Chapter 4 The surviving portion of the C text – Part I

At least since the fifteenth century, the dean and chapter of Exeter have had in their possession a very remarkable manuscript, a collection of original documentation resulting from the great survey - the Descriptio totius Angliae, as it was called at the time – carried out in 1086.¹ Whole theories have been built on the assumption that the manuscript originated in or near Exeter (whatever 'in or near' might mean), but there is no reason at all for thinking that. On the contrary, the indications are that the manuscript originated in Winchester - more precisely, that it was compiled in the king's treasury,² which, at that time, was housed in the castle at Winchester. How and when the manuscript found its way to Exeter is not so easily decided. It was certainly there by around 1500, when it underwent extensive annotatation at the hands of someone with a particular interest in the entries affecting the bishopric and church of Exeter (see below); and there are a few marginal notes earlier than that which show the same preoccupation.³ Knowing that the manuscript was in Exeter in the fifteenth century, we may perhaps feel safe in supposing that it was already there in the twelfth century. But there seems to be little hope of our ever being able to say for certain when exactly it arrived, or what the circumstances were.

Leaving that question in abeyance (I revert to it in chapter 5), we can start by looking at the manuscript itself. We discover, first, that it is not a book in any normal sense. It has been made to look like a book: it has been bound (more than once) and foliated (twice). It has been treated like a book: it has been deposited in a library. And yet it is not really a book. It is a collection of booklets, self-contained units which might have been arranged in any number of different sequences. The existing arrangement is the one imposed when the manuscript was rebound in 1816 (see below); the leaves were numbered (in fact renumbered) accordingly. Though we cannot dispense with this numbering, we have to remember that the arrangement which it codifies is, to a large extent, both arbitrary and recent. That leaf 162 should follow leaf 161 is an original fact, decided in 1086 – at the moment when a certain scribe (whom I call beta), after reaching the bottom of 161v, continued his text at the top of 162r. That leaf 161 should follow leaf 160 is a modern fact, the result of a decision made in 1816. Within any given booklet, the order of the leaves is fixed; but the order of the booklets, with respect to one another, is not. We have no clue what order was intended for these booklets by the scribes who wrote them. In fact, we cannot be sure that the scribes had any definite order in mind.

Before it was rearranged and rebound in 1816, the manuscript consisted of two volumes of roughly equal size (257 and 274 leaves respectively). There is some reason to think that the book had already been rebound once before, in the mid eighteenth century (see below), and the division into two volumes may have originated then. The order of the contents, fortunately, is not in any doubt, because the leaves were all numbered, in about 1500, with perfect accuracy: ixii and 1-246 in what was or what became volume 1, 247-520 in what was or what became volume 2.4 The arrangement recorded by this old foliation was, for most purposes, far from satisfactory.⁵ In many places, quires had become transposed, or more or less distantly dispersed. To take just one example, the booklet describing the lands of the bishop of Coutances (now fos. 121-53) consists of six quires; and when these quires are put into the right sequence the old foliation runs as follows: 318-21, 322-9, 135-40, 123-30, 131–4, 52–4. At least three things had to happen before the order of these quires could become so badly disrupted, and all these things had to happen before the quires were bound.

The person who started restoring the broken connections was the unidentified scholar (the same man responsible for numbering the leaves) who, around 1500, wrote a note at the bottom of 199v (his 393v) and a matching note at the top of 200r (his 428r) pointing out that the text is continuous.⁶

¹ Exeter Cathedral Library MS 3500, the first good description of which was provided by Ker (1977, pp. 800–7). I thank the library staff for supplying me with a microfilm copy, and for answering numerous queries. For information and advice on various points, and for comments on a draft of chapters 4–5, I am grateful to Caroline Thorn and Dr Teresa Webber.

 $^{^{2}}$ As seems to have been realized, at least for a moment, by Galbraith (1950, p. 3). The proof comes from the batch 3 geld accounts (see below), which are discussed in chapter 6.

³ On 120v, for example, in what looks to me like an early fifteenth-century hand, there is a note beginning: *Nota de domibus Episcopi in Excestre* Above this, *Excester* was added by the annotator active around 1500.

⁴ The numbering included every blank leaf; it also included the bookmark (below, note 21), which I do not count.

⁵ Not for all purposes, however, as will appear in chapter 5.

⁶ At the foot of 199v he wrote: *Verte deinceps ad 33 folia et ad hoc signum*, making a trefoil-shaped mark; at the top of 200r he made a matching mark and wrote: *Vide principium huius ante 33 folia*. (He should have counted 34, not 33.) Later, after he had foliated the manuscript, he continued the first note by adding: *quod habes infra fo. 428*. The dating is from Ker (1977, p. 805): 's. xv/xvi or xvi in.' The same man (so it seems to me) made many other marginal notes (mostly repeating the place-names which occur in the text) and compiled a partial index (534v, formerly a flyleaf at the front of volume 1). He was certainly connected with Exeter; it would be interesting to know who he was. One candidate is mentioned below

But the man who did most of the work was a well-known eighteenth-century antiquary, Charles Lyttelton, whose appointment as dean of Exeter in 1748 gave him the opportunity to examine the manuscript closely (and apparently to have it rebound).⁷ Wherever he found the text broken off at the end of a quire, he scanned through the manuscript in search of the continuation. In two instances the search failed, because the leaf onto which the text ought to continue has been lost (see below). In every other instance the search succeeded, and Lyttelton recorded the result by writing a pair of notes in the margins of the manuscript – one at the foot of the verso where the text breaks off, the other at the top of the recto where it resumes.⁸

In 1810, the chapter clerk, Ralph Barnes,⁹ checked through the manuscript leaf by leaf, making sure that it was complete.¹⁰ By that time (I suppose) the Record Commission had started to think of printing the text of this manuscript:¹¹ it was published six years later, with three shorter texts, in a large volume edited by Henry Ellis.

I do not think we know exactly what happened between 1810 and 1816, but the sequence of events seems to have run something like this.¹² The commission's secretary, John

(note 10).

⁷ A letter of Lyttelton's, quoted by Lloyd and Woodcock (1956, pp. 15– 16), indicates that this was one of the manuscripts which, as he says, he has had 'new bound and repaired' since his arrival in Exeter. ((Ker noticed 'the pinmark from a former binding' imprinted on several leaves which, before 1816, were at the end of volume 2 (Ker 1977, p. 805, cf. Thorn and Thorn 1985, note Exon. 19, 28–48). This fact, taken together with the negative fact that there is no similar impression on the leaves which came at the end of volume 1 (now fos. 526–8, 1–6, 529), seems to prove (as I ought to have realized sooner) that the medieval binding consisted of a single volume, and that the division into two volumes originated with Lyttelton's binder, circa 1750.))

