

PETER WRIGHT

WATERMARKS AND MUSICOLOGY: THE GENESIS OF JOHANNES WISER'S COLLECTION

I. INTRODUCTION

The twin questions of the origin and purpose of Trent 88–91, the four celebrated codices compiled by Johannes Wiser during the third quarter of the fifteenth century, have continued to puzzle musicologists ever since the manuscripts were rediscovered more than a hundred years ago. Adler and Koller, whose pioneering study of the Trent Codices, published in 1900, still retains so much of its original force, saw Wiser's collection as having been compiled 'in and for Trent' under the humanistic influence of Johannes Hinderbach, provost of the cathedral from 1455 and prince-bishop of the city and region from 1465.¹ At the time of writing, next to nothing was known about the life of the obscure priest who had been responsible for the most important musical collection of the fifteenth century, and it was not until nearly thirty years later that

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¹ *Sechs Trienter Codices: Geistliche und weltliche Compositionen des XV. Jahrhunderts, erste Auswahl*, ed. G. Adler and O. Koller (Denkmäler der Tonkunst in Österreich, Jg. vii, 14–15; Vienna, 1900), pp. xvi and xx.

the Trentino scholar Renato Lunelli published his crucial discovery showing that Wiser was employed as schoolmaster at the cathedral school in Trent during the very period when he must have been busy assembling his great collection.² The article in question was written partly in response to a highly polemical and largely unsubstantiated piece that had been published by the Austrian historian Rudolf Wolkan a few years earlier.³ Wolkan had rejected the idea of a Tridentine origin for the codices, arguing that there was literally no evidence of any form of musical activity in Trent prior to Hinderbach's time, and that the reign of his predecessor, Georg Hack (1444–65), which Adler and Koller had defined as the period during which most of the copying must have taken place, would not have been conducive to so large-scale an artistic enterprise, owing to Hack's strained relations with the city over which he presided. Instead, Wolkan maintained that the codices had been compiled in Vienna, where they might have formed part of Hinderbach's library, and suggested that it could have been under his auspices that they eventually reached Trent.

Whilst there may have been some validity to Wolkan's points in relation to Hack, his statement about the lack of musical life in Trent was, of course, completely unfounded, as Lunelli and others have subsequently shown, and his proposal of a Viennese origin for the codices little more than wishful thinking. This latter theory was dealt a severe blow by Lunelli's discovery, which, through its implicit linking of the later codices to the institution for which their compiler worked,⁴ provided a powerful endorsement of the 'in and for Trent' position originally postulated by Adler and Koller. At the same time Lunelli was brusquely dismissive of the possibility that Hinderbach might have had any role in the formation of the collection, and thus showed something of the same lack of objectivity of which Wolkan himself had been guilty. That both men should have adopted such partisan viewpoints is hardly surprising in the light of the background circumstances: Italy, following the Allied victory, had taken over from Austria the entire

² R. Lunelli, 'La patria dei codici musicali tridentini', *Note d'Archivio per la Storia Musicale*, 4 (1927), pp. 116–28.

³ R. Wolkan, 'Die Heimat der Trienter Musikhandschriften', *Studien zur Musikwissenschaft*, 8 (1921), pp. 5–8.

⁴ Lunelli never goes quite as far as to state that the codices were compiled for the cathedral school, although this is the clear implication of the facts as he presents them.

region comprising the south Tyrol and the Trentino,⁵ including the city of Trent, and in accordance with the terms of the Treaty of St Germain (1919) it had been decided that the musical codices were the property of the Italian state and should therefore be returned to their presumed city of origin.⁶ Feelings about the manuscripts' destiny inevitably were running high.

Much of the ensuing debate about the origin and purpose of the codices was coloured by these nationalistically oriented theories, as Adelyn Peck Leverett has usefully shown,⁷ but in due course a degree of consensus emerged. It came to be widely accepted, for instance, that Trent, not Vienna, must have been the place where most of the copying was carried out. And the idea, first formulated by Adler and Koller, that Hinderbach was in some sense the moving force behind the collection became a leitmotiv in the writings of scholars of all nationalities. The focus on Hinderbach sometimes tended, however, to be at the expense of a proper consideration of the contexts in which the manuscripts and their repertoires are likely to have been used,⁸ and it was not until relatively recently that this aspect of the codices' history began to be seriously addressed.

Over the past twenty years or so, a number of studies have appeared that focus on local musical and liturgical practices, and on the institutions and individuals that helped sustain them.⁹ As

⁵ This region is now known as 'Trentino–Alto Adige'. Historically, it represents the area of the medieval ecclesiastical principalities of Trento (Trent) and Bressanone (Brixen). For present purposes the northern part of the region, the Alto Adige, is referred to by its alternative designation of 'south Tyrol'.

⁶ At that stage Trent 87–92 were in Vienna. For further details see A. P. Leverett, 'A Paleographical and Repertorial Study of the Manuscript Trento, Castello del Buonconsiglio, 91 (1378)' (Ph.D. diss., Princeton University, 1990), pp. 6–7.

⁷ *Ibid.*, pp. 13–31.

⁸ Even as searching and thought-provoking a study as Martin Staehelin's attempt to explain aspects of the later codices in terms of humanist thought and practice makes virtually no reference to Wiser's working environment. See M. Staehelin, 'Trienter Codices und Humanismus', in N. Pirrotta and D. Curti (eds.), *I codici musicali trentini a cento anni dalla loro riscoperta* (Trent, 1986) [henceforth *I codici musicali trentini 1986*], pp. 158–69.

⁹ See, in particular, the following musicological studies: G. Spilsted, 'The Paleography and Musical Repertory of Codex Tridentinus 93' (Ph.D. diss., Harvard University, 1982); P. Wright, 'On the Origins of Trent 87₁ and 92₂', *Early Music History*, 6 (1986), pp. 245–70; S. E. Saunders, *The Dating of the Trent Codices from their Watermarks, with a Study of the Local Liturgy of Trent in the Fifteenth Century* (New York, 1989); R. Dalmondo (ed.), *Musica e società nella storia trentina* (Trent, 1994); Leverett, 'A Paleographical and Repertorial Study'; M. Gozzi, 'I codici più recenti nel loro contesto storico-liturgico: i contrafacta', in P. Wright (ed.), *I codici musicali trentini: nuove scoperte e nuovi orientamenti della ricerca* (Trent,

a result, we now have a fuller picture of the musical environment of fifteenth-century Trent and the surrounding area than might once have been imagined possible, although it remains a very incomplete one. There is still little evidence of the kinds of musical resources that might help explain the existence or configuration of a collection of the scale and character of Johannes Wiser's, and there is no documented proof of a direct link between his codices and the cathedral school.¹⁰ Leverett even goes as far as to propose a severance of any possible connection between the two. Instead she advances a modified version of what she terms the 'Austrian hypothesis', on the one hand accepting the view that the codices reflect 'primarily the musical life of Vienna and of the nearby Court', while on the other suggesting that they may have been produced by and for an amateur circle closely associated with Hinderbach.¹¹

Through a series of important studies published over two decades Reinhard Strohm has reached a view of the later Trent Codices that uniquely embraces and develops a number of different perspectives on the manuscripts' origin and purpose.¹² On the

1996) [henceforth *I codici musicali trentini 1996*], pp. 55–88; id., 'I manoscritti liturgici quattrocenteschi con notazione della Biblioteca comunale di Trento', *Fonti Musicali Italiane*, 3 (1998), pp. 7–64. On the history of the cathedral chapter, see E. Curzel, *I canonici e il Capitolo della cattedrale di Trento dal XII al XV secolo* (Bologna, 2001).

¹⁰ Moreover doubts have been expressed, both in the context of specific discussions of the codices and as part of a wider debate, as to whether small-format manuscripts of this type, with their problems of decipherment and copious errors, were intended to be performed from at all. With respect to the Trent Codices, see in particular C. Hamm, 'Interrelationships between Manuscript and Printed Sources of Polyphonic Music in the Early Sixteenth Century – An Overview', in L. Finscher (ed.), *Quellenstudien zur Musik der Renaissance*, ii: *Datierung und Filiation von Musikhandschriften der Josquin-Zeit* (Wolfenbütteler Forschungen, 26; Wiesbaden, 1983), pp. 1–13, esp. pp. 1–2, and Staehelin, 'Trienter Codices and Humanismus', pp. 158–60. For arguments in support of the idea that the codices were used in performance, see M. Bent, 'Trent 93 and Trent 90: Johannes Wiser at Work', in *I codici musicali trentini 1986*, pp. 84–111, and Gozzi, 'I codici più recenti', pp. 55–88.

¹¹ Leverett, 'A Paleographical and Repertorial Study', pp. 24–31.

¹² Of the many studies by Strohm dealing with aspects of the Trent Codices, those most directly concerned with the origin and purpose of the later manuscripts are (in order of publication): 'Native and Foreign Polyphony in Late Medieval Austria', *Musica Disciplina*, 38 (1984), pp. 205–30, esp. pp. 221–3; *The Rise of European Music, 1380–1500* (Cambridge, 1993), pp. 509–11; 'European Cathedral Music and the Trent Codices', *I codici musicali trentini 1996*, pp. 15–29, esp. pp. 26–7; 'Zur Entstehung der Trienter Codices: Philologie und Kulturgeschichte', in M. Staehelin (ed.), *Gestalt und Entstehung musikalischer Quellen im 15. und 16. Jahrhundert* (Wolfenbütteler Forschungen, 83; Wiesbaden, 1998), pp. 11–20, at p. 18; 'Trienter Codices', *Die Musik in Geschichte und Gegenwart*², ed. L. Finscher (Kassel, 1994–): *Sachteil*, viii (1998), cols. 801–12, esp. cols. 804–6.

one hand he endorses Adler's and Koller's view that Hinderbach must have been responsible, directly or indirectly, for the transfer of the music to Trent Cathedral, and argues that parts of the repertory must have originally served the imperial chapel.¹³ On the other hand he offers what is arguably the most convincing attempt so far to provide a context for Wiser's manuscripts, which he sees as belonging to a tradition, already well established by the middle of the century, of sources written for the *Kantorei* or choir school – a term that, like 'choir' or 'chapel', referred both to a musical group (in this case an ensemble comprising boys, adolescents and a singing-master) and to the building (in this instance the cathedral school) where they rehearsed and carried out some of their performances.¹⁴ Strohm sees the physical status of the codices and their musical contents as matching the needs of a *Kantorei*, the functions of whose repertoire would have included music for endowed masses in guild chapels, masses for civic ceremonies, private services for visiting nobility, endowed ceremonies including civic processions, Vespers and 'Salve' services, and the celebration of particular political events.¹⁵

Taking as a model the well-documented parish school of the nearby town of Bolzano, an establishment where there seems to have been continual music-making,¹⁶ Strohm apparently finds no difficulty with the lack of comparable documentation at Trent, arguing that the school there must have been famous, since the Innsbruck cantor Nikolaus Kromsdorfer would not otherwise have hired two of its choirboys for use at the Tyrolean court in 1466.¹⁷ The new and vivid context he provides for the Wiser codices is a very persuasive one, and it may be, as he seems to imply, that we need be less concerned by the relative lack of documentation than we have been hitherto.¹⁸

¹³ Strohm, 'Native and Foreign Polyphony', p. 222.

¹⁴ Strohm, *The Rise of European Music*, pp. 287–91. On the *Kantorei* of the collegiate church of St Stephen's in Vienna see id., 'Music and Urban Culture in Austria: Comparing Profiles', in F. Kisby (ed.), *Music and Musicians in Renaissance Cities and Towns* (Cambridge, 2001), pp. 14–27, at p. 17.

¹⁵ Strohm, *The Rise of European Music*, p. 510.

¹⁶ Strohm, 'Music and Urban Culture', pp. 24–7; further details are given in M. Gozzi and D. Curti, 'Musica e musicisti nei secoli XIV e XV: contributo per una storia', in Dalmonte (ed.), *Musica e società nella storia trentina*, pp. 88–90.

¹⁷ Strohm, 'European Cathedral Music', p. 27.

¹⁸ For the period of the codices' compilation, and indeed for most of the fifteenth century, there appears to be very little documentation that could be construed as referring to

Central to Strohm's thinking is the important notion of music copying as a means by which a scribe could build a career for himself, and this is one reason why, in Wisser's case, the question of the precise copying dates of his manuscripts proves to be particularly crucial. For a long time a chapter record of 1459 describing Wisser as master and rector of the cathedral school¹⁹ was the earliest known archival reference to him, and on the basis of this it came to be widely assumed that he had arrived in Trent only recently and was at that point just starting work on his collection. But in the early 1980s two important discoveries were made that led to a modification of this view. One was the uncovering of watermark evidence suggesting that work on Trent 90, the first of the Wisser codices, and Trent 93, the source that served as its chief exemplar,²⁰ must have begun several years earlier than previously

musicians or musical performance (none of the cathedral account books, for example, survives). An exception is the accounts of the church of S. Pietro in Trent, which were administered by Hinderbach during the 1470s and 1480s. These include payments to a group comprising the *magister scolarum*, the *scolares* and the *organista*, which probably performed polyphony (see F. Ghetta, 'Johannes Hinderbach, amministratore: i registri delle offerte della chiesa di S. Pietro a Trento', in I. Rogger and M. Bellabarba (eds.), *Il principe vescovo Johannes Hinderbach (1465–1486): fra tardo Medioevo e Umanesimo* (Trent, 1992), pp. 193–252, at p. 213, no. 26 and p. 214, no. 33). For the early sixteenth century the situation is somewhat better. The following notes taken from a document of 1508–14 headed 'Quaedam adnotationes pro reformatione chori et capituli tridentini' furnish details probably not dissimilar to what one might have expected to find fifty years earlier: 'Habeatur bonus magister schole qui sit doctus in gramatica et musica, saltem baccalaureatus alicuius universitatis; habeat bonum salarium pro laboribus chori' (13^o); 'Curandum habere scolares plures quia bona scola bonum chorum facit' (15^o); 'Mansionarii duo sint boni cantores et bene vociferati in vocalibus concordantes' (20^o), an apparent reference to vocal polyphony (TAS, APV, Sezione Latina, Capsa 44, no. 46; transcription taken from F. Ghetta and R. Stenico, *Archivi principatus tridentini regesta, sezione latina: Guida*, 2 vols. (Trent, 2001), i, p. 675.

¹⁹ 'honestus et discretus iuvenis dominus Johannes Wisser de Monaco Frisingensis diocesis magister et rector scolarum' (TAC, Instrumenta Capitularia IX, fols. 19^v–20^r, at fol. 19^v (3 June 1459); summarised in L. Santifaller, *Urkunden und Forschungen zur Geschichte des Trientner Domkapitels im Mittelalter*, i: *Urkunden zur Geschichte des Trientner Domkapitels 1147–1500* (Veröffentlichungen des Instituts für Österreichische Geschichtsforschung, 6; Vienna, 1948), p. 363, no. 486). Wisser, in contrast to his predecessor, had the title of 'rector' as well as that of 'magister'; it is thought that this term could indicate a substitute for the senior position of 'scolasticus' at the cathedral: see E. Curzel, 'Scolastici e scolares nella cattedrale di Trento (secoli XII–XV)', *Annali di storia dell'educazione e delle istituzioni scolastiche* (in press; I am grateful to dott. Curzel for providing me with a copy of his article in advance of its publication).

²⁰ Until as late as the 1970s, Trent 93, which like Trent 87 and 92 is essentially a non-Wisser manuscript, was believed to be a copy of Trent 90 rather than its main exemplar. The correct relationship between the two manuscripts was first recognised by Margaret Bent, who reported it in her edition *Fifteenth-Century Liturgical Music*, ii: *Four Anonymous Masses* (Early English Church Music, 22; London, 1979), pp. x–xi and Critical Commentary, and subsequently made it the subject of a detailed study (see 'Trent 93 and Trent 90', pp. 84–111, esp. pp. 92–9).

supposed.²¹ The other was the discovery that Wiser was already in post in Trent as early as July 1455, not as schoolmaster, but as succentor to the then schoolmaster, Johannes Prenner.²²

The year 1455 emerges from Strohm's writings as a critical one in the history of the later codices, prior to which, he suggests, 'hardly any large-scale enterprise had been possible due to the Episcopal schism' (a reference to the instabilities of Bishop Hack's reign). It was then, he argues, that a 'comprehensive re-orientation' took place in Trent, signalled by 'the arrival of the new provost, Johannes Hinderbach, the new schoolmaster, Johannes Prenner, and the new *succentor*, Johannes Wiser' – a reorientation that was 'favoured by the newly crowned Emperor Frederick and tolerated by the new Pope Calixt III'.²³ This, he suggests, was the point when Trent 93 was 'transferred to Trent Cathedral' and the copying of its main layer into Trent 90 begun. Wiser, he proposes, must have undertaken this task in the expectation of having to leave Trent to pursue his career elsewhere, but in the hope that doing so might help him secure a position as schoolmaster,²⁴ a goal that he eventually attained in Trent itself, some time between December 1457 and March 1458.²⁵

Strohm's hypothesis is a compelling one: it provides an explanation for the puzzling fact that Trent 93, chief exemplar of one

²¹ S. E. Saunders, 'The Dating of Trent 93 and Trent 90', in *I codici musicali trentini 1986*, pp. 60–83, and *ead.*, *The Dating of the Trent Codices*, pp. 80–3.

