in triple tradition as well as Matthew in double tradition. Both sources are occasionally reordered, and much new material is composed.

8	Griesbach Mark	Mark coordinates two sources most of the time, but he also uses each one individually and reorders both on occasion. Griesbach Mark omits quite a bit from each source while adding a small amount of original material.
9	Two-Source Matthew = Three-Source Matthew	Matthew uses two sources simultaneously for Mark-Q overlap, and Matthew regularly reorders both sources.
10	Two-Source Luke	Luke uses two sources simultaneously for Mark-Q overlap but otherwise uses one source at a time with occasional reordering of Mark.
11	Griesbach Luke	The Matthean material in Griesbach Luke outweighs the Markan material in Farrer Matthew.
12	Farrer Matthew	Matthew uses and reorders more of Mark than does Matthean Posteriority Luke.
13	Matthean Posteriority Luke	Luke omits several Markan pericopes and composes more original material than does Augustinian Mark.
14	Augustinian Mark	Mark expands some and omits other Matthean material while adding very little new material.

[p. 59→] Gospel studies have commendably shifted focus to ancient writing practices, but the Synoptic Problem cannot be solved by arguments about compositional conventions. Some operations were demonstrably more complex than others, but none of the synoptists interwove as many Gospel sources, repositioned as many times within them, or rearranged as much material as Tatian did with the very same texts. Josephus and the LXX recensionists also maneuvered more intricately than almost every hypothetical synoptist. And among Synoptic hypotheses, the data evens out. For example, Farrer Luke has it harder than Two-Source Matthew, but Two-Source Luke has it harder than Farrer Matthew. Regarding the use of sources in ancient compositions, every major and minor synoptic theory entails plausible, attested, and unexceptional means of material production.

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