⁸ A draft (dated 1750) of a paper by Lyttelton discussing the significance of the manuscript is now bound in at the back of it (fos. 538–9). His remarks are sensible enough as far as they go; but they could not go far, because his knowledge of the parallel DB text was confined to a couple of excerpts (535r–v). The paper was read to the Society of Antiquaries in January 1756; the book itself was brought to London and exhibited on that occasion (note by Lyttelton, 541r).

⁹ Ralph Barnes was born in 1781 and died in 1869. I am obliged to Caroline Thorn for investigating this question and letting me know the result.

¹⁰ In fact, he discovered that leaf 221 (now 347) was missing, 'cut out and no doubt stolen' (note by Barnes, 541r). (The excision did not occur till after the leaves had been numbered, i.e. not sooner than circa 1500.) By a stroke of good luck, the missing leaf was found, recognized for what it was, and returned to Exeter in 1824 (*Woolmer's Exeter and Plymouth Gazette*, 16 Oct. 1824, col. 3a, reprinted in *The Times*, 19 Oct. 1824, col. 2d; Botfield (1849, p. 139) has another account of this incident, presumably derived from Barnes.) Somehow or other, the lost leaf had found its way into the archive at Nettlecombe, the Somerset residence of the Trevelyan family: the Trevelyans suspected (I do not know quite why) that the person who had stolen it (or borrowed it and failed to return it) was Edward Willoughby (d. 1508), prebendary and dean of Exeter. The story might be worth exploring further.

¹¹ Condon and Hallam (1984, p. 383) say that the edition 'had been under active consideration since 1811'; I take it that Barnes's examination of the manuscript in the previous year was prompted by some preliminary enquiry.

¹² ((I have revised this paragraph to take account of the facts reported by

Caley, visited Exeter to examine the manuscript in September 1811 (note by Barnes, 541r). Acting on instructions from him, Barnes copied the manuscript line for line and page for page,¹³ rearranged the sheets into a better order, as far as Lyttelton's notes allowed him to do so,¹⁴ and then sent the finished transcript up to London.¹⁵ Working with this, Ellis rearranged the sheets still further, putting them into the order which seemed best to him,16 and forwarded the copy to the printers, the firm of Eyre and Strahan; the proofs were sent down to Exeter, where Barnes checked them against the original. Ellis only saw the manuscript once, in April 1816, when he made visited Exeter for the purpose.¹⁷ The introduction that he wrote for this volume is dated October 1816, and 1816 is the date which appears on the title page; but copies did not begin to be issued till March 1817 (Condon and Hallam 1984, p. 383).¹⁸ Ellis's introduction was also published separately, in quarto, with a title page dated 1817.

Soon after Ellis's visit, the manuscript was taken apart, rearranged into (almost) the same order as the printed text, and rebound as a single volume.¹⁹ The new foliation seems to have originated when Ellis rearranged and renumbered the sheets of Barnes's transcript. Later, when Barnes tried to rearrange and renumber the leaves of the original in the same way, he discovered that it was, in two places, physically impossible to do so; and the foliation of the manuscript itself is, at twice as many places, defective for that reason.²⁰

Prescott (2001, pp. 180-5).))

¹³ Some pencilled dates written into the original by Barnes appear to record the progress of the transcription. ((It turns out that Barnes did not work alone: 'a local antiquary called Jones' was associated with him, checking the copy and, later, helping to check the proofs (Prescott 2001, pp. 182–3). I think that this is John (Pike) Jones (1790–1857), but have not yet been able to confirm it.))

¹⁴ That Barnes rearranged his transcript before sending it to Ellis seems to be proved by a concordance which he drew up for his own use (Exeter Cathedral Library X 52, for sight of a copy of which I am grateful to Caroline Thorn). As was noted by Ker (1977, p. 800), what Barnes refers to here as 'the new arranged order' is not the same as Ellis's order but represents a step towards it.

¹⁵ The complete transcript was in Ellis's hands before March 1813, when the volume was ordered to be printed (Ellis 1816, p. viii).

¹⁶ Ellis (1817, p. 2) calls it 'the most obvious order', an odd choice of words. The only outright error is a failure to undo one accidental transposition. The leaf now numbered 400 should come between 402 and 403, not between 399 and 401 (Ker 1977, p. 805). Lyttelton had seen this; Barnes missed it, and so did Ellis.

¹⁷ Presumably James Basire must also have visited Exeter, to trace a page from the manuscript (117r) to illustrate Ellis's edition.

¹⁸ The lost leaf recovered in 1824 (above, note 10) was printed and distributed later, as a half-sheet intended for insertion after page 326. ((This happened, so I gather, in 1828 (Prescott 2001, p. 184).))

¹⁹ The book was rebound in May 1816, as is noted on one of the new f lyleaves. One quire was misplaced: the leaves now numbered 519–25 are bound between 494 and 495 (Ker 1977, p. 800).

²⁰ The irregularities were noted but not explained by Ker (1977, p. 807). There are two missing numbers and two unnumbered blank leaves. As I understand it, the unnumbered leaf after 64 was Ellis's 74, but could not be moved because it is conjoint with 63; and the unnumbered leaf before

In its present form – the form which it owes to Barnes and Barnes's binder – the manuscript is a single volume comprising 531 leaves.²¹ There is no facsimile edition; Table 9 gives a list of all the published reproductions known to me, with the scribes who appear identified in the last column.²² (A complete list of scribal stints is given at the end of chapter 5.)

Except for two gatherings, the leaves are of a standard size $(280 \times 165 \text{ mm})$, and the pattern of ruling is uniform, with twenty widely spaced lines (Ker 1977, p. 806).²³ In contrast, the collation is exceedingly irregular, so much so that it is difficult to say how many quires there are.²⁴ In places, there is a run of normally constructed quires: one booklet, for instance, consists of four quires, three of 8 and the fourth of 4 leaves (fos. 288–315). But that degree of consistency is exceptional. Most gatherings have fewer than 8 paired leaves; one has 10; one is a giant with 20 (fos. 255-74). In addition, there are many single leaves, 95 in all; often there are several singletons in succession. To judge from all this (and from the intended purpose of the manuscript, so far as we can infer it), the scribes who wrote these gatherings and leaves had no expectation that they would ever be bound; when it was decided, some time later, to turn them into a book, the binder found himself faced with a rather awkward task.25

For the same reasons, it is hard to say precisely how many booklets exist. By my reckoning, there are 72 of them, but other investigators, counting for themselves, might arrive at a slightly larger or smaller total. The booklets vary greatly

188 was Ellis's 176, but could not be moved because it is conjoint with 190.