²² The document recording his presence was first reported in P. Wright, 'On the Origins of Trent 87₁ and 92', *Early Music History*, 6 (1986), pp. 245–70, at p. 261, n. 42, but with a misreading of two words, the first of which is especially hard to decipher. Marco Gozzi's interpretation of this passage as 'succentor scholarum' makes excellent sense; the full citation reads: 'Johannes Wissar, succentor scholarum in dicta civitate' (see M. Gozzi, *Il manoscritto Trento, Museo Provinciale d'Arte, cod. 1377 (Tr 90), con un'analisi del repertorio non derivato da Tr 93*, 2 vols. (Cremona, 1992), i, p. 9). For a summary of the document see E. Curzel, 'Ricerche sul Capitolo della Cattedrale di Trento alla metà del Quattrocento: aspetti istituzionali e socio-economici, con un'appendice di 606 registi di documenti (1436–1458)' (Tesi di laurea, University of Trent, 1989–90), Appendix III, no. 405 (Curzel does not offer a reading of the word 'succentor'); see also Santifaller, *Urkunden und Forschungen*, p. 348, no. 477.

²³ Strohm, 'European Cathedral Music', p. 26.

²⁴ *Ibid.*, p. 27. This view is essentially reiterated, with varied nuancing, in Strohm, 'Zur Entstehung der Trienter Codices', p. 18, and *id.*, 'Trienter Codices', col. 805.

²⁵ Wiser must have succeeded Prenner between 13 December 1457, the last occasion on which the latter is described as schoolmaster (TAC, *Instrumenta Capitularia IX*, fols. 325^v–326^r, at fol. 325^v), and 3 March 1458, the first on which Wiser is referred to as occupying this position (*ibid.*, fol. 333^r–^v, at fol. 333^r). A summary of each of these documents is given in Curzel, 'Ricerche sul Capitolo della Cattedrale', Appendix III, nos. 465 and 473.

of the other codices, should form part of the collection at all; it offers a *raison d'être* for Trent 90 as well as a time frame for its execution that realistically allows for the substantial developments manifested in Wiser's work; and it suggests a causal link between changes within the church establishment at Trent and the initiation of the collection. But just how sustainable is it?

A large part of Strohm's argument hangs on the question of the precise dates of copying. According to Suparmi Saunders, on whose watermark evidence the revised dating of Trent 93 and Trent 90 was based, the two manuscripts were copied *c.* 1450–6 and *c.* 1452–9 respectively. On the basis of this she suggests that Wiser was working in Trent 'from 1452 onwards',²⁶ a conclusion that is, of course, incompatible with Strohm's theory, although Saunders's dates, as we shall see, are sometimes less than secure.

No less important for Strohm's theory is the question of the starting dates of the three appointments that he cites as evidence of a 're-orientation' at Trent. While it may well be that Prenner's and Wiser's appointments took effect on or shortly before 30 July 1455, the date of the document in which the two men are respectively cited as schoolmaster and succentor, this is by no means certain.²⁷ What is clear is that whenever Prenner and Wiser took up their appointments, it must have been at least two months before the provostship was assigned to Hinderbach on 5 October.²⁸

²⁶ Saunders, *The Dating of the Trent Codices*, pp. 82–3.

²⁷ This document (TAC, Instrumenta Capitularia IX, fol. 284^{r-v}) contains the earliest known reference to each of these men. Its purpose was to record the assignment of the altar of S. Caterina in Trent Cathedral to 'Johannes Prenner de tridento artium grammaticae professor', following the death of the previous incumbent, Andrea Augenicz. The name of Prenner's predecessor as schoolmaster is not known; we may only speculate that it was Augenicz, who died between 8 May and 30 July 1455 (see Gozzi and Curti, 'Musica e musicisti', p. 111; I have found no evidence to support their claim (*ibid.*) that he held the post of 'rector scholarum'). It is possible that a period of several months or more separated Prenner's appointment as schoolmaster and his subsequent installation as a cathedral chaplain (in Wiser's case there was a separation of over a year). Were Prenner to have taken up his new post in 1454, this could imply that Wiser did the same, since apparently it was common for the appointment of a new succentor (or 'Junkmeister') to coincide with that of a new schoolmaster (see Strohm, *The Rise of European Music*, p. 509, n. 397).

²⁸ On the same day he was also assigned a canonry at Trent and another at Passau. For details of Hinderbach's career, and in particular the provostship, see L. Santifaller, *Das Trientner Domkapitel in seiner persönlichen Zusammensetzung im späten Mittelalter (Mitte 14. Jahrhundert bis 1500)* (Veröffentlichungen des Südtiroler Landesarchivs, 9; Bolzano, 2000), pp. 92–3, and A. Strnad, 'Personalità, famiglia, carriera ecclesiastica di Johannes Hinderbach prima dell'Episcopato', in Rogger and Bellabarba (eds.), *Il principe vescovo Johannes Hinderbach*, pp. 1–63, at pp. 22–3.

More importantly, the post of provost was a largely titular one that was held *in absentia*;²⁹ as yet there is no firm evidence that Hinderbach was present in Trent prior to his formal entry in the diocese in 1466 (although there has been an assumption in a number of musicological writings that he actually 'arrived' there eleven years previously). Thus while it remains quite possible that Hinderbach was at some level influential in relation to the musical enterprise at Trent, this has yet to be proved: so far there is no evidence of any link between his appointment and that of either Wiser or Prenner.³⁰

According to an alternative hypothesis advanced by the present writer several years ago, Wiser must indeed have arrived in Trent in the first half of 1455, or possibly even the previous year, but having begun Trent 90 elsewhere.³¹ The fact that he came from Munich, and that several of the papers he used were then current in southern Bavaria, suggested that it might have been in or near his home city that he embarked on his project. This theory, the development of which is central to the present study, was initially based on only a small range of evidence and was therefore necessarily couched in cautious terms. It nevertheless soon received support from several quarters,³² although Strohm has

²⁹ Curzel, 'Ricerche sul Capitolo della Cattedrale', p. 275.

³⁰ Daniela Rando, who has generously shared with me some of the findings of her forthcoming study of Hinderbach's marginal annotations, confirms the lack of any firm evidence of his presence in Trent as provost. She points out, however, that in one of his annotations (TAS, APV, Sezione Latina, Cod. 3, fol. 11^v), written some time after September 1466, Hinderbach indicates that his predecessor as bishop, Georg Hack, had wanted him as his assistant and eventual successor, and suggests that on the basis of this a presence in Trent might be 'imagined'. Dott.ssa Rando also observes that Hinderbach had the intention, after his appointment as provost, of taking a Marian office with him to Trent, as is evident from his note of ownership in Trent, Biblioteca comunale, MS 1785: see '*Pro biblioteca erigenda: manoscritti e incunabili del vescovo di Trento Johannes Hinderbach (1465–1486)*' (Trent, 1989), pp. 60–2. She believes it unlikely that at this stage Hinderbach had the power to take important decisions, or that he would have been in a position to influence appointments such as Wiser's (the provostship, which since the inception of the post in 1425 had been a bone of contention, continued to be contested throughout the period of Hinderbach's tenure; see Santifaller, *Das Trienter Domkapitel*, p. 93).

³¹ Wright, 'Johannes Wiser's Paper', *I codici musicali trentini 1996*, pp. 31–53, at pp. 43–4.

³² See D. Fallows, 'Ockeghem as a Song Composer: Hints towards a Chronology', in P. Vendrix (ed.), *Johannes Ockeghem: Actes du XL^e Colloque international d'études humanistes* (Paris, 1998), pp. 301–16, at p. 305 (though Fallows inadvertently credits me with making the case for Trent 93 instead of Trent 90); and N. Schwindt, 'Die weltlichen deutschen Lieder der Trienter Codices — ein "französisches" Experiment?', *Neues Musikwissenschaftliches Jahrbuch*, 8 (1999), pp. 33–72, esp. pp. 43–5.

continued to maintain his original position, arguing that paper used in Bavaria could either have travelled south and been acquired there by Wiser or else have been brought to Trent by him prior to being inscribed with music.³³

The problems of the date of Trent 90, its place of origin and the purpose behind its copying are thus connected in a particularly intimate way, and are in turn closely bound up with similar issues pertaining to Trent 93, to the nature of its relationship with Trent 90, and to the time lag between their respective compilations. The present study, while making no claims to a definitive solution to these problems, offers a detailed assessment of the delicate balance of probabilities they entail, in an attempt to gain a fuller understanding of the complex questions at issue. Central to it is a rich quantity of new watermark evidence, here evaluated in the belief that such evidence, if properly considered in conjunction with other types of evidence, can substantially advance our understanding of important musicological questions.³⁴

II. METHODOLOGY AND SOURCE MATERIALS

For most of the twentieth century, scholars had only a very imprecise idea of when the later Trent Codices were actually copied. Adler and Koller considered the reign of Georg Hack (1444–65) as the period during which Wiser must have gathered and copied most of his repertoire, and that of his successor, Johannes Hinderbach (1465–86), as the period during which he completed the task. But beyond a handful of references to local events or personages found in several of the codices' texts, they had little on which to base their assessment. Following Lunelli's discovery that Wiser was in post at the cathedral school in 1459, it became common, as has been noted, for this to be seen as the year in or around which he embarked upon his collection, beginning with Trent 90.

³³ Strohm, 'Trienter Codices', col. 805.

³⁴ The first part of the title of the present article is an allusion to Jan LaRue's 'Watermarks and Musicology', *Acta Musicologica*, 33 (1961), pp. 120–46, a seminal study that did much to increase general awareness of the potential value of paper as evidence. LaRue's simple observation (p. 121) that 'filigranological and papyrological evidence increases in value in direct proportion to the total accumulation of data' is especially relevant here.

It was not until the 1980s, when modern techniques of watermark study began to be systematically applied to the codices, chiefly through the work of Saunders, that a set of copying dates was established that had some scientific basis. Altogether more precise than any hitherto suggested, these dates offered a substantial refinement of previous estimates, and included the proposal that Trent 90 and 93, rather than having been begun at the end of the 1450s, were compiled *during* that decade.

Given the sheer significance of the later Trent Codices in terms of the quantity of important music they uniquely preserve, and the difficulties of assigning even approximate compositional dates to a repertoire that is largely anonymous, it was natural that a new set of copying dates grounded in modern methodology should have been readily and widely embraced. While Saunders's results may have been greeted with a measure of caution or scepticism in some quarters,³⁵ they nevertheless gained widespread general acceptance; and not without some justification, since there can be little doubt that many of the newly proposed dates are broadly correct and represent a significant advance on previous estimates. Yet subsequent investigation of some of the Trent watermarks has shown that a number of the findings of this study are in need of revision, and that the foundations on which they rest are in fact a good deal less secure than has been generally recognised.³⁶ If real progress on the seemingly intractable questions pertaining to the genesis of Wiser's collection is to be made, then some reassessment of Saunders's methodology is certainly called for.

The starting point for her investigation is a series of reproductions of the Trent watermarks, most of which are based on her tracings of the marks, although a small number are presented in photographic form. Each of the main types, or designs, of watermark found in the codices is reproduced, together with a brief

³⁵ G. Montagna, 'Johannes Pullois in Context of his Era', *Revue Belge de Musicologie*, 42 (1988), pp. 83–117, at p. 86, wrote of Saunders's work that 'it is too early to grant the watermark evidence the finality which it claims. The study of archival equivalents is one of the most difficult fields of research, and the methodology behind such sweeping proposals requires careful examination before credibility can be granted. Saunders' work has just reached print and is only now receiving critical attention. Since other scholars are currently investigating the origin of the Trent codices, it is probably best to await their detailed evaluation of Saunders' proposal.' See also the review by Gareth Curtis in *Music & Letters*, 73 (1992), pp. 322–4.

³⁶ Leverett, 'A Paleographical and Repertorial Study', p. 19, n. 36; p. 36, n. 61; p. 43, n. 75.

accompanying description. The manual reproductions usefully include numbered, attendant chain-lines and a note of the height of a mark and its position on the mould, yet they are reduced from their original size³⁷ and like all manually reproduced watermark images are inherently inaccurate and thus potentially misleading. Unfortunately Saunders usually reproduces just one member of a pair of marks,³⁸ thereby providing us with only an incomplete picture of most papers. Many of the marks, moreover, are reproduced 'in reverse', as a result of having been viewed from the felt-side of a sheet rather than from the mould-side, which is the practice commonly recommended.³⁹ In several important respects, then, Saunders's data is less than complete or reliable.

Once assembled, this data was compared with examples published by the great paper scholar Gerhard Piccard in his series of 'Findbücher',⁴⁰ as well as with unpublished examples drawn from his vast collection of watermark reproductions.⁴¹ On the basis of these comparisons a date or range of dates was arrived at for each paper.⁴² While a number of the examples cited by Saunders provide quite convincing matches for the Trent marks, many turn out to be no more than approximations, some of them far from close.

Saunders, like many scholars, relies almost exclusively on Piccard for dated equivalents of the marks she is examining;⁴³ yet

³⁷ This is true only of Saunders's published work. The unpublished version of her dissertation ('The Dating of the Trent Codices from their Watermarks, with a Study of the Local Liturgy of Trent in the Fifteenth Century' (Ph.D. thesis, University of London, 1984)) reproduces the Trent watermarks at their original size.

³⁸ Watermarks from this period normally survive in pairs, as explained in A. Stevenson, 'Watermarks Are Twins', *Studies in Bibliography*, 4 (1951–2), pp. 57–91.

³⁹ By Stevenson (*The Problem of the Missale Speciale* (London, 1967), p. 38) and others. Although Saunders cites Stevenson's practice (*The Dating of the Trent Codices*, p. 33), it is unclear whether or not she intended to follow it.

⁴⁰ G. Piccard *et al.*, *Die Wasserzeichenkartei Piccard im Hauptstaatsarchiv Stuttgart: Findbücher I–XVII* (Stuttgart, 1961–97). Each Findbuch comprises a volume (or volumes) dedicated to a particular type of watermark, such as the anchor, the horn, the bull's head or the key.

⁴¹ Stuttgart, Hauptstaatsarchiv, Wasserzeichungsammlung Piccard (Bestand J 340). It is from this archive that the watermark examples published in the Findbücher are drawn. Some 37,000 examples remain unpublished, however, and these are currently in the process of being made available in digital form, many of them on-line (see www.lad-bw.de/hstas).

⁴² The data is summarised in Saunders, *The Dating of the Trent Codices*, pp. 203–4.

⁴³ Only once does she refer directly to an original source (the archival equivalent for Figure 32 is specified as TAS, APV, Sezione Latina, Capsa 26, no. 28: see *The Dating of the Trent Codices*, p. 203, and Appendix 2, below). It would seem that Saunders cannot have explored the city archives very fully, since, if she had, she would no doubt have soon

however great the value of Piccard's work as a reference tool – and it is enormous, as the countless source studies that depend on it testify – it inevitably has its limitations and shortcomings.

To begin with, Piccard's tracings, like all manual watermark reproductions, are incapable of indicating many of the finer nuances of a mark – the subtle divergences of contour and size that allow variant states or closely related versions of the same basic type to be distinguished. Then there is the fact that he, too, sometimes views a mark from the felt-side of a sheet rather than from the mould-side (in some cases apparently explaining the same occurrence in Saunders), or fails to recognise its twin status. Finally, there are the difficulties that can arise from the synoptic manner in which Piccard's data is published, as the following example shows.

The watermark design here is that of a bull's (or ox's) head surmounted by a seven-petalled flower on a two-line stem, a common type that exists in varying shapes and sizes, as can be seen from the relevant section of the published *Ochsenkopf Findbücher*.⁴⁴ Among the many examples of this variant that Piccard publishes are two, numbered XIII 246 and 247, that he considers to form a pair, and which Saunders equates with the pair of marks found in Trent 90, gatherings XXIX–XXX.⁴⁵ Piccard provides the following summary of his data for the pair:

a	h	b	c		
68	106–107	33–34	23	: 1450	Hall (Tirol), Innsbruck,
70–72	[106–107]	35–36	20–25	: 1457–1460	– Augsburg, Eichstätt, München,
68–71	110–116	[35–36]	18–19	: 1454–1457	Neuburg (Donau), Öhringen,
[68–71]	[110–116]	34–37	20–24	: 1452–1459	Pappenheim, Schrobenhausen, Wartenberg, – Breslau, Agram, – Marienburg (Wpr.)

encountered some of the many examples of the codices' papers that are to be found there. It appears, moreover, that she did not actually inspect the Piccard archive at first hand, but instead verified her findings through direct correspondence with Piccard himself (Saunders, *The Dating of the Trent Codices*, p. 35).

⁴⁴ Piccard, *Die Wasserzeichenkartei Piccard . . . Findbuch II (1–3): Die Ochsenkopf-Wasserzeichen* (Stuttgart, 1966), section XIII.

⁴⁵ Saunders, *The Dating of the Trent Codices*, pp. 187–8, 203 and 256–7 (Figures 28 and 29).

Each of the four sets of dimensions listed (or implied) comprises: the distance between attendant chain-lines (a); the overall height of the mark (h); the distance between the tips of the ears (b); and the distance between the tips of the horns (c). In the penultimate column each set is assigned a date or range of dates, and in the final column the provenances of the various sources are listed by region. There is no consistent alignment between dates and places, nor is any indication given of the archival sources from which this information derives.