²¹ I exclude fo. 532, a narrow leaf which seems to be a twelfth-century bookmark; it is inscribed with a partial index (Ker 1977, pp. 806–7). Before 1816, this leaf was between 280 and 281 (old 91 and 93), facing 281r: the old number (92) is on the verso, therefore, and Ker failed to see it. Unlike him, I am not inclined to read any particular significance into the index. But if the hand could be proved to be an Exeter hand, that would be a point of some importance.

 $^{\rm 22}$ ((I have added the samples reproduced by Thorn and Thorn (2001).))

 23 Some marginal additions begin or end at the very edge of the leaf; some are actually written along the edge (such as the note *iii hede remanent* at the top left corner of 104v), and would have been cut through if the leaves had been trimmed even slightly. Here and there, however, a leaf which protruded too far seems to have been cut down to size. At 434v, for instance, a marginal addition is partly sliced away.

 24 Anyone who wants to get a grasp on the structure of the manuscript will need to make a replica of it from sheets and half-sheets of paper, taking note of the old foliation as well as the new one. The requisite data are all to be found in Ker's (1977) description; two small corrections are noted above (notes 20 and 21). There is one further puzzle which I cannot solve. According to Ker, fos. 489–94 are a quire of 6; but it is clear from the old foliation (confirmed by Lyttelton's notes) that the first two leaves had got themselves transposed; and that, for a quire of 6 , is physically impossible. It seems that Ker's description must be wrong on this point, but I cannot say what the right description would be.

²⁵ It is possible that the binder rearranged the leaves to some slight extent, to simplify things for himself. For example, one quire of 4 (fos. 437–40) should perhaps be regarded rather as two quires of 2, one inside the other (Ker 1977, p. 805): since the last leaf (fo. 440) is blank, a binder might reasonably think that it would do no harm if he made one quire out of two.

in size, though most comprise 8 leaves or fewer. The largest by far is the booklet describing the lands of the count of Mortain, which runs to 72 leaves (fos. 210–81). At the other extreme, in ten instances a single leaf forms a booklet by itself.²⁶

Very briefly, the contents are as follows:

(1) part of a batch of booklets (C-WiDo) containing a transitional version of the survey text for two counties, Wiltshire and Dorset (fos. 25-62, 530-1);²⁷

(2) a batch of similar booklets (C-DnCoSo), nearly complete, covering three counties, Devon, Cornwall and Somerset (fos. 83–494);²⁸ also one related booklet (Capp-DnCoSo) containing short versions of some entries for the same three counties (fos. 495–525);

(3) four booklets containing geld accounts for Dorset (fos. 17–24), Devon (fos. 65–71), Cornwall (fos. 72–3) and Somerset (fos. 75–82) respectively;

(4) three booklets each containing a different version of a geld account for Wiltshire (fos. [1-6 + 529],²⁹ 7–12, 13–16);

(5) two small miscellaneous booklets (fos. 63–4, [526–8]).

From this point on, I deal only with the first two batches, which, by my count, comprise 15 and 48 surviving booklets respectively. Rather than trying to cope with everything at once, I ignore all additions made in C by hands other than those involved in writing the original text. Some of these additions were made at an early stage, and will have to be taken account of in due course (below, pp. 71–9). Nevertheless, as far as I can, I refrain from discussing them here.³⁰

Batches 1–2 are, in my notation, the C booklets. What they contain, as Galbraith (1942) was first to see, is a transitional version of the survey text, the medium through which the

 28 It is possible that fo. 398 was originally part of C-WiDo (below, p. 44).

 29 Here and in batch 5, square brackets distinguish gatherings which differ from the standard format.

 $^{^{26}}$ On any natural definition, there is no reason why a booklet should not consist of just one leaf, in the extreme case. It would, I concede, not normally be sensible to think of singletons as booklets, but the circumstances here are special.

 $^{^{27}}$ That the last two leaves (old fos. 205–6) belong with fo. 62 (old fo. 204) is stated as a fact by Ker (1977, p. 805); though I cannot confirm it, I do not think of doubting it. They contain some extraneous memoranda, written by a hand which I think occurs only here. See also the following note.

³⁰ To simplify the argument further, I will relegate all discussion of Capp-DnCoSo (mostly in chapter 5) to the footnotes. The entries here are of a different type from those that occur in the main C text. In every other respect, however, Capp is just one more C booklet, compiled at the same time as the rest. Its existence implies that each D text was intended to include an appendix consisting of entries like those collected here.

	Page	Reproduction	Scribes represented		
	1v	Darlington 1955, opp. p. 180	ksi		
	8r	Darlington 1955, opp. p. 181	rho (1-11), sigma (12-30), tau (30-41), mu		
			(margin)		
	8v1–9	Thorn and Thorn 2001, ill. 27	rho		
	9r1–6	Webber 1989, pl. 3	tau		
	9r5–18	Ker 1976, pl. III (a)	tau (5–6), sigma (7–18)		
	9r7–12	Webber 1989, pl. I	sigma		
	14r	Darlington 1955, opp. p. 216	sigma (1–20), tau (20–8), sigma (28–9)		
	15r	Hallam 1986, pl. 7	sigma		
Wi	47r	Darlington 1955, opp. p. 169	ksi		
Wi	47r5–6	Galbraith 1961, pl. II [c]	ksi		
So	103r	Bond et al. 1884–94, pl. 70	alpha		
So	114v1–4	Webber 1989, pl. 5	eta		
Dn	108r	Lloyd and Woodcock 1956	beta		
Dn	117r	Ellis 1816	alpha (1), beta (2–4), alpha (5–20)		
Dn	117r1–17	Thorn and Thorn 2001, ill. 26	alpha (1), beta (2–4), alpha (5–17)		
	153v	Finn 1951, opp. p. 563	DB scribe		
	153v	Rumble 1985, pl. 3.5	DB scribe		
	175r19–v3	Chaplais 1987, pl. III (a–b)	bishop of Durham's scribe		
Co	181v3–4	Galbraith 1961, pl. II [d]	alpha		
Co	245r16-20	Webber 1989, pl. 7	zeta		
Dn	313r	Bond et al. 1884–94, pl. 71	delta (1–5), epsilon (5–10), gamma (11–20)		
Dn	316r7–9	Galbraith 1961, pl. II [a]	beta		
Dn	356r6-8	Galbraith 1961, pl. II [b]	epsilon		
	436v	Finn 1951, opp. p. 562	DB scribe		
So	438r	Darby and Finn 1967	alpha (1–5), beta (6–12), alpha (13–20)		
	531r	Darlington 1955, opp. p. 217	—		

Table 9. Published reproductions of sample scripts from Exeter Cathedral Library 3500. (Samples of the C text are distinguished by the county code on the left.)

initial version B was transformed into the final version D. No part of B survives in the original, but it is clear enough, from the surviving C booklets themselves, that an earlier version of the text did exist, differently arranged from C. As for D, three booklets survive, one for each of three connected counties (PRO E 31/1), and the presumption is, as Galbraith realized, that a version of the text arranged in the same way did originally exist for every county. (Except for these three, what survives instead is an epitome of D, the version I call DB (PRO E 31/2).) The B text was organized cadastrally: within each county there was a section for each hundred; within each hundred there was a subsection for each vill; within each vill there was a paragraph for each manor. Of necessity, this was the frame which had been used for collecting and recording the information in the field; but it was not the frame in which it was desired to have the information permanently recorded. The intention was for the D text to be organized feodally within each county: there was to be a chapter for the king, and then a chapter for each of the king's men. At top and bottom the frames coincided - counties at the top, individual manors at the bottom - but in between they were quite differently constructed. The C booklets are the instrument which extracted the entries from the cadastral frame and lined them up ready for insertion into the feodal frame. Unless this is understood, the design of the individual booklets will seem

exceedingly strange; and it needs to be remembered that nobody really knew where one booklet ended and the next began until Ker (1977) worked it out in detail.

The two batches of C booklets are segregated geographically. Batch 1 covers Wiltshire and Dorset; batch 2 covers Devon, Cornwall and Somerset. The segregation is strictly maintained: there is no leakage of entries between one batch and the other. If a tenant happens to have held land both in a county covered by batch 1 and in a county covered by batch 2, invariably we find that his lands are described in two separate booklets. A man named Willelm de Moion, for example, held land in four of these counties; so for him we find two booklets, one describing his land in Wi and Do (fos. 47-9), the other describing his land in Dn and So (fos. 356-65). The same holds true for five other tenants.31 If we restricted ourselves to internal evidence, it would be uncertain which batch should come first; but the miscellaneous booklets listed above (batch 5) seem to answer that question for us. In particular, one of the scribes who worked on the C booklets (the scribe whom I call mu) was also responsible for writing out a statistical summary of

³¹ Apart from Willelm de Moion, the tenants represented by a pair of booklets are the abbot of Athelney (fos. 41 and 191–2), the abbot of Tavistock (fos. 42 and 177–81), Roger Arundel (fos. 50–2 and 441–5), Serlo de Burci (fos. 53 and 452–5), and Walter de Clavile (fos. 62 and 388–97).

the lands of Glastonbury abbey (527v-8r), which extended over four of these counties (all except Co). For this scribe, we find, the order in which these counties should be listed was WiDoDnSo. Hence it seems clear that for him batch 1 came before batch $2.^{32}$ Moreover, the counties represented here (WiDoDnCoSo) were, at a later stage, the last five counties dealt with by the DB scribe (Fig. 7), and the order in which they were dealt with is almost the same (... WiDoSoDnCo). It seems that these were the last counties to pass through the machinery, and the survival of the C booklets is doubtless due partly to that.

From our point of view, it may sometimes be better to start by looking at C-DnCoSo, the batch which is nearly complete; and that is the policy I follow here in trying to understand more clearly how the booklets were compiled. In principle, the intention was to make a separate booklet for each tenant who held his lands directly from the king. (The king himself was dealt with similarly, but in some respects the land which belonged to him demanded special treatment.) A team of scribes scanned through the B text for the given county, locating the entries for the manors held by this man. (How many scribes were at work together will be discussed in chapter 5; how they managed to get the job done without constantly tripping over one another's heels is explained in an appendix below.) As each pertinent entry was located, it was copied into the C booklet;³³ and then the scan was resumed. In the end, when all the pertinent entries had been located and copied, what this booklet contained was a preliminary version of a chapter to be included in the D text.

Sometimes it happened that several successive entries or even several successive pages were written by the same scribe; most stints, however, were quite short. It is common to find two or three changes of hand in the space of a single page. In one fairly typical stretch of text (376r–9v), comprising 24 entries for one county, Ker (1977) thought that he could recognize the work of eight different scribes, with 14 visible discontinuities where one scribe took over from another:³⁴ most stints here consist of one or two paragraphs, and the longest consists of four. Changes of appearance occur with some frequency too (there are two at least in the booklet analyzed by Ker), but these are more a matter of opinion, and less obvious in their significance. (They may just mean that the scribe ceased work for a moment in order to sharpen his pen.) Often a change of hand coincides with the start of a new entry, but that is not always the case. Occasionally the scribe who had just completed one entry, assuming that another would follow, continued with the opening words of the next paragraph: *N habet unam mansionem quae uocatur* ... , 'N has a manor which is called ... '. If, in the event, the subsequent entry was written by somebody else, a change of hand is visible at this point. But the hand may also change in the middle of a paragraph, for no apparent reason.

The surviving C booklets have one other remarkable property: each batch covers more than one county. It is doubtful, I think, whether this would have been true for every batch of C booklets, but it is certainly true for the batches which survive. As far as batch 2 is concerned, what happened was this. After finishing with the first B text, B-Dn, the scribes continued with a second, B-Co, copying the entries from this into the same C booklets as before, so far as that was possible. When they came across a name which they had not encountered previously - a tenant holding land in Co who did not hold land in Dn too - then of course they had to start a new booklet;³⁵ but otherwise they used the same booklets again, marking the start of a new county with a boldly written heading (unless they forgot). Similarly, after finishing with B-Co, the scribes continued with a third B text, B-So, copying the entries from this into the existing booklets, so far as that was possible, not starting a new booklet except when they had no option. Then finally they did call a halt.

Why the C scribes adopted the policy of packing two or three county texts into the same collection of booklets is not an easy question to answer. At least we can say that under certain conditions this policy would do no harm. If the D scribes had been treading on the C scribes' heels, presumably each C text would have had to be forwarded as soon as it was finished. If, on the other hand, the D scribes were lagging behind, the C scribes might have been sure that they could finish a second or even a third text before the D scribes would be ready to deal with the first one. In those circumstances, the packing policy would not have risked causing delay. But I do not see that it had any positive advantage, except that by continuing with the same booklets, rather than starting a new collection, the scribes would have saved some parchment. From the amount of

 $^{^{32}}$ The summaries copied by another scribe on 530v-1r also assume that WiDo should come before DnCoSo. But this scribe, unlike mu, did not (as far as I can see) participate in the writing of the C text; so his opinion carries less weight. This, by the way, is the only scribe of whom it can be positively stated that these five counties were his universe: for him, at least for the time being, there was nothing before Wi, nothing after So. For the C scribes, only the second half of this statement is, arguably, true.