Thus the two marks that Piccard numbers XIII 246 and 247 together represent a series of what might be called ‘sub-variants’ of a particular type. To the Trent 90 pair – designated ‘Bull’s head 5’ (BH5) below – with which Saunders equates Piccard’s pair she assigns the date range 1452–9. She is correct in doing so in the sense that the measurements of the Trent 90 twins clearly lie closer to the third and fourth sets of dimensions, with their respective date ranges of 1454–7 and 1452–9, than to the first or second sets, although whether she was equating them with one set or both sets is unclear. Examination of the individual analogues on which the above data is based, however, shows the situation to be less straightforward than the information published by Piccard suggests. No fewer than eighteen examples of this watermark type are to be found in the Piccard archive, ranging from 1450 to 1460, but in fact thirteen of these examples fall within the period 1454–7, and, of these, nine belong to the years 1454–5. Furthermore, only two of Piccard’s examples, a pair of marks from 1454 (Augsburg), appear to be identical⁴⁶ to the Trent marks. It would seem, therefore, that Saunders’s range of dates for this paper is somewhat overgenerous.⁴⁷

Normally the published Findbücher do not provide any details

⁴⁶ Identity is taken to mean that two watermarks correspond precisely in terms of their essential shape and their dimensions. In the case of manual reproductions such as Piccard’s, some allowance has to be made for slight vagaries of contour, and there is, of course, no means of determining identity of mould.

⁴⁷ Three of Piccard’s examples are very similar, rather than identical, to one of the marks, ‘BH5-A’. One of these is a document from Pappenheim (Mittelfranken, Bavaria) of 1459 (see Appendix 3). The fact that the date of this document lies well beyond the range of dates represented by the other equivalent or near-equivalent marks for BH5 suggests that it may be spurious or that the document may be a copy. It was presumably this example that formed the basis of Saunders’s extension of the proposed date range for the BH5 paper, and hence for Trent 90 in its entirety, to as late as 1459.

of the source, or even the archive, from which a particular example is drawn. For information of this kind one must consult the original watermark drawing, housed in the Piccard archive, which usually contains a note of a document's archival location and (where known) its precise date and place of copying. Even then one cannot be certain, without reference to the actual source itself, of the reliability of these details, or of whether one is dealing with a copy rather than an original document.⁴⁸ Piccard provides us with an invaluable starting point, a preliminary guide to the 'documented life', or known period of usage, of a particular paper. But it is no more than that. If a more secure and refined estimate is needed, then nothing less than a direct examination of the relevant primary source materials will suffice.

It is precisely such an examination that underpins the present study, one based on a search of many hundreds of archival documents and several dozen manuscript books located in various Italian, German and Austrian archives and libraries. This search has brought to light more than sixty sources that employ the same paper as either or both Trent 90 and Trent 93 (see Appendices 1 and 2) – a significant body of new material that, when taken in conjunction with existing findings (Appendix 3), provides an altogether more solid basis for dating the manuscripts, and hence for addressing some of the wider issues pertaining to the genesis of Wiser's collection.

III. DATING THE PAPERS OF TRENT 93 AND TRENT 90

The distribution of papers in Trent 93 and Trent 90 is summarised in Table 1 below (p. 269), as are details of the gathering structure and musical contents of each source. It can be seen from this that there are ten main stocks of paper, three used for Trent 93 only, five for Trent 90 alone, and two for both manuscripts, in addition to which there is a half-leaf insert in Trent 90 (fol. 194b) drawn from a separate stock, bringing the total number of papers to eleven. For each manuscript the papers will be examined individ-

⁴⁸ In fact a check of some of the original documents cited by Piccard shows that a number are taken from *post facto* compilations (for example, the *Lehenbücher* of the *Tiroler Landesarchiv*: see Appendix 3, s.v. Bull's head 2, StAJ *Lehenbücher*), and that the dates given in these documents are therefore not necessarily the actual dates when the documents were drawn up.

ually, and in order of first appearance, before the combined evidence they yield is considered.

Trent 93 falls into two distinct parts: the first, 'Trent 93-1', essentially comprises the main layer of the manuscript, a large collection of mass music systematically ordered by liturgical type, while the second, 'Trent 93-2', consists of a miscellaneous collection including songs and contrafacta, apparently compiled separately from the main part of the volume.

The first of the Trent 93-1 papers, here referred to as the 'Cross' paper, is marked with a small cross on a base (Figure 1). Piccard

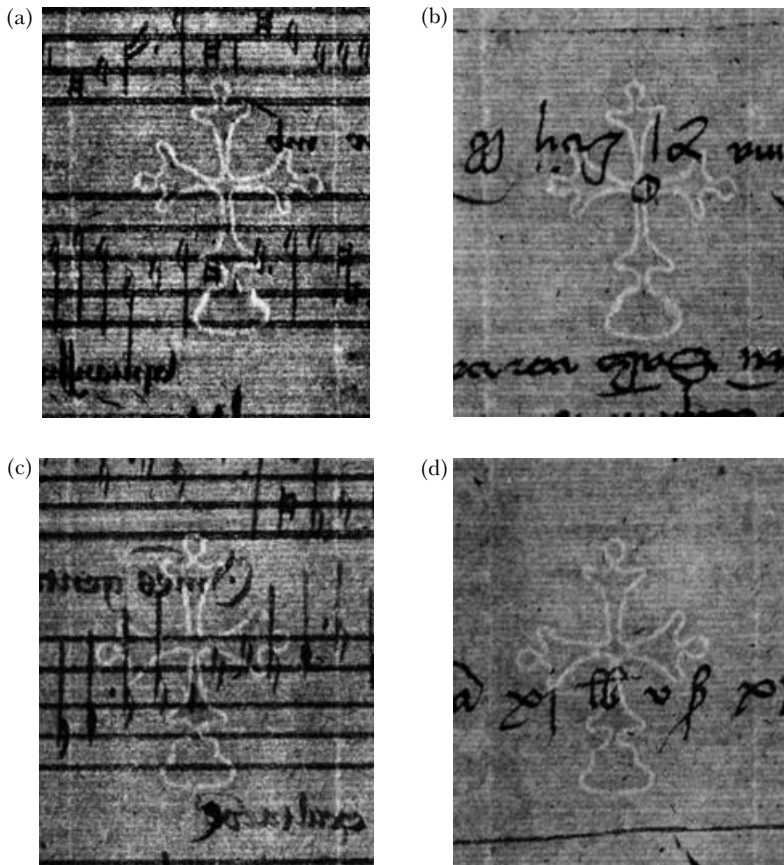


Figure 1 Cross

- (a) Trent 93, fol. 63^r: A; (b) MS, Kamm. 1/60, fol. 67^r: A;
- (c) Trent 93, fol. 29^r: B; (d) MS, Kamm. 1/60, fol. 55^r: B

actually publishes a pair of marks that corresponds exactly to the Trent pair,⁴⁹ the source of which dates from 1451 and provides the basis of Saunders's dating of this paper to the same year. His unpublished records include three further examples of the same type, one from 1450, the other two from 1451, but these turn out to be similar to rather than the same as the Trent marks. The present findings, while demonstrating that this paper was actually being manufactured as early as 1450, also show that it continued to be in use until as late as 1453.

Next is the first of six papers marked with the familiar motif of a bull's (or ox's) head, here designated 'BH1' to 'BH6' respectively.⁵⁰ For BH1 (Figure 2), which is distinguished from all the other BH variants by the absence of eyes, Saunders, following Piccard, offers a range of dates between 1450 and 1452 based on a small number of documents with varying degrees of congruence with the Trent marks. In fact eight documents containing equivalents of these marks have come to light during the present investigation, five of which date from 1450, two from 1451 and one from either 1452 or 1454.⁵¹ Thus with one possible exception all of these examples fall within the narrow range of dates provided by Saunders.

The pattern of alternation between the Cross and BH1 papers in the first six gatherings of Trent 93, and their co-existence within a late gathering of the manuscript (gathering XXX), suggest that the compiler must have acquired these papers at the same time – an impression strongly reinforced by the degree of corresponding repertorial continuity. Each paper makes a further appearance later in the main layer, but for all except two of the remaining twenty-two gatherings of Trent 93-1 a different paper is used, one marked with a tall cross and three mounts (Figure 3). As with the

⁴⁹ These, in fact, are the marks published here as Figures 1b and 1d. Not only are they the same as the Trent 93 Cross marks, but they were also produced from the same pair of moulds. Throughout this study, 'identity' – where comparison is being made with actual watermarks rather than with reproductions – implies identity of mould as well as of mark unless otherwise indicated. All photographic illustrations of watermarks in this article reproduce the marks to within a millimetre of their original dimensions.

⁵⁰ The reader is warned that the numbering system used here is different from that employed in Wright, 'Johannes Wiser's Paper'.

⁵¹ The scribe dated the document in question (MBH, KAA 1949) 1454, but may have meant to date it 1452. For details see the entry for this document in Appendix 2.

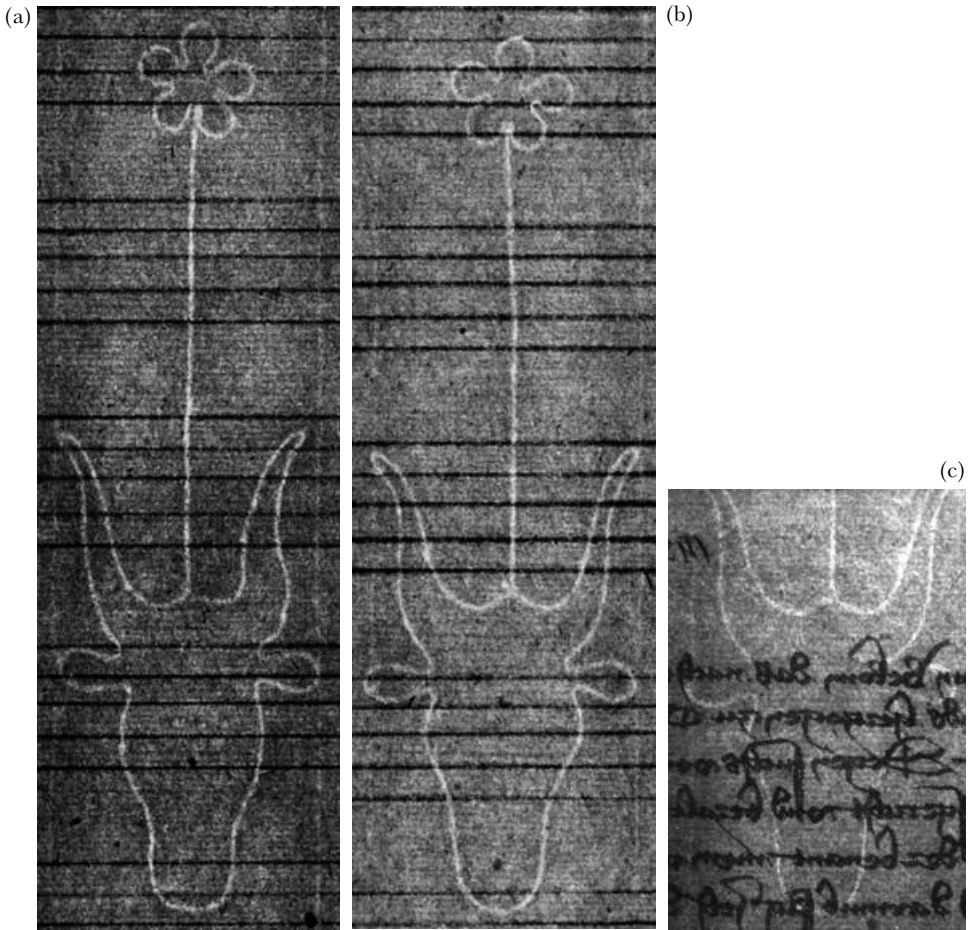


Figure 2 Bull's head 1
(a) Trent 93, fol. 43^r: A1; (b) Trent 93, fol. 177^r: A2;
(c) ITL, U. I 3719, verso: A2

Cross and BH1 papers, the new evidence for the 'Cross-on-mounts' paper⁵² confirms and extends the established range of dates (1451–2). The seven newly discovered equivalents include four from 1451 and one each from 1450, 1452 and 1453, to which should

⁵² This is a complex paper in that some of the marks contained in gatherings XIX–XXI and XXIX differ very slightly in shape and size from the prevailing pair of marks. So minute are these differences that it is hard to tell whether the marks in question represent variant states or variant marks. Therefore no attempt has been made to distinguish them formally, and for present purposes all of the Cross-on-mounts marks are considered to represent one paper.



Figure 3 Cross-on-mounts

(a) Trent 93, fol. 342^r: A1; (b) MBH, AR 395, fol. 2^r: A1; (c) Trent 93, fol. 211^v: A2; (d) TAS, APV, s.t., Capsa misc. no. 9, verso: A2

be added two matches from the Piccard archive that Saunders apparently overlooked, one from 1454, the other from 1455.

Thus for the three Trent 93-1 papers combined no fewer than twenty-one new sources have been found, a sizeable total that affords a fuller context within which to assess this manuscript's date. Broadly speaking, they confirm the thrust of Saunders's findings, while inviting the possibility that the compiler of Trent 93-1 obtained these papers a year or two later than she allows for.

'BH2' (Figure 4), the first of the two papers employed for Trent 93-2, is well represented in the Piccard archive, with no fewer than twelve convincing matches, ranging from 1452 to 1455 (Saunders's dates), but with most concentrated in the years 1452–4. To these may be added three new examples, which turn out to be complementary to Piccard's: one each from the years 1452, 1454 and 1455. For the other paper used in Trent 93-2, 'BH3' (Figure 5), the opposite situation obtains, in that none of the many examples of this type provided by Piccard offers a convincing match, making it difficult to see what basis there is for Saunders's assignment to this paper of a range of dates from 1452 to 1456. Only two new sources of BH3 have come to light, one an undated copy of a document of 1450, the other a section of a manuscript completed in July 1454 and, as such, apparently the only firm dated equivalent for BH3 that we have so far.

As Table 1 shows, BH2 and BH3 not only conclude Trent 93 but also open Trent 90 (though in reverse order), a pattern of overlap that occurs twice more between successive codices⁵³ and that may be seen as a physical manifestation of the continuity of purpose that exists between individual volumes within the Trent complex. Any conclusions about the dates of BH2 and BH3 must therefore have an equal bearing upon both manuscripts.

The third paper to be used in Trent 90 is marked with a Tower (Figures 6a and 6d), one of the most common of fifteenth-century watermark designs, although the version found here is unusual in being simpler and less ornate than most marks of this type. Among the many versions published by Piccard, no more than a handful belong to this simpler variety, and, of these, only two are centred, like the Trent marks, between chain-lines rather than on a single chain. One of these provides an excellent match for Tower B, while

⁵³ Trent 88 opens with the same paper that concludes its predecessor (Trent 90), as does its successor, Trent 89.