 $^{^{33}}$ In most of the C texts, the scribe would not have copied the entry straight away. Instead, having found it, he would have started scanning backwards, in search of the hundred heading which governed this entry. Then he would have copied the heading; and only then would he have jumped forwards again and copied the entry itself. In the last few C texts, however, the scribes were allowed to simplify the process by dispensing with this backward scan. Apparently it was thought more important to speed things up than to include the hundred headings.

 $^{^{34}}$ My own analysis is slightly different, though the general picture is the same. Needless to say, I should be reluctant to disagree with Ker's results if it was clear that the analysis had been fully worked out; but I venture to think that he was only aiming for a first approximation. As far as I can judge, Ker's (1) is the same as his (2) – there is a change of appearance

here (376r10), but not a change of hand – and his (8) is a split personality – the first three lines of this paragraph (378v18–20) were written by (7), the last two lines (379r1–2) by (4). Except for these two points, the equations between Ker's scribes and mine are straightforward (as will appear in chapter 5).

³⁵ In fact they only had to start one new booklet (fos. 202–9), but the principle holds. Later, while dealing with B-So, they had to start 15 new booklets.

blank space they left, it is obvious that the C scribes did not feel constrained by any shortage of parchment, nor greatly interested in reducing their consumption of it; even so, they would presumably have wished to avoid unnecessary extravagance. There may be more to this story than that – but if there is, I have failed to see it.

Whatever reason the scribes had for proceeding in this way, the outcome is that the completed booklets may contain up to three stretches of text, derived from B-Dn, B-Co and B-So respectively. These stretches, as many as occur, represent preliminary versions of chapters to be included in D-Dn, D-Co and D-So respectively. Because of the accidents of ownership, it is only to be expected that many of the C-DnCoSo booklets will lack one or two of these stretches. In fact, apart from the king, the count of Mortain was the only man who held land in all three counties. Hence only two C booklets (fos. 93-107, 210-81) show the full sequence of counties.³⁶ Otherwise, the pattern is as well developed as it has a chance to be. In every booklet which contains a stretch of text derived from B-Dn, that stretch comes first; and in every booklet which contains a stretch of text derived from B-So, that stretch comes last. There are no inconsistencies.

From internal evidence, and from collation with DB, it becomes clear that the surviving text is not quite complete. In two places, the text breaks off at the end of a verso page, and the leaf onto which it should continue is not to be found. Both times it is part of the C-Dn text which is lacking.³⁷ At these points it seems certain that a leaf or more has been lost - accidentally lost, as far as we can tell, before the booklets were safeguarded by being bound. I am not so sure how we should think of explaining the fact that there are four whole chapters in the DB-Dn text for which no matching text exists in C.³⁸ It is possible that booklets containing draft versions of these chapters did originally exist but came to be lost, either through sheer carelessness or because they were borrowed for some purpose and not returned. But it is possible too that these booklets never existed – that some entries were omitted from C, by mistake or for a reason which seemed a good one at the time, and then later transferred directly from B into D. In So similarly, there are two DB chapters for which no corresponding C booklets exist, and again that may possibly mean, but does not necessarily mean, that several C leaves have been lost.³⁹

Accidents aside, there is a more important reason why collation of C and DB does not always work out easily. In principle there is a one-one correspondence between C booklets and DB chapters, but in practice there is not.⁴⁰ If the scribes who worked on C had adhered absolutely to the rule that they should start a separate booklet for every single tenant, the result would have been an embarrassingly large number of one-sheet or one-leaf booklets. In almost every county this problem arose, to a greater or lesser extent; wherever it arose, it was dealt with in much the same way. Beyond what seemed to them a suitable point, the C scribes allowed themselves to stop obeying the rule. Instead they created a few omnibus booklets to accommodate left-over entries - one for churches and priests, one for the king's serjeants, one for any English tenants who continued to hold some small piece of land directly from the king, and so on. To some extent, the ad hoc arrangements created by the C scribes persisted into D and DB. In detail, however, a fair amount of reorganization took place: some entries extracted from these booklets were turned into separate chapters. It would be hard to say exactly what motives were at work - why this entry was so treated, why that entry was not but notions of decency or consistency or both seem sure to have played some part. (A bishop should have a chapter to himself, even if the chapter consists of only three or four lines; an abbot who has a chapter to himself in other counties should have a chapter here too.)⁴¹ It would also be hard to say how many of these changes were made by the D scribes, and how many by the DB scribe; but we are not in a position to face that question yet.42

One of these rearrangements produced, by accident, a crucial piece of evidence, the significance of which seems first to have been noticed by Whale (1905, p. 266). Two tenants, Goscelm and Walter, both holding land in Devon, share a booklet in C (fos. 388–97): uniquely here, strings of entries for manors belonging to one man alternate with strings of entries for manors belonging to another.⁴³ In DB-Dn, how-

have been working for the bishop of Durham (Chaplais 1987). (2) No C text survives corresponding to DB chapter 33, but drafts of this and one other chapter were added on blank pages (153v, 436v) at the back of two C booklets, in a hand which does not just resemble DB (Finn 1951) but is actually that of the DB scribe himself (Chaplais 1987). ((These and some other additions to C are discussed in chapter 7.))

 40 Working on the last C text, the scribes occasionally dared to pack two chapters (382v-6r, 437r-9r) or several chapters (446r- 9r) into a single booklet. By this time, with the end already in sight, they could risk breaking the rules.

 42 A means of answering this question was found by Galbraith (1961, pp. 190–3). It is, I think, the right one. ((With regret, I no longer think that (below, pp. 133–4): the question is not decidable.))

⁴³ It is stated by Finn (1957, p. 75) that Goscelm was Walter's brother, but I do not know what evidence he had for saying so.

 $^{^{36}}$ The Capp booklet shows it too, however, and so does a booklet (fos. 63-4) containing lists of hundreds for the same three counties.

 $^{^{37}}$ There is a break after 414v (where DB has six more paragraphs) and another after 421v (where DB has one more paragraph).

³⁸ Chapters 30 (with 10 paragraphs), 31 (with 4), 40 (with 22), and 45 (with 2). The numbering here is that which appears in the index (DB-Dn-100ra), not the main text.