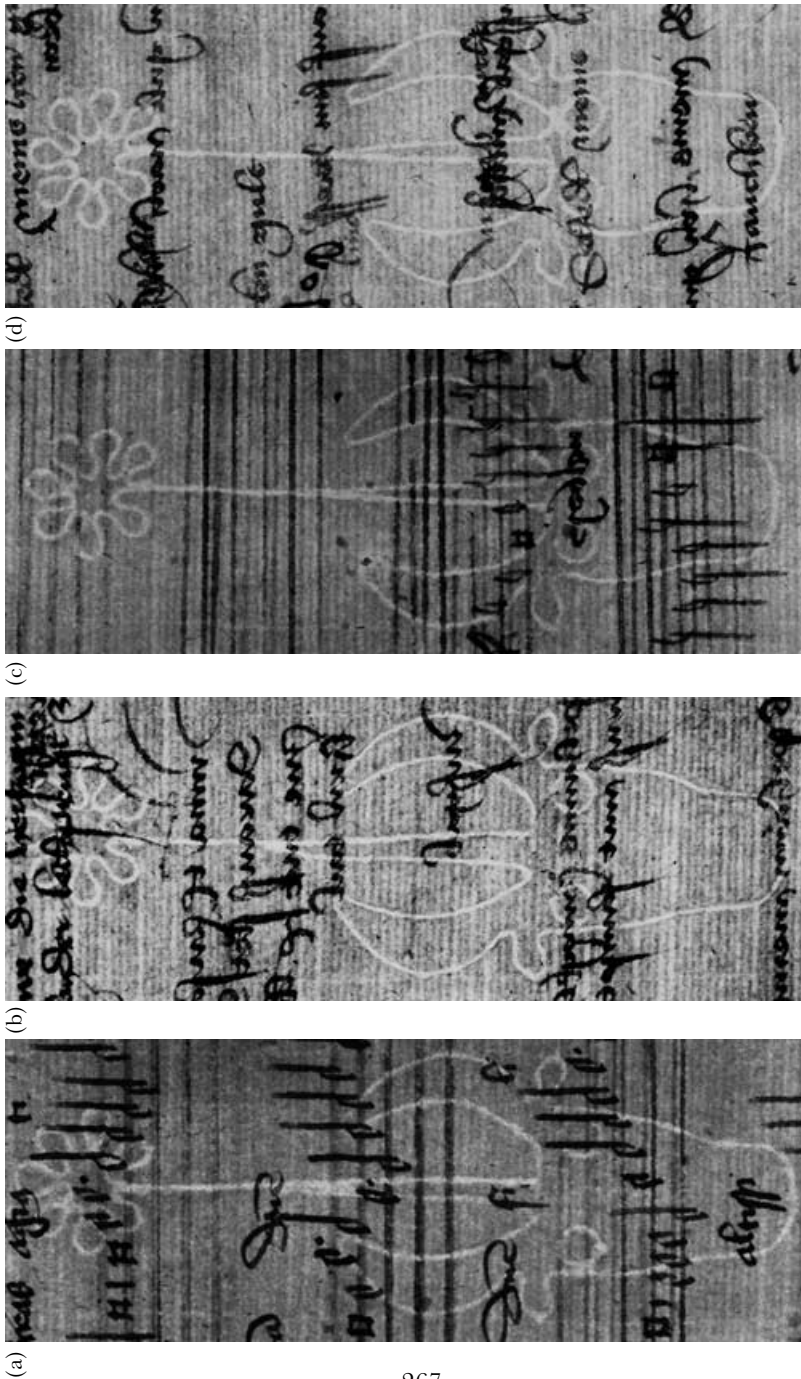


Figure 4 Bull's head 2
(a) Trent 90, fol. 114: A¹; (b) MBH, AR 270, fol. 226: A¹; (c) Trent 90, fol. 84: B¹; (d) MBH, AR 270, fol. 217: B¹

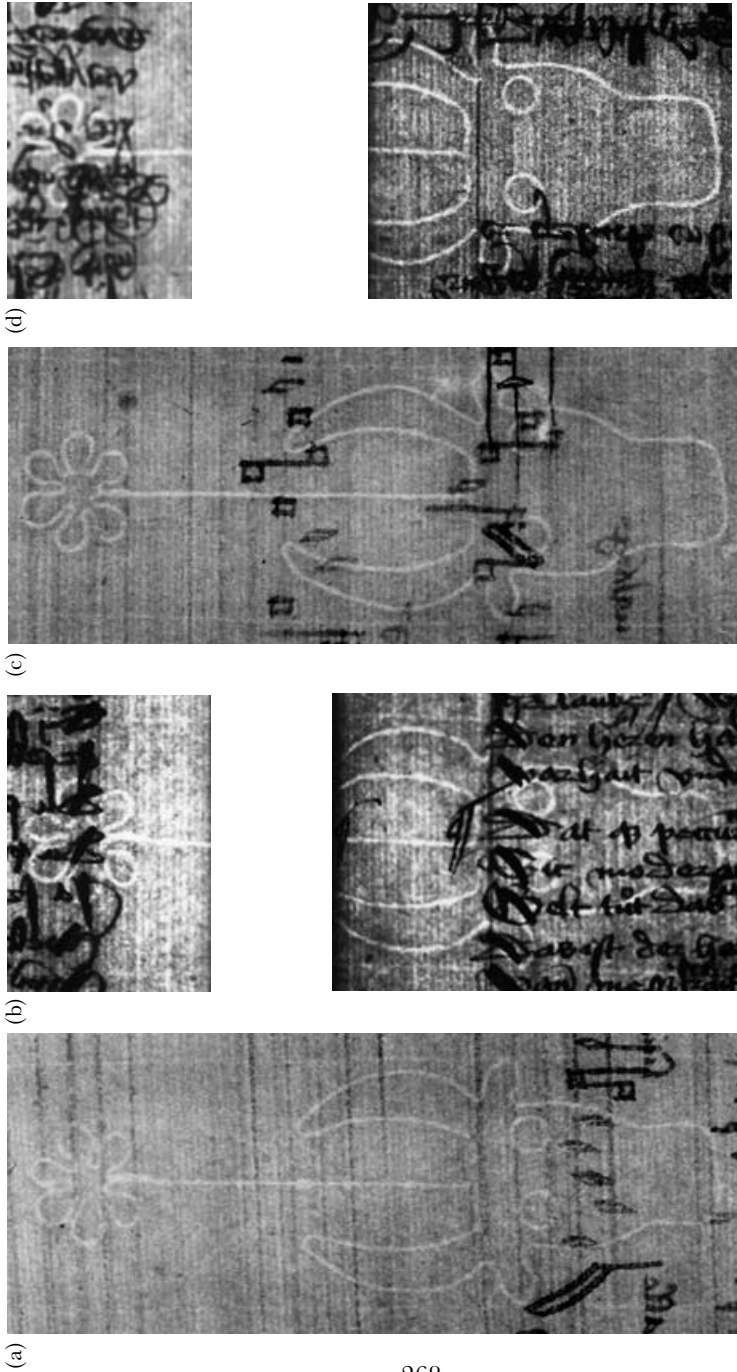


Figure 5 Bull's head 3

(a) Trent 90, fol. 21^r: A; (b) MBS, Cgm 379, fols. 21^v (upper) and 14^r (lower): A;

(c) Trent 90, fol. 74^r: B; (d) MBS, Cgm 379, fols. 110^r (upper) and 115^v (lower): B

Table 1 *Structure and contents of Trent 93 and Trent 90*

Gatherings	Folios	Paper	Main contents
Tr 93-1			
I ¹¹	1–11	Cross	Antiphons
II ¹²	12–23	BH1	Introits
III ¹⁰	24–33	Cross	Introits
IV ¹² , V ¹¹	34–56	BH1	Introits
VI ¹²	57–68	Cross	Introits
VII–XV ¹²	69–176	Cross-on-mounts	Introits, Kyries, Glorias
XVI ¹²	177–88	BH1	Glorias
XVII–XIX ¹² , XX ¹¹	189–235	Cross-on-mounts	Glorias, sequences
XXI–XXII ¹² , XXIII ¹³	236–72	Cross-on-mounts	Credos
XXIV–XXVIII ¹² , XXIX ¹¹	273–343	Cross-on-mounts	Credos, Sanctus, Agnus
XXX ¹²	344–55	BH1 (+ Cross) ^a	Sanctus, Agnus
Tr 93-2			
XXXI ¹⁰	356–65	BH2	Mixed
XXXII ⁸ , XXXIII ⁹	366–82	BH3	Mixed, hymns
Tr 90			
I ¹¹ , II–VII ¹²	1–83	BH3	Introits, Kyries
VIII–XI ¹²	84–131	BH2	Kyries, Glorias
XII–XVIII ¹²	132–215	Tower (+ Crayfish) ^b	Glorias, Credos
XIX–XXIV ¹²	216–87	BH4	Credos, Sanctus, Agnus
XXV ¹²	288–99	Tower	Mixed
XXVI ¹⁰ , XXVII–XXVIII ¹²	300–33	BH4	Mixed
XXIX–XXX ¹²	334–57	BH5	Mixed
XXXI–XXXIII ¹²	358–93	BH6	Mixed
XXXIV–XXXIX ¹²	394–465	Crescents	Ordinary cycles and sections

^a Cross paper is used only in the outermost sheet of the gathering (344/355).

^b Crayfish paper is used only for the inserted half-leaf numbered '194b'.

the other, though clearly of the same type as its twin, Tower A, provides only an approximation to it.

No fewer than nine new sources of the Tower paper have emerged, although this statement needs some qualification. It appears that this paper was produced from at least two closely related pairs of moulds, one pair, 'Aa' and 'Ba', representing the Trent marks (Figures 6a–b and 6d–e), the other, 'Ab' and 'Bb', a closely related pair (Figures 6c and 6f). So minute are the differ-

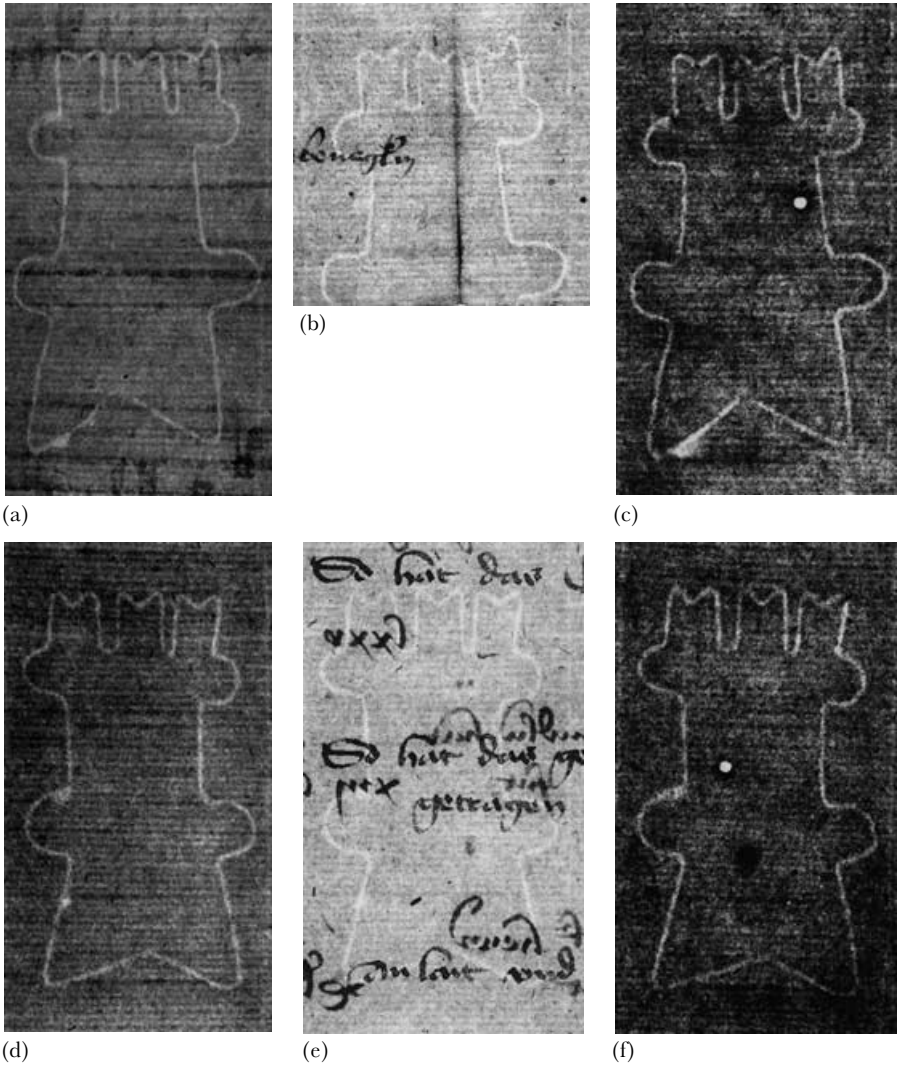


Figure 6 Tower

- (a) Trent 90, fol. 161^v: Aa; (b) MBH, KU 9753, verso: Aa;
(c) MBS, Cgm 572, fol. 23^r: Ab; (d) Trent 90, fol. 199^r: Ba;
(e) MBH, AR 395, fol. 78^r: Ba; (f) MBS, Cgm 572, fol. 24^r: Bb

ences between the Trent twins and their relations as to deceive the naked eye, conveying the impression that one is dealing with two marks rather than four, but in fact close scrutiny of these marks reveals enough subtle variations in their dimensions and

contours to confirm that they are not identical. From the patterns of distribution of the marks, however, it appears that the two pairs of moulds that produced them must have been in use at the same time, and so the paper they produced is considered as a single stock.⁵⁴ Seven of the nine new sources carry dates, all falling in either 1453 or 1454, while the only firm match provided by Piccard dates from January 1455. The documented life of the Tower paper is therefore at most two years.⁵⁵

Inserted in the middle of one of the Tower gatherings (XVII, fols. 189–200) is a half-leaf, numbered '194b', containing part of the contratenor voice of the Credo from the *Missa sine nomine* variously attributed to Dunstaple, Power and Benet. This is in fact a corrected version of a section of music found on the next folio of the manuscript (fol. 195), which it is obviously intended to replace.⁵⁶ Both script and ink of the half-leaf correspond to those of the surrounding contents, indicating that they must be contemporary with this stage of the copying process. The half-leaf may have belonged to a paper supply that Wiser had just exhausted or was using or about to use for another purpose; its presence certainly invites speculation that he was involved in additional projects. Simply by virtue of having thus incorporated this scrap, Wiser unwittingly opened a fascinating window onto the history of his manuscript, for there is more to be learned about this paper than about any other.

⁵⁴ Tower Bb appears to be the same as its Trent 90 counterpart (Tower Ba), but about 2 mm taller, while its companion, Tower Ab, is similarly closely related to its counterpart (Tower Aa), but is about 1 mm taller. The situation whereby two pairs of moulds with closely related pairs of marks were used simultaneously at the same mill is known to have existed in the mid-fifteenth century: see Stevenson, *The Problem of the Missale Speciale*, pp. 121 and 127.

⁵⁵ Noting that several of the manuscripts that use Tower paper come from Augsburg, I searched the published catalogue of German medieval manuscripts held in the city's university library, which includes information on watermarks, for possible further evidence of this paper. One manuscript, numbered 'III.1.4° 42', is described in the catalogue as containing paper watermarked with the tower listed by Piccard as no. II 326, that is, Tower Ba, although it has not been possible to see this source in order to verify the identification. The only dates given in the manuscript, 29 November 1453 (fol. 122^v) and 1454 (fol. 226^v), fall within the documented life of the Tower paper. See K. Schneider, *Deutsche mittelalterliche Handschriften der Universitätsbibliothek Augsburg: Die Signaturgruppen Cod.1.3. und Cod.III.1* (Wiesbaden, 1988), pp. 363–5.

⁵⁶ For details of the transmission of the Credo movement see *John Dunstaple: Complete Works*, ed. M. F. Bukofzer (Musica Britannica, 8; London, 1953; rev. 2nd edn., 1970), no. 57, and P. Wright, *The Related Parts of Trent, Museo Provinciale d'Arte, MSS 87 (1374) and 92 (1379): A Paleographical and Text-Critical Study* (New York, 1989), pp. 253–4.

The watermark contained in the half-leaf represents a crayfish (Figure 7a), as can be seen from the shape of its body and the number of its legs (eight). Appended to its tail is a large letter 'S' – possibly a reference to the maker of the watermark or to its place of origin. Most of the mark is clearly visible, with only the bottom of the 'S' hidden from view as it disappears into the 'gutter'. Although the chain-lines are rather faint in the Trent 90 leaf, the pattern of laid-wires is reasonably clear and distinctive, thus facilitating the establishment of identity between sheets produced from the same mould.

The crayfish watermark is not a particularly familiar type. Briquet published an example that lies quite close to the Trent 90 mark,⁵⁷ and a further example, also similar, is included in a collection of watermarks from Brescia.⁵⁸ Several unpublished examples are to be found in the Piccard archive, including two that correspond to the Trent 90 mark; and the discovery of several references to a crayfish watermark in the catalogue of manuscripts of the Bayerische Staatsbibliothek raised the possibility of further equivalents. Subsequent examination of the manuscripts in question confirmed that they contained the very same crayfish mark found in Trent 90, and further searches among other sources revealed many additional examples: no fewer than twenty have so far come to light (see Appendix 1).

Together these sources provide a rich context for the Trent 90 crayfish. Through them, for instance, we learn of the existence of a twin mark closely comparable in shape and size. We also discover that, as with some of the other Trent papers, the twins are respectively located in the same half of a sheet (in this case the right half) rather than in different halves, as was the norm at this time.⁵⁹

⁵⁷ C. M. Briquet, *Les filigranes: dictionnaire historique des marques du papier*, 2nd, rev. edn. (Hilversum, 1968), no. 5939. The mark is incomplete, since there is no 'S' and part of the tail is missing. It is taken from a document copied in Wal (Bavaria?) in 1454.