 $^{^{39}}$ Chapters 2 (with 4 paragraphs) and 33 (with 2). These are both special cases. To avoid distraction, I do not discuss them here, but the basic facts are as follows. (1) A copy, presumably an emended copy, of the C text corresponding to DB chapter 2 was added on some blank pages (173v–5v) at the back of one of the other C booklets, by a scribe who makes only this one appearance in the manuscript (Ker 1977); it is suggested that he may

⁴¹ These examples come from Somerset, for which (excluding the king) there are 30 C booklets and 46 DB chapters. Part of the difference is due to the creation of new chapters, in D or DB or both. For instance, one of the C booklets contains a stretch of text headed 'Lands which have been given to the saints as alms in Somerset' (196r–8v). The entries here mostly recur in chapter 16 of DB-So, 'Clerics holding from the king', but four have been extracted and turned into separate chapters (11–13 and 15).

ever, each man has a chapter to himself, chapter 25 for Walter, chapter 26 for Goscelm. The crucial point is this, that the C booklet consists of two quires (388–91, 392–7). In DB's chapter 26, the order of the entries is the same as it is in C; in chapter 25 the order is not the same – but it becomes the same when the C quires are transposed (392-7, 388-91). (The order is precisely the same except for one entry, the first in C, which had to be treated as a special case.) Here we have the strongest possible proof that DB is derived from C, directly or indirectly. If we thought (as Whale did) that DB was copied directly from C, we should take this evidence to mean that the DB scribe, while writing chapter 25, had the quires of his source text out of sequence (but got them back into the right order before writing chapter 26). If we think (as Galbraith did) that DB was copied from a copy of C, i.e. from D, we infer that it was one of the D scribes who had temporarily transposed the C quires. The transposition has to be assumed to make its mark on whichever version of the text derives immediately from C; but on either view this evidence proves that C is ancestral to DB.

In Ellis's rearrangement, this booklet is followed by a single leaf (fo. 398) which raises different questions. It starts with a heading, TERRA GOSCELMI DE ESSICESTRA, of the kind which is normally found at the start of a new booklet or new county, except that here the name of the county is missing. This is followed by a single paragraph (398r2-7) relating to a place named Herstanahaia; the rest of the leaf is blank.44 In D and DB (in D by inference, in DB as a matter of fact), the matching entry was included under Devon, at the end of chapter 26, and that is why Ellis chose to put the leaf here, at the end of the corresponding C booklet. But it has been suggested – again, I think, originally by Whale (1905, pp. 249–50) – that DB is doubly misleading. Goscelm of Exeter, it seems, was not the same man as the Goscelm whose lands are described in this chapter;⁴⁵ and the place in question may be a known place in Dorset, not an otherwise unrecorded place in Devon which happened to have the same name. The evidence of the script seems to confirm Whale's suggestion: the scribe who wrote this C entry occurs elsewhere writing entries in C-Do, but not for any other county.⁴⁶ Apparently this leaf was originally part of C-WiDo, but went astray at an early stage – early enough for it to be mistaken for part of C-DnCoSo by one of the scribes who worked on the D-Dn text.

The C-WiDo booklets, to turn to them, are only the small

 44 Except for an unfinished entry, *Eduuardus tenet iii hidas terrę* ... , added at 398r9 by a different hand (which I do not recognize).

remainder of a larger batch. Of the booklets that survive, one alone (fos. 47-9) contains entries for both counties: a single entry for Wiltshire followed by a string of entries for Dorset. The rest relate only to Dorset. Despite that, it is, I think, quite certain that the batch, when complete, would have covered these two counties (these two and only these two) in exactly the same way that the C-DnCoSo booklets cover those three counties. What has happened here (approximately but not exactly) is that the booklets which contained a section of the C-Wi text, regardless of whether they also contained a section of the C-Do text, have (nearly) all been removed from the collection. Since many tenants held land in both counties, the end result was that most of the booklets were removed - and having been removed they were lost. The sub-batch which survives consists (nearly) of the booklets relating to Dorset alone.⁴⁷ So far as they can be compared, the C-WiDo booklets are identical in type with the C-DnCoSo booklets. They were put together by the same method, with the same purpose in view.

Why some survived when most were lost is a question which I propose to come back to later. What proportion has been lost is a question which we can try to answer straight away, though only a very crude estimate is possible. For the three counties covered by C-DnCoSo, there are 40 leaves in DB corresponding to 412 leaves in C.⁴⁸ For the two counties covered by C-WiDo, there are 20 leaves in DB (not counting two inserted slips). Hence, assuming that the compression factor between C and DB was the same, we would expect there to have been slightly more than 200 leaves in C. Of course this estimate is not to be taken very seriously, but I think it would be fair to say that the surviving 40 leaves are unlikely to represent more than about one-fifth of the original number. A similar argument will give us a very rough idea of the size of C as a whole. I have suggested elsewhere (above, p. 28) that the D text, for all 33 counties covered by the survey, would have amounted to something like 2800 leaves, and a similar calculation leads me to suppose that the C text, complete for every county, would have run to approximately 3500 leaves. By that reckoning, the leaves which survive, 452 in all, represent around one-eighth of the total number.

The survival of even this much is a miracle for which we ought to be properly thankful (if only we knew whom we ought to be thankful to). Our gratitude would probably be

⁴⁵ The DB scribe, presumably alerted by some abnormality in D, was doubtful about the identity. If he had been sure, he would have starting this entry by saying *Id' Go. ten'*.... Because he was not, he wrote *Goscelmus de Execestre ten' de rege*..., and so gave himself the option of converting this paragraph into a separate chapter, if that proved to be necessary.

⁴⁶ The same scribe (whom I call omicron) wrote another isolated entry (41r1–9) which looks very similar to this one. There too he forgot to specify the county – but somebody else added the words *in Dorseta* before any harm was done.

⁴⁷ In other words, if a tenant held land in Wi as well as Do, or in Wi alone, no booklet ought to survive (though in fact one does). If a tenant held land in Do but not in Wi, the booklet describing his lands, if it ever existed, ought still to exist; if it survives at all, furthermore, it ought to survive complete. Up to a point, these predictions hold true; but it is hard to speak precisely, because the text clearly underwent the same kind of reorganization, in D or DB or both, mentioned above with regard to C-DnCoSo. For example, two entries extracted from one of the surviving C booklets (fos. 27–9) recur as a separate chapter (18) in DB-Do. There are some other short chapters too (7, 14, 17, 21–3) of which it would not seem unlikely that they came from an omnibus booklet.