⁵⁸ L. Mazzoldi, *Filigrane di cartiere bresciane*, 2 vols. (Brescia, 1991), ii, p. 141, no. 851. This example, taken from a document copied in Brescia on 28 August 1453, is reduced in size but corresponds in its shape and in the disposition of its parts to the mark designated below as 'Crayfish B2!'.
⁵⁹ It is unclear what significance, if any, there is in this phenomenon, although several writers have noted its existence: see T. Gerardy, *Datieren mit Hilfe von Wasserzeichen* (Bückerburg, 1964), p. 40, and Stevenson, *The Problem of the Missale Speciale*, p. 277, n. 16. Four of the Trent 93/90 papers (BH1, Cross-on-mounts, Crayfish, BH4) were produced from pairs of moulds in which the twin marks were placed at corresponding rather than opposite ends of their respective moulds. Whether one considers a mark as being located

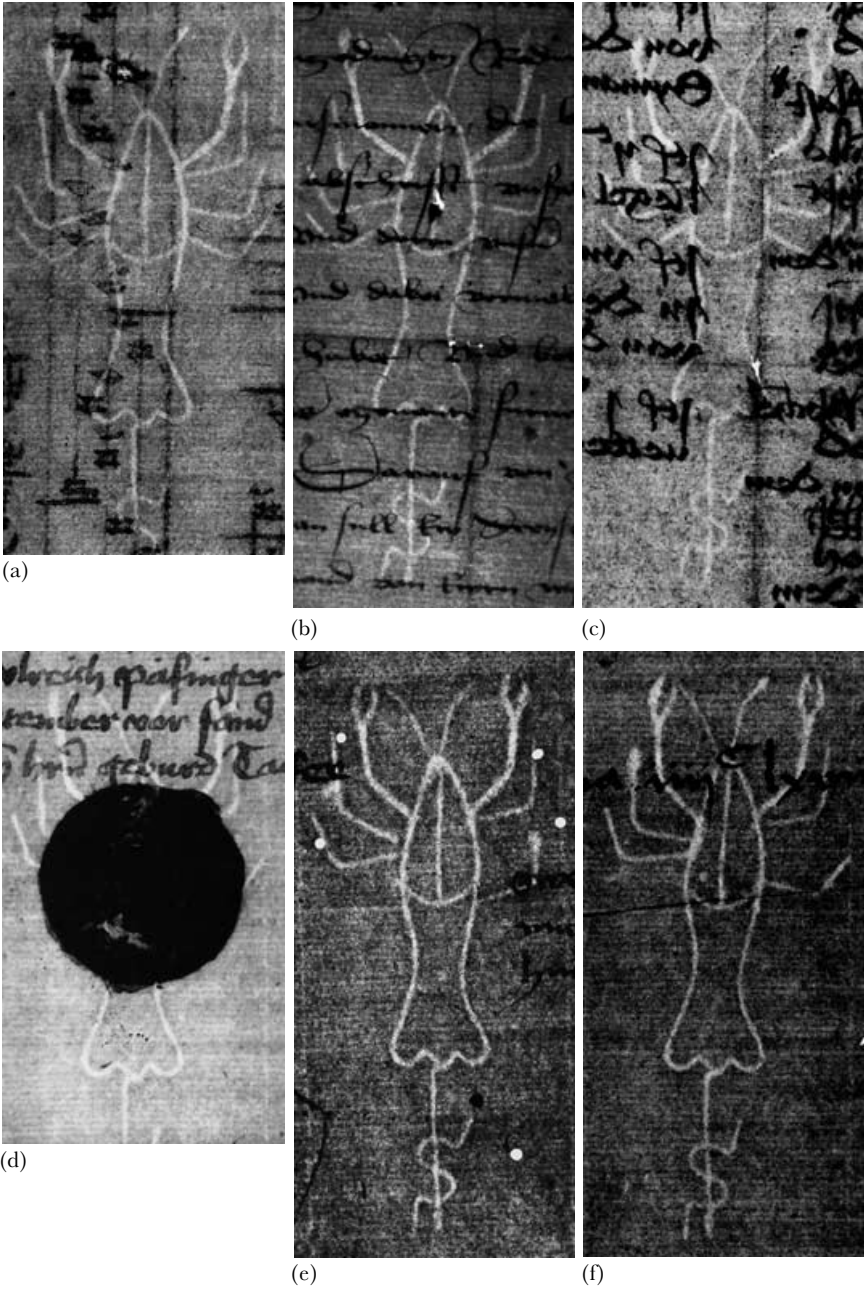
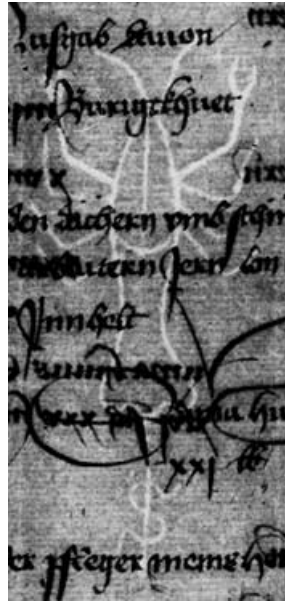


Figure 7 Crayfish B1

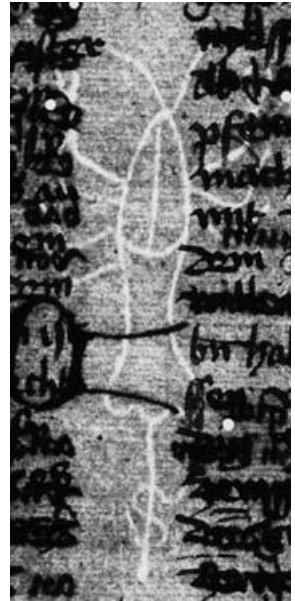
- (a) Trent 90, fol. 194^r: B1¹; (b) ITL, P1348/2, recto: B1¹;
- (c) MS, Kamm. 1/63: B1¹; (d) MBH, KU 18489, recto: B1²;
- (e) MBS, Cgm 2153, p. 93: B1³; (f) MS, Kamm. 1/64, fol. 54^r: B1⁴



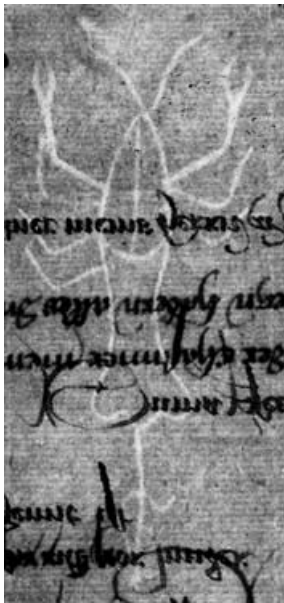
(a)



(b)



(c)



(d)



(e)



(f)

Figure 8 Crayfish B2

- (a) MBH, AR 270, fol. 282a: B2¹; (b) MBH, AR 396, fol. 49: B2²;
(c) MBS, Cgm 2153, p. 73: B2³; (d) MBH, AR 396, fol. 23: B2³;
(e) MBS, Cgm 641, fol. 101: B2⁴; (f) MS, Kamm 1/64, fol. 21: B2⁵

Most importantly, we see that each of the twins survives in more than one 'state', or identifiable stage of its history, a feature that sets these marks apart from nearly all of the others under consideration. The main reason for this is the precariousness of the design, and in particular the legs, which are prone to movement on the mould and at times even become severed from the body of the fish. The existence of different states allows us to posit a history for the Crayfish marks, although the task of doing so proves to be far from straightforward.

Let us begin with the Trent 90 mark, 'Crayfish B1'. Four states of this mark can be identified, the earliest of which, 'B1¹', appears to be that represented in Trent 90, here shown together with two equivalents as Figures 7a–c. That these do indeed represent the first known state is suggested by the fact that all eight legs are present, whereas in each of the other states one or two legs are missing. It could of course be countered that the latter are earlier states and that the state shown in Trent 90 represents a repaired version of the mark, but the pattern of deterioration and the freshness and clarity of the Trent mark argue against this.

Figure 7d shows the same mark as Trent 90, but with the lowest left leg missing (though this is a little hard to make out since much of the mark is obscured by the presence of a seal), suggesting that this represents a second state of the mark, 'B1²'. Figures 7e and 7f show the two remaining states, 'B1³' and 'B1⁴', in each of which two legs are missing: the fourth one down on the left-hand side and the third one down on the right-hand side. The main difference between these last two states lies in the position of the fourth leg down on the right-hand side: in Figure 7e this leg is attached at a lower point from that seen in Figures 7a–d, whereas in Figure 7f it is attached at the same point. Although initially confusing, the situation becomes clearer on closer inspection: in state 'B1³' (Figure 7e) the second leg down on the left has become detached from the body of the fish, whereas in state 'B1⁴' (Figure 7f) the leg is secure; moreover additional sewing dots can be seen, both in this area and at the point where the fourth leg down on the right is attached to the body. It would therefore appear that

in the right or left half of a sheet depends on which way up one views it. Normally this is self-evident, but in the case of the Crayfish twins it is not, and so the decision to view these marks with the letter 'S' at the bottom is necessarily a subjective one.

B1⁴ represents a repaired version of B1³, but with two legs still missing, although the possibility that this is the reverse of what actually occurred cannot be completely discounted.

The history of ‘Crayfish B2’ is not dissimilar to that of its companion mark. Five different states can be distinguished on the basis of anatomical changes. Figure 8a illustrates what appears to be the earliest known state of the mark, ‘B2¹’, in which all eight legs are present (as in Crayfish B1¹) and the first and second legs on the left-hand side, in contrast to other states of the mark, are very close together. This is in fact the only significant difference between the second state, ‘B2²’ (Figure 8b), and the first. In the third state, ‘B2³’ (Figures 8c and 8d), one of the legs (the fourth down on the right) is missing and the lower part of the letter ‘S’ has become pinched. By the fourth state, ‘B2⁴’ (Figure 8e), the missing leg has been reinstated, but is attached, rather loosely, to a different point of the fish’s body, while the ‘S’ remains distorted. The fifth state, ‘B2⁵’ (Figure 8f), is essentially identical to the fourth, but with the lower serif of the ‘S’ adjusted.

So much, then, for the physical characteristics of the Crayfish twins. But what of the sources containing these marks? Crayfish B1 survives in no fewer than a dozen dated sources, all from the years 1453–5. Table 2 shows that there exists a broad correlation between the dates of the sources and the order of states just defined. One of the two dated examples of state 1 dates from April 1453, the other from an unspecified point in 1454, while both examples of state 2 date from the latter year. Each of the two remaining states, however, spans the years 1454–5, but whereas the examples of state 3 are evenly divided between the two years, the examples of state 4 belong mainly to the latter. Clearly there are overlaps here of the kind produced by variations of timing in the supply, purchase and usage of a particular paper; yet there is nevertheless some sense of a correlation between states and dates, which may be summarised as follows:

B1 ¹	1453, 1454
B1 ²	1454
B1 ³	1454, 1455
B1 ⁴	1454, 1455

If there are residual doubts about the correct sequence of states 3 and 4, then the pattern of dates shown in Table 2 could be seen as marginally reinforcing the order proposed here.

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Table 2 *Crayfish B1*

State	Source	Date
B1 ¹	Trent 90	undated
	ITL, P 1348/2	18 April 1453
	MBS, Cgm 351	undated
	MS, Kamm. 1/63	1454
B1 ²	MBH, KU 18489	19 September 1454
	MBS, Cgm 778	early 1454
B1 ³	MBH, AR 396	1454
	MBS, Cgm 2153	completed 30 October 1454
	MBS, Cgm 667	completed 15 March 1455
	MBS, Cgm 781	1455
B1 ⁴	MBS, Cgm 605	between 30 September and December 1454
	ITL, U. II 8396	21 July 1455
	MBH, KU 15064	17 September 1455
	MS, Kamm. 1/64	1455
	MBS, Cgm 641	undated
	MBS, Cgm 688	undated

Crayfish B2, the companion mark, is found in twelve dated sources, all but four of which are the same as those containing Crayfish B1 (see Table 3). It is therefore no surprise to discover a similar pattern here:

B2 ¹	1453, 1454
B2 ²	1454
B2 ³	1454, 1455
B2 ⁴⁻⁵	1454, 1455

As Table 4 shows, the Crayfish twins are found together in as many as nine sources, seven of them dated, and from this some striking patterns emerge: B1² and B2¹ appear together only once; and B1³ and B2³ always appear in conjunction with one another, as do B1⁴ and B2⁴, with one exception.⁶⁰ The pattern of these sources may therefore be summarised as follows:

B1 ² + B2 ¹	early 1454
B1 ³ + B2 ³ (+ B2 ²)	late 1454, 1455
B1 ⁴ + B2 ⁴	late 1454
B1 ⁴ + B2 ⁵	1455

⁶⁰ MS, Kammerrechnungen 1/64, in which B1⁴ is accompanied by B2⁵.

Table 3 *Crayfish B2*

State	Source	Date
B2 ¹	MBH, AR 270	1453
	MBH, AR 395	1453
	MBS, Cgm 778	early 1454
B2 ²	MBH, AR 396	1454
B2 ³	MBH, AR 396	1454
	MBS, Cgm 2153	completed 30 October 1454
	MBS, Cgm 667	completed 15 March 1455
	MBS, Cgm 781	1455
B2 ⁴	MBS, Cgm 605	between 30 September and December 1454
	MBS, Cgm 641	undated
	MBS, Cgm 688	undated
B2 ⁵	MBH, KU 9750	12 June 1454
	MBH, KU 29241	10 April 1455
	MS, Kamm. 1/64	1455

Table 4 *Crayfish B1 and B2*

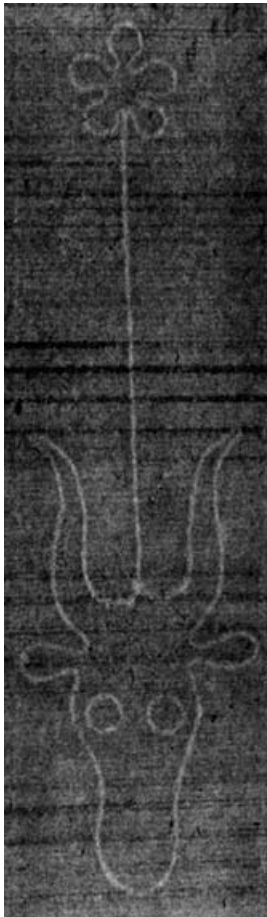
State	Source	Date
B1 ² + B2 ¹	MBS, Cgm 778	early 1454
B1 ³ + B2 ³ (+B2 ²)	MBH, AR 396	1454
	MBS, Cgm 2153	completed 30 October 1454
	MBS, Cgm 781	1455
	MBS, Cgm 667	completed 15 March 1455
B1 ⁴ + B2 ⁴	MBS, Cgm 605	between 30 September and December 1454
B1 ⁴ + B2 ⁴	MBS, Cgm 641	undated
B1 ⁴ + B2 ⁴	MBS, Cgm 688	undated
B1 ⁴ + B2 ⁵	MS, Kamm. 1/64	1455

Much else could be said about this fascinating pair of marks, but only at the risk of losing sight of the main object of the discussion, namely the dating of the little Trent 90 insert. What seems clear is that this must represent the earliest known surviving state of Crayfish B1, and that if more of this paper had been included

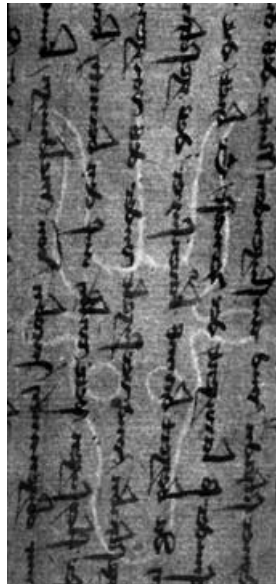
in Trent 90 one would soon have encountered examples of its twin, most probably in its first known state. In all there are just five dated sources of B1¹ and B2¹: three from 1453, one from the early months of 1454 and one from an unspecified date in the same year. Whatever the fascination of the subsequent history of these marks, it is this evidence that is so critically important, since it indicates that the paper used by Wiser to revise part of a Credo he was copying into the main layer of his manuscript was already being manufactured by April 1453, and that it is more likely, on the basis of the available evidence, to have been acquired by him later that year or early the following one than at any subsequent stage. In this context it is worth recalling that the documented life of the Tower paper, within whose leaves the Crayfish half-leaf nestles, is 1453 to January 1455.

Wiser's next paper, BH4, has its own complexities. Interestingly its marks, like those of the Crayfish, are located in the same half of a sheet rather than in different halves, but whereas the Crayfish paper, surviving as it does in substantial quantities, was entirely produced from just one pair of moulds, the BH4 paper was produced from several, each pair bearing marks that while often closely related to one other are not quite the same. The two basic types, here designated 'B1' and 'B2', are illustrated in Figures 9 and 10. While less manifestly divergent than most pairs of marks, they can nevertheless be fairly readily distinguished by details in the disposition of their various parts and by their location between different pairs of chain-lines. What is initially confusing is the sheer degree of proximity between some of the marks belonging to the same type, conveying the impression that there are different states of a mark. Yet close examination of the details suggests that they are in fact different marks. It is impossible, in the absence of clearly visible sewing dots, to be completely certain about this, since it is conceivable that some of the marks are adaptations of existing marks, but this is the way in which they are interpreted here. The evidence is very intricate, and in several sources there are severe problems of decipherment, so the conclusions about these watermarks are necessarily slightly provisional. For present purposes the BH4 paper is considered as a single stock.

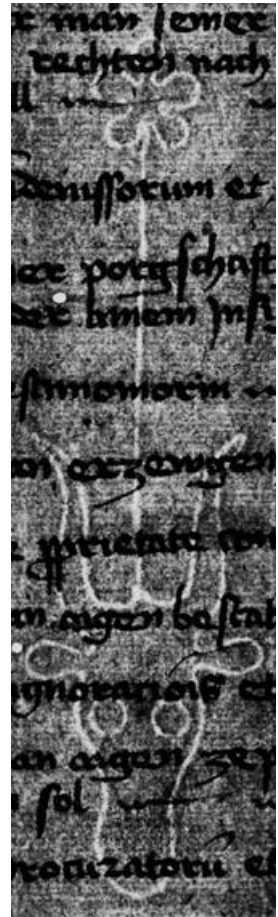
Four new sources have been found that use this paper, three of



(a)



(b)



(c)

Figure 9 Bull's head 4-B1
(a) Trent 90, fol. 248r: B1a; (b) ITL, P1080, verso: B1a;
(c) MBS, Cgm 2153, fol. IIr: B1b

them manuscripts from 1454 (two from the later part of the year), the fourth a document dated April 1455. One of the manuscripts (MBS, Cgm 775) uses just two leaves of BH4, while the other two (MBS, Cgm 605 and Cgm 2153) employ a substantial quantity of the paper, within which two or three versions of each twin may be found, here designated 'B1a', 'B1b', etc. The Trent 90 marks, 'B1a' and 'B2a', are in fact rarely found in these sources, and never

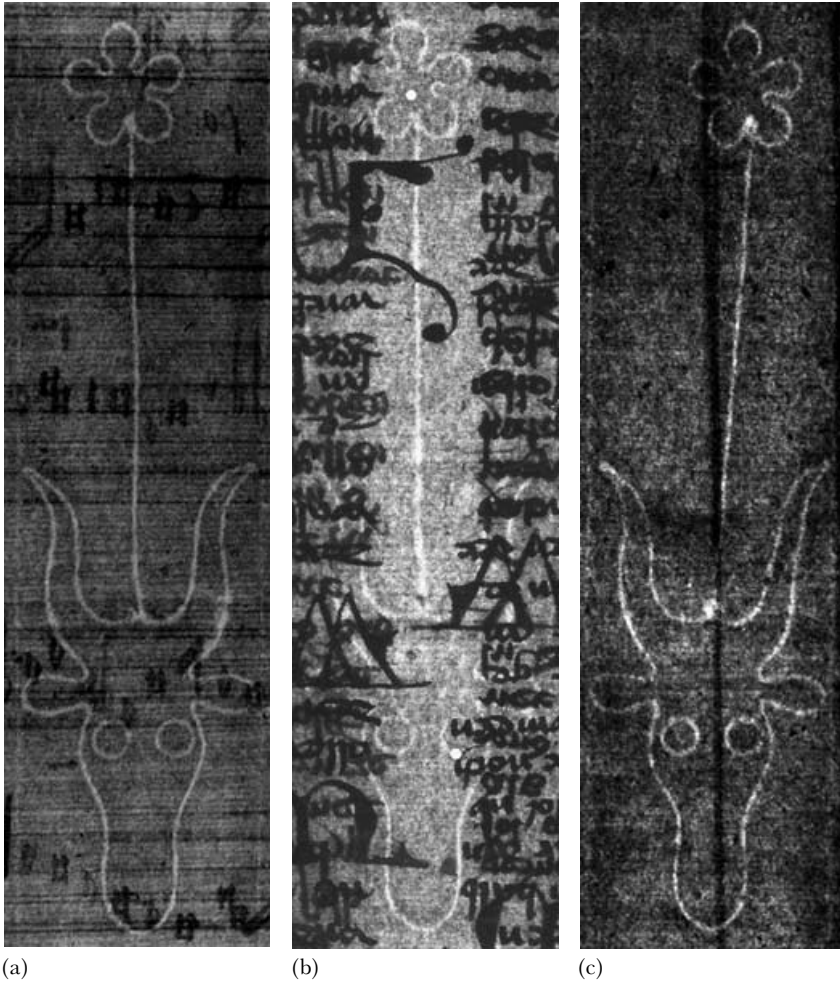


Figure 10 Bull's head 4-B2
(a) Trent 90, fol. 259r: B2a; (b) MBS, Cgm 2153, p. 24: B2a;
(c) MBS, Cgm 605, fol. 210^v: B2b

together, always occurring alongside other variants of this type. If the present interpretation of the BH4 paper is correct, then it appears that it must have been produced from two or three pairs of moulds that were in simultaneous use at the same mill.

The three remaining Trent 90 papers, BH5, BH6 and Crescents, are more easily dealt with. BH5 (Figure 11) belongs to a very common type that embraces many examples so closely related to one

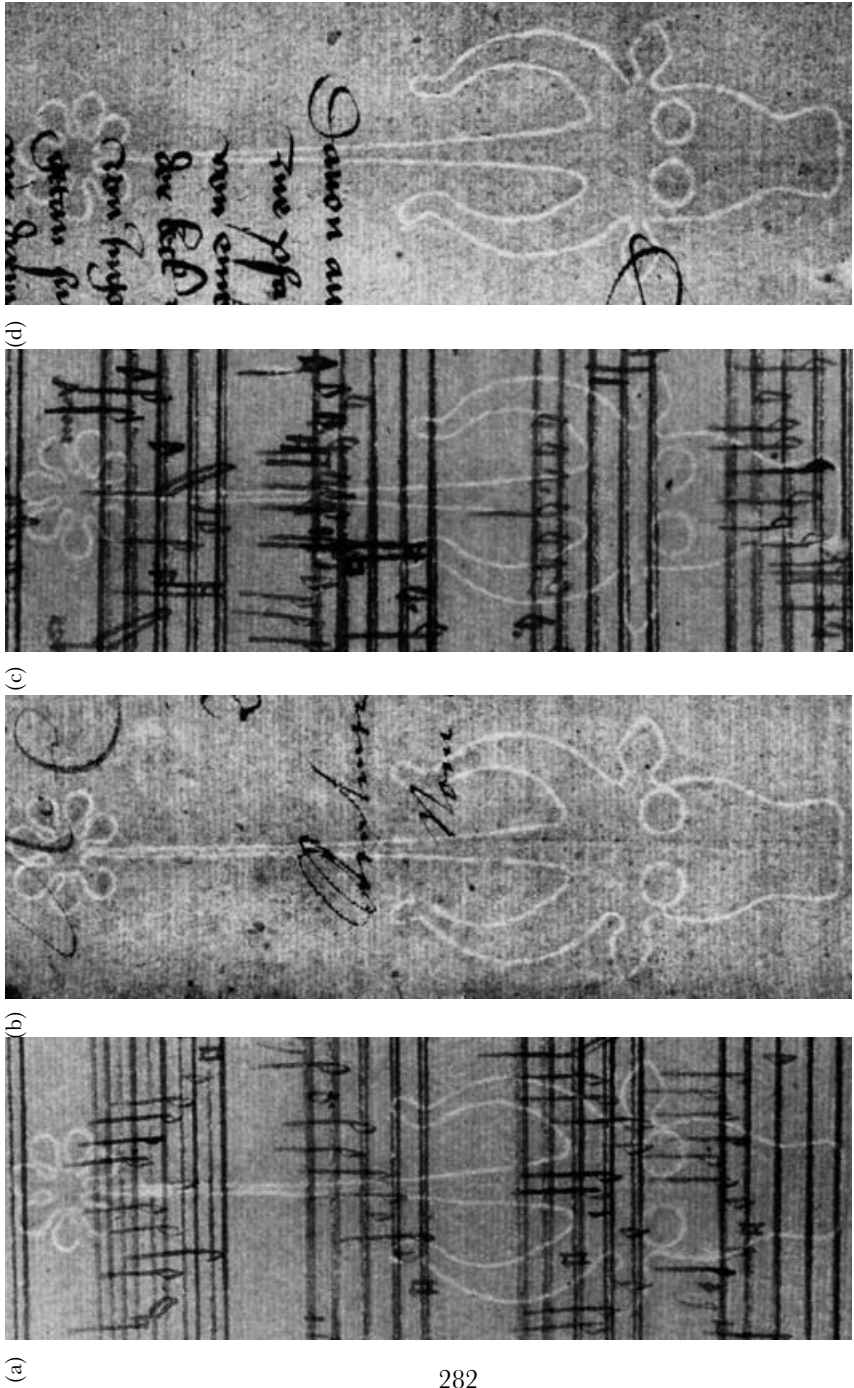


Figure 11 Bull's head 5
(a) Trent 90, fol. 352v: A; (b) MBH, AR 313, fol. 1r: A; (c) Trent 90, fol. 339r: B; (d) MBH, AR 313, fol. 9r: B

another that establishing identity can prove difficult. Nevertheless five, possibly six, dated sources have come to light whose marks correspond with the Trent 90 pair, their dates ranging from 1454 to 1456 (a considerably smaller span than that suggested by Saunders).⁶¹ Examination of Piccard's tracings shows that there are convincing matches from the same period.⁶²

Identity is more easily established in the case of BH6 (Figure 12), since all of the known examples of this paper were produced from one pair of moulds only. Five firmly dated sources have been found, and, as with the BH5 paper, they range from 1454 to 1456. In addition, there are contemporary copies of three letters, one written in April and two in June 1456; both of the latter show BH6-B in a later state than elsewhere. Saunders offers a broader range of dates (1454–8), but the post-1456 examples of Piccard's on which she bases this range are in fact only loose approximations of the Trent 90 twins, and not true equivalents.

The final paper, here referred to as 'the Crescents' on account of the fact that it is marked with a pair of crescent moons (Figure 13), appears to be unknown from published sources. Its discovery in three sources, two of them dated, is thus of particular interest. And the fact that both of the dated sources belong to the same five-month period (May–October 1456) may be significant, in that it suggests a possible *terminus* not only for the completion of Trent 90 but also for the commencement of its successor, Trent 88, which opens with the same paper.

Table 5 summarises the evidence drawn both from newly discovered sources and from sources already known to Piccard, including those containing near as well as precise watermark equivalents. From the evidence of the precise matches it can be seen that the eight papers used for Trent 90 have a combined time span of just four to five years (1452–6), as against the seven to eight proposed by Saunders (1452–9), with a prevailing range of just three or four years (1453–6). For Trent 93-1 the overall range is 1450–5, with a prevailing range of 1450–3, while for Trent 93-2 the overall range is 1452–5. It must be emphasised, however, that each range of dates represents the period during which the papers it embraces

⁶¹ One of these sources, MBS Cgm 521, was completed on 2 February 1457, but it appears that the BH5 paper must have been inscribed the previous year (see Appendix 2).

⁶² See pp. 259–60 above.

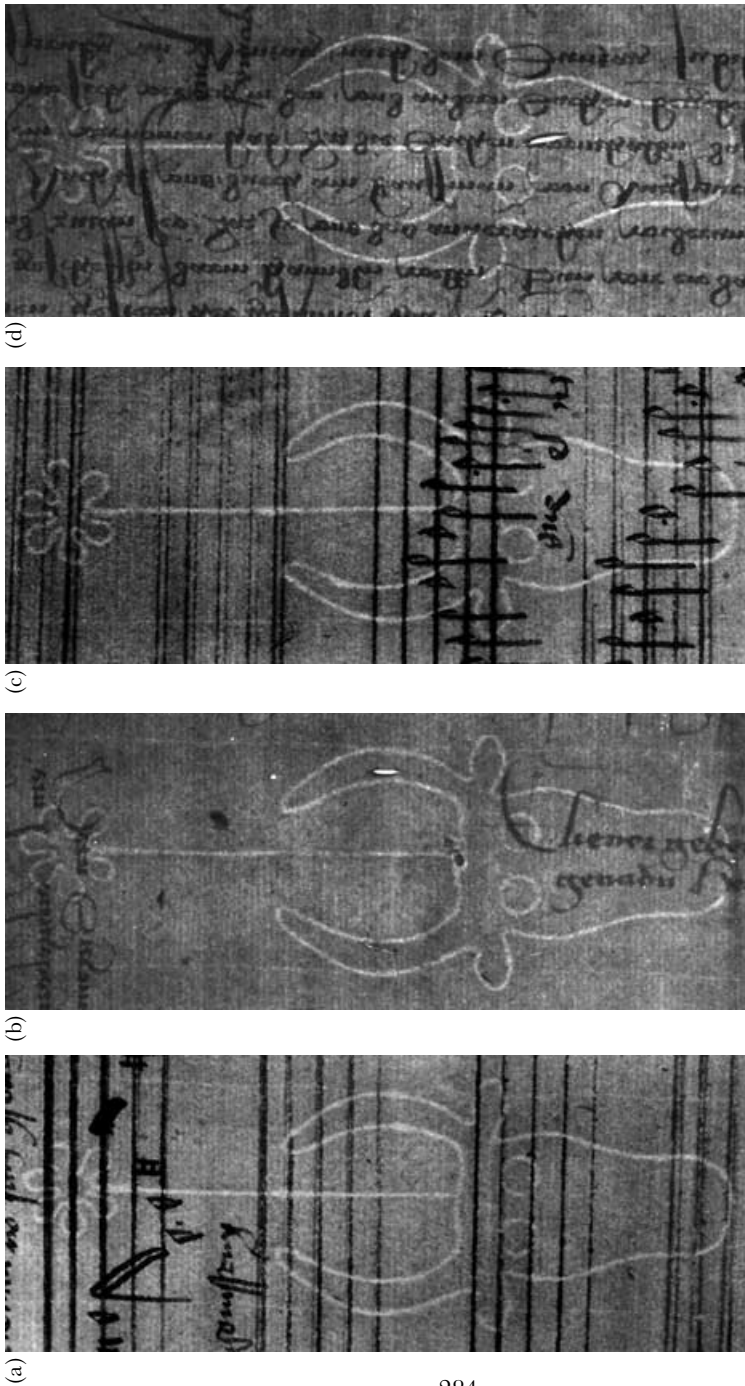


Figure 12 Bull's head 6

- (a) Trent 90, fol. 386^v: A;
- (b) IITL, U. I 5985/4, recto: A;
- (c) Trent 90, fol. 384^v: B¹;
- (d) IITL, U. I 5984/2, verso: B¹

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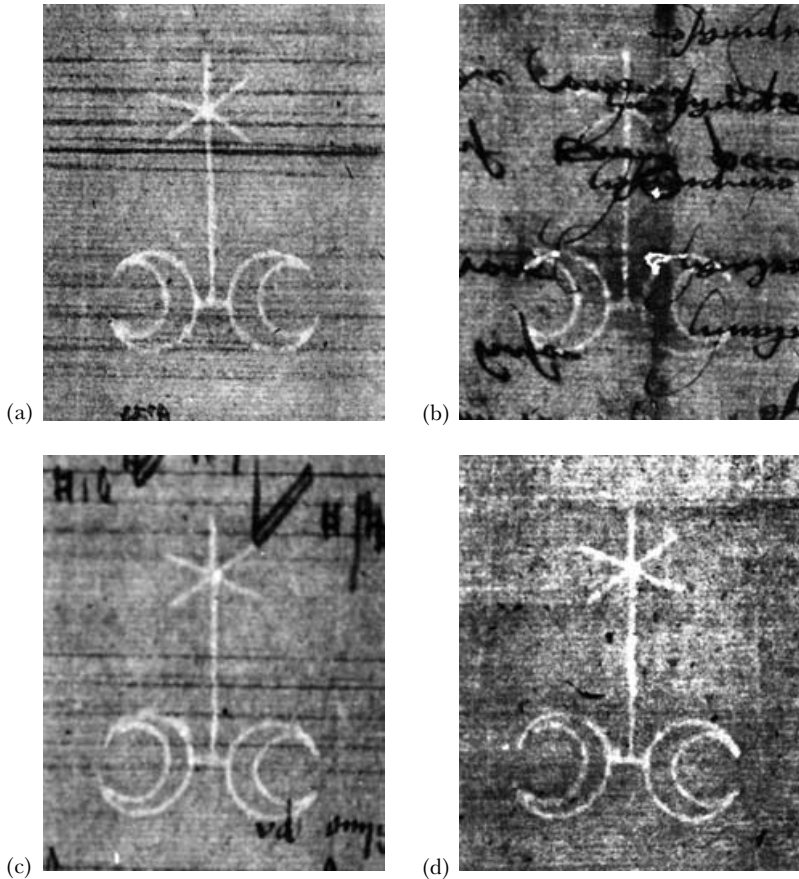


Figure 13 Crescents

(a) Trent 90, fol. 411^r: A; (b) TAS, APV, s.t., Capsa 53.xx, [fol. 1^r]: A;
(c) Trent 90, fol. 436^v: B; (d) TAS, APV, s.l., Capsa 22/6, fol. 192^r: B

are known to have been in use, and cannot automatically be presumed to correspond to the period during which the manuscript in question, or section thereof, was being copied. For present purposes a distinction between the two needs to be made.

IV. THE PROVENANCE OF TRENT 90 AND TRENT 93

Thus far, little attention has been paid to the actual sources on which the conclusions about the dating of the Trent 90/93 papers are based, but it is now time for this aspect to be addressed. As

Table 5 *Dates of Trent 93 and Trent 90 papers*

Dates in parentheses refer to sources whose watermarks represent near rather than precise equivalents of the Trent marks.

Paper	New sources	Piccard
Tr 93-1		
Cross	1450-3	1451 (1450-1)
BH1	1450-1, 1454/?52	1452 (1450-2)
Cross-on-mounts	1450-3	1454-5 (1451-52/53)
Tr 93-2		
BH2	1452, 1454-5	1452-5 (1452)
BH3	1454	—
Tr 90		
BH3	1454	—
BH2	1452, 1454-5	1452-5 (1452)
Tower	1453-4	1455
Crayfish	1453-5	1455 (1455)
BH4	1454-5	1454 (1455)
BH5	1454, 1455?, 1456	1454 (1455, 1459)
BH6	1454-6	1454-6
Crescents	1456	—

can be seen from Appendix 2, the vast majority of these sources are located in archives and libraries in Munich and Innsbruck, while the remainder are to be found in the Archivio di Stato in Trent. The latter in fact represent the tail end of a comprehensive search of the dated paper documents of the period 1450-80 found both in this archive and in the much smaller Archivio Capitolare, which was undertaken with the aim of establishing whether any of the papers used by Wisser and his colleagues for Trent 88-91, the four codices believed to have been compiled in the city of Trent, happened also to survive in contemporary Tridentine documents. Such information, it was realised, had the potential to assist with questions not only of dating and chronology but of provenance as well.