⁴⁸ Here I am counting fo. 398 as part of C-DnCoSo, which is how it was treated by D (or by DB), but ignoring the fact that some leaves (two at least) have been lost.

greater, however, if things could have been so arranged that the counties represented by the surviving C booklets were geographically dispersed. Given the choice, we should (it seems to me) have preferred to have our sample of counties scattered widely across the map – Yorkshire, Norfolk, Sussex, Somerset and Shropshire, or something along those lines. In fact, the sample consists of a block of connected counties, and there is, for that reason, some room for doubt how far we can safely extrapolate. (A similar caveat applies to the surviving D booklets, and that makes things twice as difficult.) Suppose that something is true for all five county texts, or at least for all four of which more than one entry survives: do we infer that it was universally true? Suppose, for instance, that a scribe can be identified whose hand occurs repeatedly in the text for these four counties. (There are in fact two scribes who fit this description, as will appear in chapter 5.) Knowing that, do we think that the same scribe's hand is likely to have occurred in every single C text? If the counties in question were scattered around the country, presumably we would think that; because they form a connected block, we have to hesitate.⁴⁹ If readers will agree, as I hope they will, that this question needs to be asked, I am willing to leave the answer in suspense.

Appendix How to compile a collection of C booklets

It is not obvious how five or six scribes could collaborate in compiling a collection of C booklets without constantly getting in one another's way. If one of the scribes is copying a certain paragraph from a certain page, what can the other scribes do except wait for him to finish, so that one of them can take a turn? And what is the point of hiring several scribes if only one of them is going to be busy at any given moment?

If time were no constraint, we could hire one scribe and let him do the whole job himself. Suppose we do just that. We recruit a reliable scribe; we give him the source text, a supply of blank quires, and some fairly simple instructions; and then we leave him to get on with the work. It is clear enough what this scribe has to do. He decides which tenant he wishes to deal with first; then he takes a blank quire and turns it into a C booklet by writing a title at the top of the first page. Now he starts scanning through B, looking for an entry for a manor belonging to this tenant. When he finds such an entry, he copies it into his quire; and then he resumes his scan of the source text. One by one, the relevant entries are found and copied; whenever necessary, the scribe adds a new quire to his booklet. Sooner or later he reaches the end of B: when he does, this C booklet is complete. Setting it aside (after extracting any unused sheets from the middle of the final quire), the scribe goes back to the beginning of B, decides which tenant he wishes to deal with next, and starts another C booklet. And he repeats this procedure as often as is required. Eventually, when every tenant has been dealt with, each entry from B will have been copied into one of the C booklets.⁵⁰ Once that stage has been reached, the stack of completed booklets will need to be sorted into their final order; and then the text can be recopied continuously, by the same scribe or by somebody else, into as many quires as may be needed to make up the D booklet.

Assuming that the scribe always works as fast as he can, the amount of time the job will take is a fixed quantity. To scan repeatedly through B, to copy each entry from B into C at the appropriate moment – all this will take some definite number of man-hours. By making sure that the scribe does not slack, we can prevent the job from taking longer than it should; but we cannot get it done in a shorter time unless we employ more scribes. If one scribe would take ten days to do the job, it seems that two scribes ought to be capable of doing it in five days - and that five scribes ought to be capable of doing it in two days.⁵¹ But that will only be possible if we can find some way of arranging things so that two or more scribes can work side by side without obstructing one another. Each scribe has to be free to scan through the source text, copying whichever entries need to be copied, unhindered by his colleagues.

There is (in the absence of any means of mechanical reproduction) only one way of achieving that result: by taking B to pieces. We have not yet formed any clear idea what B would look like, but uncertainty on that point need not detain us here. Possibly B is a collection of booklets, somewhat resembling C; possibly it is a collection of quires, somewhat resembling D; either way, it can easily be taken apart – into batches of one or more booklets or quires, as the case may be. Because I have to call them something, I call these batches booklets; but I do not mean to say that they were booklets in a strict sense.

With the source text divided into several booklets, we can hope to find work for several scribes at once: each scribe can be given one of the B booklets and one of the C booklets and told to copy the relevant entries (if any occur) from the former into the latter. The job divides itself into a set of such tasks. (What makes the process interestingly unpre-

⁴⁹ We might think it possible, for example, that the plan of the writingoffice resembled a map of the country: one group of connected counties (including these four) was dealt with in the south-west corner of the room, and other groups of counties were dealt with simultaneously in the other corners. On that view, what was true in one corner would not necessarily be true in every corner.

 $^{^{50}}$ Given B, we could replicate C, simply by repeating the operation: errors aside, the C booklets which we might make would each comprise exactly the same entries, in exactly the same sequence, as the original booklets. But the process is not reversible. We cannot reconstruct B from C, still less from D or DB. Once the entries have been redistributed among the C booklets, they cannot be put back together in their original order. Too many connections have been broken.

⁵¹ I doubt whether this level of efficiency could actually be achieved. Some crude simulations, using a modified version of the program described below, lead me to think that the best we could hope for is that two scribes might get the job done in 5.5 days, five scribes in 3 days.

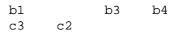
dictable is the fact that we do not know in advance the duration of any given task, though we assume that some tasks will take much longer than others.) Since each C booklet has to be collated with each B booklet, the number of tasks is the number of B booklets (which to some extent we can vary to suit ourselves) multiplied by the number of C booklets (which is fixed, whether or not we know it in advance). Now the problem is to ensure that every task gets done precisely once – that none gets overlooked, and that none by mistake gets done twice. But that is easily achieved. We just need to keep the B booklets in the same order throughout, and let each of the C booklets advance along the line, shaking hands (so to speak) with each of the B booklets in turn.

We have the makings of an algorithm here. Exactly how the algorithm was implemented we cannot expect to know, but I will describe the first few steps in a small-scale simulation, to show how it might have worked.

Suppose that we divide B into four booklets, b1 through b4. Finding some workspace, such as the top of a table, we lay out the booklets side by side on this surface. Providing ourselves with a supply of blank quires, we get the job started by placing one of these quires, booklet c1 in embryo, in front of booklet b1.

Now there are two tasks waiting to be dealt with: somebody needs to copy from b1 into c2, and somebody needs to copy from b2 into c1. One of these tasks can be assigned to the scribe who has just ceased work; my program chooses the latter task for him.⁵³ The other can be assigned to a second scribe, s2. Then, once again, we wait for a task to be completed.⁵⁴

In the event, scribe s2 is the first to finish. Booklet b1 goes back to its place, c2 advances one position,⁵⁵ and a new blank quire, c3 in embryo, can be put in front of b1. (The booklets being used by s1 are currently out of the picture.)



There is only one task to be assigned, task (b1, c3), and s2 is available to deal with it. He carries off the booklets he needs, rejoining s1, who is still busy with his task, (b2, c1). Again we wait for one or other task to be completed.