The search proved most fruitful in the case of the last of the codices to be compiled, Trent 91, where the discovery of a substantial body of new evidence (more than forty documents) led to a redating of the source, a rethinking of its chronology and a confirmation of its Tridentine provenance.⁶³ For the 'middle codices',

⁶³ P. Wright, 'Paper Evidence and the Dating of Trent 91', *Music & Letters*, 76 (1995), pp. 487-508.

Trent 88 and Trent 89, the evidence turned out to be far less copious (just nine sources came to light), yet sufficiently strong to confirm or refine earlier datings as well as reaffirm Trent's status as the manuscripts' likely place of origin.⁶⁴ For Trent 90, however, the evidence proved to be meagre by comparison: a mere four archival sources, three using Crescents paper, the fourth a sheet of BH5 (the antepenultimate paper in the manuscript). The investigation also brought to light two specimens of paper used in Trent 93-1.

It was the sharp contrast between, on the one hand, the survival of archival specimens of most of the papers used for Trent 88–91 and the later stages of Trent 90 and, on the other hand, the complete lack of comparable examples of any of the papers used for the earlier stages of Trent 90 that first raised doubts about the manuscript's presumed place of origin. Could it have been that the first of Wiser's music books, a source that ever since the debates of the early part of the last century had been accepted – more or less unquestioningly – as originating in Trent, was in fact only completed there, having been begun elsewhere, perhaps in or near its compiler's home city of Munich? And what of Trent 90's chief exemplar? If Trent 90 was begun somewhere other than Trent, would it not follow, given the nature of the relationship between the two manuscripts, that Trent 93, too, is unlikely to be of Tridentine origin? The possibility that paper evidence might lead to a better understanding of these intriguing questions seemed, at the very least, to be worth exploring.

The first step was to try and establish whether any of the papers used for Trent 90 or 93 were current in Bavaria, and in particular the southern part of the state (the regions surrounding Munich),⁶⁵ during the 1450s, the period when these sources must have been in the process of being copied. For this purpose the published volumes of the new and exemplary catalogues of manuscripts of the Bayerische Staatsbibliothek, in which all of the main types of watermark contained in each manuscript are listed by reference to the standard authorities (chiefly Piccard), provided

⁶⁴ Wright, 'Johannes Wiser's Paper' (above, n. 31).

⁶⁵ For present purposes it will be convenient to use 'Bavaria' to refer to the modern state of Bavaria, including Schwabia. Most of the places referred to here as being in Bavaria in fact formed part of this region as it was constituted in the fifteenth century.

an invaluable starting point.⁶⁶ All entries for dated manuscripts from the 1450s, and for good measure those from the late 1440s, were checked, as were all entries for fifteenth-century manuscripts of approximate date only. On the basis of this information a list was drawn up of all items of potential interest, which were then inspected at first hand. From this it became apparent that a number of the short-listed manuscripts contained watermarks that were no more than broadly similar in type to the Trent marks, and that these sources could therefore be eliminated from further consideration. Most of the manuscripts, however, contained marks that either matched the Trent marks exactly or else were so close to them, and distributed among them in such a fashion, as to indicate that the moulds from which they were produced must have been in use at the same time as the moulds from which their close relations were produced.

No fewer than eighteen of the Staatsbibliothek manuscripts, eleven of them dated, were found to use the same paper as Trent 90 and/or Trent 93. That all eighteen should be of Bavarian provenance may seem unsurprising in the light of the natural emphasis of the collection, yet it is a fact not without significance, since the Staatsbibliothek contains large numbers of manuscripts of non-Bavarian origin. Of the eighteen, the vast majority are known to have originated in the southernmost parts of the state, the present-day regions of Schwabia and Lower and Upper Bavaria. A number of the manuscripts are known or believed to be from Munich itself, whilst others emanate from cities and towns such as Augsburg, Polling, Schäftlarn and Tegernsee; several once belonged to famous monastery libraries. Of the eleven papers under consideration, seven are to be found within the leaves of these manuscripts, with the Tower, Crayfish, BH4 and BH5 papers especially well represented.

⁶⁶ The manuscripts of the Staatsbibliothek are principally divided into two classes, Latin and German, with a separate, multi-volume catalogue for each class. Two new catalogues are in progress, with the German series currently at a more advanced stage; both include watermark details. All the manuscripts found to have watermark correspondences with Trent 90/93 are German. See K. Schneider *et al.*, *Die deutschen Handschriften der Bayerischen Staatsbibliothek München* (Catalogus codicum manuscriptorum Bibliothecae Monacensis, 5; Wiesbaden, 1970–).

How widely, then, were these papers used in Bavaria? And what of those for which no equivalents had so far emerged? It was in response to these questions that the scope of the enquiry was broadened to include two of Munich's archives: the Bayerisches Hauptstaatsarchiv, principal archive of the region, and the Stadtarchiv, a small archive dedicated to the city itself.⁶⁷ Unfortunately the sheer quantity of material of potential interest in both archives – particularly the former – and the manner of its organisation meant that for practical reasons the searches conducted there had to be very selective.

The search of the Stadtarchiv was confined simply to the city account books, an extensive series of folio-size volumes dating back to the early fourteenth century.⁶⁸ Normally a single paper is used throughout a volume, and this was certainly the pattern found among the eight volumes surveyed, those dating from 1450 to 1457. Three of these were found to employ the same paper as Trent 90/93: the 1451 accounts book uses Cross paper, the 1455 book Crayfish paper, while the 1454 book has a sheet of the latter enclosed within the leaves of a different paper.⁶⁹

In the Hauptstaatsarchiv a broader range of materials was surveyed. Most of the fifteenth-century materials are housed in the first of the archive's five main sections ('Ältere Bestände'), which is itself divided into many subsections, principally by region. Time constraints meant that any search had to be confined to materials relating to the region known as Kurbayern – essentially the Wittelsbach territories that comprise most of modern-day Bavaria. Three categories of material were examined: individual documents or 'Urkunden' (Kurbaiern: Urkunden), groups of documents, or 'Akten' (Äußeres Archiv), and account books (Ämterrechnungen).

This stage of the enquiry brought to light a further eighteen dated sources of Trent 90/93 paper – four account books and four-

⁶⁷ For a detailed overview of the Hauptstaatsarchiv, see *Die Staats- und Landesarchive in der Arbeitsgemeinschaft Alpenländer (Arge Alp): Archivführer und Inventar der grenzüberschreitenden Überlieferung* (Munich, 1995), pp. 18–62. A brief introduction to the Stadtarchiv may be found in *Archive in München*, ed. Stadtarchiv München (Munich, 1996), pp. 13–15.

⁶⁸ See F. v. Hössle, 'Wasserzeichen alter Papiere des Münchener Stadtarchivs', *Der Papier-Fabrikant*, 9 (1911), pp. 69–76. Hössle devotes most of his attention to fourteenth-century watermarks, dealing much more sketchily with those from the fifteenth century.

⁶⁹ It was only after I had inspected these volumes that I visited the Piccard watermark archive and became aware that Piccard's unpublished records included the watermarks contained in them.

teen documents⁷⁰ – which together with the three account books of the Stadtarchiv took the total number of archival sources to twenty-one. All but one of these items are of demonstrably Bavarian origin;⁷¹ several are known or believed to come from Munich itself, while others emanate from towns such as Ingolstadt, Landshut and Starnberg that are located within roughly a sixty-mile radius of the city; a few come from further afield. These sources furnish us with additional specimens of Trent 90/93 papers already found to have been used in manuscripts of Bavarian origin, and with examples of papers that make no appearance in these manuscripts. Taking archival and library findings together, it transpires that during the period 1450–6 all but one of the eleven Trent 90/93 papers (the Crescents) were in use to some extent in southern Bavaria.

But just how widely were these papers being used elsewhere? Is the fact that relatively few of them survive in the Trent archives merely an accident of history, or is it an indication that most were never employed in the region? What has to be borne in mind here is that a far greater quantity of fifteenth-century material survives from Bavaria than from the Trentino, where only a few manuscripts and a relatively small number of paper documents from the 1450s can be shown to have originated. The libraries and archives of Trent and the surrounding region simply do not afford comparable opportunities – at least for the 1450s – for solid conclusions about paper to be drawn,⁷² and as a result there is the

⁷⁰ The following gives some idea of the sheer quantity of material that had to be surveyed in order to yield these findings: all of the account books ('Ämterrechnungen') for the dukedom of Bavaria for the period 1450–7 (a total of thirty-three); all individual documents ('Kurbaiern, Urkunden') for the years 1452–5 (more than 300, the majority of which turned out to be written on parchment); and fifty-eight volumes of acts (Äußeres Archiv). While access to the account books was straightforward, dealing with the Urkunden was problematic owing to the fact that the card catalogue of this section of the archive normally gives no indication of the writing material used. This meant that establishing which documents are written on paper proved exceptionally laborious. With the Akten, there was a similar problem of locating the relevant materials. There are more than 4,000 volumes of acts in all, which are subdivided into forty groups (or 'Klassen') organised principally by place. Most of these volumes encompass a wide time span, and it is often unclear from the catalogue whether a particular volume includes the period under scrutiny. It thus became quickly apparent that a selective approach would be necessary, and so attention was focused on those volumes which appeared to emphasise the 1450s.

⁷¹ MBH, KU 35960 appears to be from Upper Austria.

⁷² Just three non-musical manuscripts from the period 1450–60 can be shown to have originated in the city of Trent: see *I manoscritti datati della Provincia di Trento*, ed. M. A. C.

risk of the evidence, or lack thereof, being over-interpreted. Having said that, it should be stressed that, whereas examples of just four of the eleven papers used in Trent 90 and 93 have come to light in the Trent archives, specimens of all but two of the nine papers used in Trent 88 and 89 have surfaced there, even though the number of dated documents for the period in which these manuscripts were compiled is not significantly greater than it is for the period in which Trent 90 and 93 were compiled.

It was with considerations such as these in mind that a decision was taken to broaden the enquiry to include the northern part of the Tyrol, the region that lies to the south of Bavaria. The principal archive for the region is the Tiroler Landesarchiv in the capital city of Innsbruck, which, like its Bavarian counterpart, is a potentially rich mine of information on fifteenth-century papers, not just for the north but also for the south Tyrol. The two main series of documents, Urkundenreihen I and II, were systematically examined for the years in question, as were several other potentially interesting sections of the archive – a search that resulted in the discovery of a further twenty-two sources of Trent 90/93 paper.⁷³ In addition, a study of unpublished watermark data relating to the dated manuscripts of the Universitätsbibliothek at Innsbruck was undertaken (the data forms part of the library's holdings), though this brought to light only one relevant source. Most of the new watermark equivalents are from sources copied in or near Innsbruck; a few originated elsewhere in the north Tyrol, and a handful in the more northerly parts of the south Tyrol. The result was the discovery of a further twenty-three

Mazzoli *et al.* (Manoscritti Datati d'Italia, 1; Florence, 1996), nos. 17, 20 and 52. For the same period (1450–9), just 157 dated documents, for example, are listed as belonging to the Sezione Latina, the principal section of the Archivio Principesco-Vescovile (see *Archivio di Stato di Trento: Archivio del Principato Vescovile; inventario* (Pubblicazioni degli Archivi di Stato, 4; Rome, 1951), pp. 174–5), although twenty-three of these are missing. For a period of less than half this time (1452–5), more than twice the number of documents are to be found in the section of the Bayerische Hauptstaatsarchiv headed 'Kurbayern: Urkunden' (see n. 70 above), although in fact most of these are on parchment.

⁷³ An overview of the archive can be found in *Die Staats- und Landesarchive der Arbeitsgemeinschaft Alpenländer*, pp. 160–94. Urkundenreihen I and II are listed as sections I.1.a and I.1.b. The other sections of the archive that were examined are as follows: Parteibriefe (I.1.c), Urbare (XXII.1), Inventare (XXII.2), Handschriften (XXIV.1), Rechnungsbücher (XXIV.1.2).

dated sources of papers used in the musical manuscripts, containing examples of all but two of these papers.⁷⁴

What this part of the investigation shows is that all but two of the Trent 90/93 papers were in use in the north and south Tyrol, although in most cases only one or two examples survive. These findings are in no sense incompatible with the hypothesis that it was in Bavaria that most of the Trent 90/93 papers were primarily used, but they do slightly weaken it, and it is quite possible that further exploration of the archives of the region, in particular those located in towns lying between Innsbruck and Trent, such as Merano, Bolzano and Bressanone, could yield findings that would weaken it further. Be that as it may, the fact remains that of the sixty-seven sources listed in Appendix 2, no more than four can be shown to have originated in Trent itself or in the vicinity of the city.

So far in this discussion of provenance, consideration has only been given to 'newly discovered' sources – that is, sources that have been found, as part of the present investigation, to use the same paper as the musical codices. But there are also Piccard's own findings to be considered, the full details of which are unpublished. Appendix 3 includes a note of the provenance of each archival equivalent or near-equivalent cited, and while it is true that these include a number of documents from, for example, northern Germany and the Baltic coast, the fact is that more than half of these sources are from Bavaria and the Tyrol. This is a not insignificant finding, since Piccard spread his net very wide, with archival searches that extended throughout Germany as well as to many other parts of Europe, including north Italian cities such as Bologna, Brescia, Treviso, Turin and Udine. The fact that such wide-ranging enquiries should have produced such a high proportion of examples of the Trent 90/93 papers from Bavaria and the Tyrol seems to reinforce the impression that their usage in these regions was particularly extensive.⁷⁵

⁷⁴ It needs to be borne in mind that, as in Munich, the quantity of relevant materials available in Innsbruck was far greater than in Trent: over 400 dated documents or groups of documents in the Tiroler Landesarchiv were surveyed for the period 1450–9 – roughly twice the number available for the same period in Trent.

⁷⁵ The question of where the various Trent 90/93 papers originated, as distinct from where they were used, is a difficult one. We know too little about the history of paper-making of this period to be able to offer an answer, yet there is evidence that by the middle of

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Table 6 summarises the findings on the provenances of the various sources under consideration. These findings demonstrate a broad overall pattern of 'diminishing returns' as one travels south, although they need, as we have seen, to be interpreted with particular care. The evidence for Trent 93 is too ambiguous to allow any meaningful conclusions to be drawn, but in the case of Trent 90 it is altogether more clear-cut. Two important points in Table 6 need emphasising. The first concerns 'Trent 90C' – that part of Trent 90 (most of fols. 1–282) which is a copy of Trent 93: each of the five papers used for this copy (these are emboldened in the table) was in circulation in Bavaria, yet so far none has turned up in a document that originated in the Trentino.⁷⁶ The

Table 6 *Sources by region*

Numbers not in parentheses refer to new-found sources of the Trent 90/93 papers; numbers in parentheses refer to sources from the Piccard archive, with those in italics indicating sources whose watermarks represent near rather than precise equivalents of the Trent marks; the papers of Trent 90C (and Trent 93-2) are shown in bold type.

Paper	Bavaria	N. Tyrol	S. Tyrol	Trentino	Other
Cross (Tr 93-1)	5 (+1)	1	1	0	(2)
BH1 (Tr 93-1)	1	7 (+2)	0	0	(1+2)
Cross-on-mounts (Tr 93-1)	4 (+1+1)	1	1–2	0–1	(1+3)
BH2 (Tr 93-2, Tr 90)	2 (+1)	1 (+2)	0 (+1)	0	(7)
BH3 (Tr 93-2, Tr 90)	1	1	0	0	0
Tower (Tr 90)	8	0	0 (+1)	0	1
Crayfish (Tr 90)	17 (+1+1)	2	1	0	1
BH4 (Tr 90)	3 (+1)	0	1 (+1)	0	(1)
BH5 (Tr 90)	7 (+1+2)	1	0	1	(1)
BH6 (Tr 90)	1	5	1–3	0–2	0
Crescents (Tr 90)	0	0	0	3	0
TOTAL	49 (+2+7)	19 (+2+2)	5–8 (+3)	4–7	(10+9)

the century paper was being manufactured in several parts of southern Germany. The paper specialist Friedrich von Hössle charted some of these developments by region in a series of studies undertaken in the early part of the last century: for a listing of some of his writings, see P. Pulsiano, 'A Checklist of Books and Articles Containing Reproductions of Watermarks', in S. Spector (ed.), *Essays in Paper Analysis* (London, 1987), pp. 115–53, at pp. 129–30.

⁷⁶ Five specimens of three of the papers are found, however, in documents from the south Tyrol: two examples of BH4 (one from Bressanone, the other from the same region), and one example each of the BH2, Tower and Crayfish papers (from Bressanone, Sterzing and Bolzano respectively).

second point is that conversely, no trace of the last paper in the manuscript, the Crescents, has yet surfaced in any document originating outside the Trentino, and that the penultimate paper, BH6, is chiefly represented in Tyrolean/?Trentino sources; the fact that Wiser must have acquired these papers around the time of his first recorded presence in Trent may therefore be significant.

There is, however, always the risk of over-interpreting evidence of this kind, and of forgetting that patterns of survival cannot necessarily be trusted to reflect fairly the original patterns of circulation and usage. If the balance of paper evidence seems to favour the idea that Trent 90 was begun in south Bavaria, the possibility that the manuscript originated in Trent cannot, on the basis of this evidence, be ruled out.⁷⁷

V. THE COPYING OF THE MANUSCRIPTS; THE SCRIBES

Let us briefly take stock of the evidence gathered so far. A period of usage has been established for each of the Trent 90/93 papers that provides us with an overall range of dates running from 1450 to 1456, although on the basis of this information alone we cannot be sure of the exact years when the copying took place, or indeed whether all of it was actually carried out within this time frame. We know that at some point during this period, and certainly prior to 30 July 1455, Johannes Wiser must have left Munich and taken up the post of succentor at Trent Cathedral. And we have established as a reasonably strong possibility the idea that Trent 90 may have been begun in southern Bavaria and completed in Trent. Each of these three main strands of evidence carries with it various uncertainties, yet together they provide a basis for a new theory of the origins of Wiser's collection. It is now time to develop this theory further by exploring several aspects of the evidence more fully and considering them in conjunction with other kinds of evidence.