This time it is scribe s1 who finishes first. Following the usual rule, he replaces b2 and puts c1 one position further right.

b1	b2	b3	b4			b2	b3	b4
cl					c4		c1	

All the way through, a C booklet in front of a B booklet will signal the fact that a task awaits attention. (Provided that they understand this simple rule, the scribes can left to manage the work by themselves, without supervision.) At this stage, only one task is presenting itself: somebody needs to copy the relevant entries from b1 into c1. We assign this task to the first available scribe, s1. He takes the booklets he needs, carries them off to his desk, and sets to work. Now we have to wait for him to finish: nothing more can be done till then.

In time he completes his task.⁵² Having done so, he returns to the table with the booklets which he has been using. What he does now, obeying the instructions we have given to all our scribes, is this: he puts b1 back where it came from, and c1 one position further right. The position in front of b1 is thus left vacant, and can be filled with a new blank quire, booklet c2 in embryo.

b1	b2	b3	b4
c2	c1		

⁵² The completion of this task marks the end of interval 1. Since each interval ends with the completion of precisely one task, the number of intervals is the same as the number of tasks. These intervals, of course, are not equal. We are keeping count of a sequence of events, not measuring the passage of time.

	b2	b3	b4
c4	c2	c1	

Now there are two tasks awaiting attention, (b2, c2) and (b3, c1). One of these tasks (say the latter) can be given to scribe s1; the other can be assigned to a third scribe, s3. Once these new tasks are started, therefore, three scribes are at work simultaneously: s2 is still copying from b1 into c3, s1 is copying from b3 into c1, and s3 is copying from b2 into c2.

The reader will not feel dissatisfied, I hope, if I interrupt the narrative at this point. By now it ought to be clear enough how the C booklets can be made to travel along the table, acquiring the relevant entries from each B booklet in turn, as they pass by. The rest of the run, with three scribes and five C booklets, is summarized below (Table 10).

⁵³ In my program, a scribe who has just completed a task is always assigned another task as soon as possible. If two tasks are available, one is chosen for him at random.

⁵⁴ When two or more tasks are in progress simultaneously, my program makes a random choice of the one which gets finished first.

⁵⁵ As the work develops, it will sometimes happen that a C booklet advances into a position which is already occupied by one or more preceding booklets. If we want the C booklets to be kept in the same order throughout, the newly-arrived booklet must be put at the bottom of the stack; and that is what my program will do, unless it is told otherwise. But that is not necessary. If we prefer, the newly-arrived booklet can be put at the top of the stack; or it can be inserted into the stack at some randomly chosen point. The algorithm will work in any case.

Interval	sl	Scribes s2	s 3
1	(b1, c1)		
2	(b2, c1)	(b1, c2)	
3	:	(b1, c3)	
4	(b3, c1)	:	(b2, c2)
5	:	(b1, c4)	:
6	:	:	(b2, c3)
7	(b4, c1)	:	:
8	:	:	(b3, c2)
9	:	(b1, c5)	:
10	:	(b2, c4)	:
11	:	:	(b3, c3)
12	:	(b2, c5)	:
13	:	:	(b3, c4)
14	(b4, c2)	:	:
15	:	:	
16	(b4, c3)	:	
17	(b4, c4)	:	
18	:	(b3, c5)	
19	:		
20	(b4, c5)		

Table 10. Simulated compilation of a set of C booklets (three scribes, four B booklets, five C booklets).

As we have seen, it takes some time, at the beginning of the run, before the scribes can all be set to work.⁵⁶ Towards the end, similarly, the supply of tasks tapers off, and scribes start falling idle. Right at the end, only one scribe is left to deal with the final task, copying from b4 into c5. In the middle of the run, however, all three scribes are occupied at once, each with a task of his own. It is uncommon, in fact, for the work to flow quite as smoothly as it does here, but I did not have to interfere with the program to make it produce this result.⁵⁷

Without further comment, I also print the results of a rather larger run, with four scribes, six B booklets and eight C booklets (Table 11). Readers may find it instructive to try tracing out the trajectory followed by some sample booklets. The entries in booklet c3, for example, were copied successively so: from b1 by s2; from b2 by s1; from b3 by s4; from b4 by s4 again but after a break; from b5 by s3; from b6 by s3 again. All four scribes participated. If every task involved the copying of at least one entry, the completed booklet will show three changes of hand, and possibly one or two changes of appearance as well. In other words, it will look very much like one of the surviving C booklets (except that only one county is represented).

 $^{^{56}}$ At the start of interval 7, we could briefly find employment for a fourth scribe. With only four B booklets, however, there is not enough work to keep four scribes occupied for long. It is probably a good rule of thumb that the number of B booklets should be at least twice as large as the number of scribes to be employed.

⁵⁷ I set the program to run ten times, intending to choose whichever result was prettiest. The second run came out like this, and I halted the program at that point.

Interval	_	Scr	4	
	sl	s2	s 3	s4
1	(b1, c1)			
2	(b2, c1)	(b1, c2)		
3	:	(b1, c3)		
4	:	(b1, c4)		
5	:	(b1, c5)		
6	(b2, c2)	:	(b3, c1)	
7	(b2, c3)	:	:	
8	(b2, c4)	:	:	
9	:	:	(b4, c1)	(b3, c2)
10	:	:	:	(b3, c3)
11	:	:	(b4, c2)	:
12	(b5, c1)	:	:	:
13	(b6, c1)	:	:	:
14	:	(b1, c6)	:	:
15	:	:	:	(b3, c4)
16	(b2, c5)	:	:	:
17	:	:	:	
18	(b3, c5)	:	:	
19	:	:	(b5, c2)	(b4, c3)
20	:	:	(b6, c2)	:
21			:	:
22		•	(1-5	: (b4 = 4)
23	(b1 a7)	(h)	(b5, c3)	(b4, c4)
24 25	(b1, c7)	(b2, c6) (b3, c6)	:	:
26	•	(D3, C0)	(b6, c3)	:
27	•	•	(100, 03)	(b5, c4)
28	(b4, c5)	:	:	:
29	:	:	:	(b1, c8)
30	:	(b2, c7)	:	:
31	:	:	:	
32	:	:	(b6, c4)	
33	:	(b3, c7)	:	(b2, c8)
34	:	:		:
35	:	:		
36	:	(b3, c8)		
37	(b5, c5)	:		(b4, c6)
38	:	:		(b4, c7)
39	:			:
40	:			(b4, c8)
41	(b5, c6)	(b6, c5)		:
42	:	:		
43	:			
44	(b6, c6)	(b5, c7)		
45	:	(b5, c8)		
46 47	: (b6, c7)			
47	(b6, c7) (b6, c8)			
τo	(D0, C0)			

Table 11. Simulated compilation of a set of C booklets (four scribes, six B booklets, eight C booklets).