Surveying the pattern of dates for Trent 90 (Table 7), it can be seen that almost all of the dated or datable sources of its paper – a total of nearly seventy – belong to the years 1453–6. The only

⁷⁷ On reflection, my earlier conclusion that 'if one thing now seems reasonably certain, it is that [Trent 90's place of origin] cannot have been Trent' (Wright, 'Johannes Wiser's Paper', p. 44) was insufficiently supported by the evidence on which it was based.

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Table 7 *Distribution of Trent 90 watermarks by year*

Numbers not in parentheses refer to new-found sources, those in parentheses to sources from the Piccard archive.

Watermark	1452	1453	1454	1455	1456	
BH3	0	0	1	0	0	} Trent 90C papers
BH2	1 (3/4)	0 (2)	1 (4)	1 (2)	0	
Tower	0	2	6	0 (1)	0	
Crayfish	0	4	7	6 (1)	0	
BH4	0	0	3 (1)	1	0	
BH5	0	0	3/4 (1)	0/1	2	
BH6	0	0	1	2 (1)	3-5	
Crescents	0	0	0	0	2	
TOTAL	1 (3/4)	6 (2)	22/23 (6)	10/11 (5)	7-9	

exceptions are five sources of BH2 paper from 1452, and the date of one of these is suspect;⁷⁸ all the other examples of this paper date from later. Such is the weight of the evidence that it seems unlikely that the manuscript was begun any earlier than 1453, though it remains possible that it was begun as late as 1454, or even the early part of the following year.

Determining when the manuscript was completed, and the dates by which the different stages of the compilation had been accomplished, is, of course, much harder, owing to uncertainties of the kind that inevitably surround sources such as this one. We know little, for instance, about the speed at which scribes worked, the frequency and extent of lulls in the copying process, or the delays that occurred between the acquisition of a supply of paper and its actual usage. But in the case of Trent 90 there is evidence that may help shed light on some of these issues.

Had Wiser worked on his manuscript more or less continuously, it would probably have been physically possible for him to copy it in its entirety within as little as three months. There is certainly nothing in the paper evidence that conflicts with such a possibility: by the late months of 1454 all but the last of the papers he used were in circulation and could therefore theoretically have been purchased in one lot; and if further proof of the close con-

⁷⁸ This is the example of Piccard's given as 'StAJ Lehenbücher, liber fragm II 256' (Appendix 3), a *post facto* compilation. See n. 48 above.

temporaneousness of these papers were needed, one could point to the way in which two or even three of them occur, often contiguously, in the same source (Table 8). Yet while it is conceivable that parts of Trent 90 were copied at high speed, it seems unlikely that the entire manuscript was executed within a short space of time. The sheer degree of evolution in Wiser's script, from its hesitant beginnings to the much better formed, bolder and more confident hand of the later stages of the manuscript's compilation, suggests a process that would have required more than a couple of months in which to unfold.⁷⁹

Trent 90 was probably not completed before 1456, the latest firm date of any of its papers, but the indications are that Trent 90C, the copy of the main layer of Trent 93, was finished well before then. Most specimens of the papers used for Trent 90C – BH3, BH2, Tower, Crayfish and BH4 – date from 1454, while a smaller number belong to the previous and the following years. According to Table 7, the numbers of watermark equivalents of these five papers for the years 1453, 1454 and 1455 (inclusive of Piccard examples) are eight, twenty-three and twelve respectively. But it needs to be remembered that the majority of examples of the Crayfish marks occur in later states than that found in Trent

Table 8 *Manuscripts using more than one Trent 90 paper*

The numbers in parentheses indicate the order of first appearance of each paper within a manuscript; numerically successive papers within a source are contiguous; Cgm = MBS, Cgm.

Trent 90 n.d.	Cgm 351 n.d.	Cgm 605 1454	Cgm 744 n.d.	Cgm 2153 1454	IU, Cod. 45 1455
BH3					
BH2					BH2 (1)
Tower	Tower (1)				
Crayfish	Crayfish (3)	Crayfish (2)		Crayfish (2)	
BH4		BH4 (1)		BH4 (1)	
BH5	BH5 (2)		BH5 (1)		
BH6			BH6 (2)		BH6 (2)
Crescents					

⁷⁹ R. Gerber, 'An Assessment of Johannes Wiser's Scribal Activities in the Trent Codices', *Musica Disciplina*, 46 (1991), pp. 1–18, at pp. 3–4, includes a brief but useful survey of Wiser's changing clef-forms. A full and systematic study of the development of his script is a task still waiting to be undertaken.

90. Once this is taken into account, the number of sources with corresponding marks for the year 1455 falls to just five, spanning the months from January to mid-June.⁸⁰ The latest of these sources contains BH2 paper, but, significantly, in distinctly later states than those found in Trent 90C. And two other sources, also of BH2 paper, are documents from the Baltic Coast that were apparently copied several hundred miles away from the region where their paper is likely to have originated or at least was mainly used. Thus only two sources from 1455 that were copied in the regions under consideration, one from January and the other from April, can be shown to contain paper in the same state in which it is found in Trent 90C. There is therefore little evidence from the findings on paper to suggest that work on the main layer was taking place as late as the early months of 1455, and none at all to support the idea that Wiser was engaged in copying this part of his manuscript in or beyond July, the month in which he is cited as succentor.

Taking paper evidence together with both palaeographical evidence and what little we know of Wiser's circumstances at the time, we may reasonably conclude that Trent 90 was begun no earlier than 1453 and was completed by 1456 or very shortly thereafter; that the main layer was executed some time during the period between 1453 and the early months of 1455; and, if the patterns of paper distribution are any guide, that it was in the year 1454 that the bulk of the copying of this layer – perhaps even all of it – is most likely to have fallen (see Table 9).

These conclusions are, of course, at odds with Strohm's view that Wiser did not embark on his collection until after he had been installed as succentor, an appointment he appears to believe occurred, along with that of Johannes Prenner as schoolmaster, in July 1455. According to Strohm, Wiser either acquired his main layer papers in Trent or else brought them there from his previous place of employment. The first proposition requires us to believe that Wiser acquired these papers in a place where there is little or no trace of their ever having been used, and – if we suppose, with Strohm, that this did not occur before July 1455 –

⁸⁰ They are: IU, Cod. 45 (Stams, near Innsbruck, completed 14 June 1455; BH2), ITL, P1080 (Bressanone region, 9 April 1455; BH4), StAK O.B.A.: Elblag, Poland (March 1455; BH2), StAK O.B.A.: Gdańsk (May 1455; BH2), StAK O.B.A. Sterzing (January 1455; Tower). Details of the first two examples are given in Appendix 2, details of the last three in Appendix 3.

Table 9 *Summary of proposed Trent 90 copying dates*

Section of MS / Folios	Papers	Proposed date of copying
Trent 90C (= 1–282 minus additions)	BH2, BH3, Tower, Crayfish, BH4	(?1453→) 1454 (?→1455) completed late 1454 / early 1455
‘Appendix’ (= 283–465)	BH4, BH5, Crescents	(?1454→) 1455–6
92 ^v –93 ^r , 94 ^v –96 ^r (later additions by Wiser) *		(?1454→) 1455 (?→1456)
1 ^r , 20 ^r , 58 ^r , 72 ^r (last additions by Wiser) *		1456 or later

* These additions are dated partly on the basis of their position within the chronology of Wiser’s script.

that he acquired them after their documented life was over. The second proposition – that Wiser brought his supplies with him – requires us to suppose that he was hoarding paper in the general expectation of needing it, but with no specific purpose in mind.⁸¹

Yet Wiser, as we know, had a very definite purpose in mind, namely the replication of the main layer of Trent 93. What stage the manuscript had reached by the time he started copying from it is a difficult question, though it seems clear that it must still have been in the process of being compiled. After the two main scribes, A and B, copied the mass repertory that constitutes the main layer (most of Trent 93-1), a number of secondary scribes entered additional works, related and unrelated, in spare spaces of the manuscript. Nearly all of these pieces are absent from Trent 90C. While Wiser could have deliberately ignored them on the grounds that their inclusion would have undermined the integrity of the plan he was endeavouring to replicate, the fact that a number are repertorially integrated with their surrounding contents makes it altogether more likely that they had simply not yet been entered. More significant, however, is his non-inclusion of works that form part of the main layer of Trent 93, in particular

⁸¹ This is a perfectly reasonable supposition. A scribe about to enter new employment might well have felt inclined to stock up with paper in advance. In this particular instance, however, there are circumstances that seem to militate against this possibility.

the sixteen sequences that occupy most of gatherings XVIII–XX (fols. 201–35).⁸²

These gatherings form an interpolation to Trent 93, with the sequences having been inserted in their correct liturgical position between the Gloria and Credo settings after these works had been copied.⁸³ Their status as a late addition is indicated by their signatures, which duplicate those of the gatherings that now appear as XXI–XXIII; the present gatherings XXI–XXIII were the original XVIII–XX.⁸⁴ It may be, as Margaret Bent proposes, that the sequence gatherings represent 'a later continuation of the collaboration between scribes A and B that had been begun in the Mass Ordinaries';⁸⁵ if so, the fact that these gatherings have the same paper, layout, inks and patterns of scribal collaboration that are found throughout most of the remainder of the main layer suggests that any lull in this collaboration can have been only brief. As Bent notes, Wiser subsequently had access to these gatherings, since he copied one work (a Gloria) across the join of gatherings XVII–XVIII (fols. 199^v–201^r) and another (a textless fragment of a Credo) into gathering XX (fol. 234^v). What should also be mentioned is the fact that the script of these two added works is firmly contemporary with Wiser's script as it appears in Trent 90C. This is a crucial point, since it suggests that unless the sequences were incorporated into Trent 93 prior to Wiser having reached the corresponding point in his copy, but were deliberately suppressed by him,⁸⁶ these works are likely to have become

⁸² The other works that Wiser did not copy are the two Kyrie settings on fols. 98^v–99^r and 119^v–120^r, and the incomplete Credo on fol. 254^v. Bent, 'Trent 93 and Trent 90', pp. 93–4, suggests that the first Kyrie may have been omitted inadvertently, but that the omission of the second Kyrie (an alternative version of which was entered by Wiser on Trent 90, fol. 125^v) and the Credo (which is self-evidently incomplete) was probably deliberate.

⁸³ Reinhard Strohm makes the interesting suggestion (private communication) that because the Mass Ordinary copies in Trent 93 were partly derived from exemplars in cyclic form, the Sanctus and Agnus sections would have been copied before the sequences were added.

⁸⁴ Bent, 'Trent 93 and Trent 90' (above, n. 10), p. 86.

⁸⁵ *Ibid.*

⁸⁶ It is difficult to imagine why Wiser should have omitted these works intentionally. Had he known at this stage that he was going to Trent, there would have been especially good reason for him to include them, since, according to Marco Gozzi (who has kindly shared with me his thoughts on this subject), there was a strong tradition in the Trent diocese at this time of including sequences in the Proper of the Mass (a tradition that practically disappears in contemporary Roman sources). Prof. Gozzi is of the view that the Trent 93 sequences would have been of particular interest to Wiser.

available to him *during* rather than *after* his copying of the main layer.⁸⁷

The evidence relating to the sequence gatherings certainly suggests quite strongly that the main layer of Trent 93 was still in progress when Wiser began making his copy of it, which could mean either that gatherings were being assembled or that the copying was still being carried out. If this hypothesis is correct, then the year in which work on Trent 90 began – whether 1453, 1454 or even, at a stretch, early 1455 – must also have been a year in which work on Trent 93-1 was ongoing in some shape or form. By the same token, the place where Trent 90 was begun would also need to be considered as the place where this activity on Trent 93-1 was being conducted. The watermark evidence relating to Trent 93, as we have seen, allows alternative provenances to be postulated.

It is difficult to see why Wiser would have copied Trent 93 unless in the expectation that access to it would be limited. Such a situation has, however, proved hard to square with the fact that both copy and exemplar survive in the same place. According to Strohm, Wiser ‘expected to leave his place of work (Trent) in order to pursue his career, and could not be sure that in a new position he would find all the music he wanted’. The possession of a large collection such as Trent 90, he argues, ‘might in any case [have] increase[d] his chances of securing a position as schoolmaster in a cultural centre’.⁸⁸ The position he eventually secured was, of course, that of schoolmaster in Trent itself.

This thesis offers the best explanation to date for Wiser’s duplication of the Trent 93 repertoire. Yet there is no reason why the motives Strohm ascribes to Wiser could not apply equally to his securing of the post of succentor, or why a scenario similar to the one he describes could not just as well have been enacted somewhere other than Trent. If indeed Trent 90 *was* begun in Munich, then its chief exemplar must have been present there too, if only for a limited period. This at once raises the possibility that Wiser

⁸⁷ Since the Gloria section of Trent 90 ends on the last full opening of one gathering (XIV: fols. 156–67) and the Credo section begins on the first full opening of the next gathering (XV: fols. 168–79), there would have been nothing to prevent Wiser from locating the sequences in their correct liturgical position, between the Glorias and the Credos, had they been available to him and had he wished to do so.

⁸⁸ Strohm, ‘European Cathedral Music’ (above, n. 12), p. 27.

not only expected to be, but actually was, parted from Trent 93, and this, in turn, raises the question of who, in such circumstances, could have been the agent of the manuscript's eventual transfer to Trent.

Strohm has already suggested that Johannes Prenner, whom Wiser served as succentor and soon after succeeded as schoolmaster, may have been responsible for Trent 93's transfer (from an unspecified location) and may even have had a hand in its compilation.⁸⁹ Nothing is known about Prenner prior to his installation as a cathedral chaplain, and pursuit of his early career is not helped by the fact that his name appears to have been a fairly common one in the fifteenth century.⁹⁰ The recent proposal by Rudolf Flotzinger that he is the 'Johannes Prenner de Prawnaw' (= Braunau, currently in Upper Austria but formerly part of Bavaria) who matriculated at the University of Vienna in 1447⁹¹ has the merit of providing us with a candidate who was a student in a major musical centre at the time when the Trent 93 repertory was being collected, and who came from the same region (southern Bavaria) as Wiser.⁹² The only difficulty with this proposal is that the schoolmaster Johannes Prenner is described in 1455 as being from Trent ('de Tridento').⁹³

An alternative candidate is Petrus 'Schrot', or 'Sroch', the man who was to become Wiser's own succentor and eventually succeed him as schoolmaster (just as Wiser had succeeded Prenner).

⁸⁹ *Ibid.*, p. 26, and Strohm, 'Trienter Codices' (above, n. 12), col. 805.

⁹⁰ Of the various of bearers of this name that I have encountered in archival records, two are particularly worth mentioning. One is the man cited as a judge in Termeno ('richter zu Tramin'), a town near Bolzano in the Trent diocese, during the early 1450s (ITL, Urkundenreihe I, no. 5804 (21 August 1455), and TAS, APV, Sezione Tedesca, Capsa 27.p (1451–4)). The other is the man cited as a chaplain at the church of Stephen's in Vienna during the late 1440s and early 1450s (see A. Mayer *et al.*, *Quellen zur Geschichte der Stadt Wien*, 10 vols. (Vienna, 1895–1937), 2/ii (1900), p. 275, no. 3169; p. 288, no. 3230; p. 356, no. 3547). While any identification of the former (who was not an ecclesiastical figure) with the Trent schoolmaster can easily be discounted, the possibility that the latter and the chaplain of St Stephen's are one and the same person cannot yet be ruled out.

⁹¹ R. Flotzinger, 'Auf der Suche nach Einheimischen in den Trienter Codices: Fakten und Hypothesen', paper given at the conference *Manoscritti di Polifonia nel Quattrocento Europeo*, Trent, October 2002. See *Die Matrikel der Universität Wien, i: 1377–1450*, ed. F. Gall (Publikationen des Instituts für Österreichische Geschichtsforschung, ser. vi, 1/i; Graz and Cologne, 1956), p. 256, col. 2, no. 16.

⁹² In this context it may be worth mentioning the existence of a document from the Anger Kloster in Munich, dated 24 April 1453 (MBH, München-Angerklster Urk. 546), that records the presence of a witness by the name of 'Hanns Prennar'.

⁹³ See n. 27 above.

Although the only mention of him as succentor dates from 1460, his appointment probably took effect when Wisser became schoolmaster two or three years earlier.⁹⁴ He could well be the ‘Petrus Schroff de Monaco’ who matriculated at the University of Vienna in April 1451, just around the time when work on Trent 93 must have been beginning.⁹⁵ The ending ‘f’ is unknown in Italian; ‘Sroch’ and ‘Schrot’ could represent the attempts of the Italian scribes who recorded them to deal with an unfamiliar sound. Since the post of succentor tended to be in the schoolmaster’s gift, it would have been natural for Wisser to turn to a respected and trusted former colleague when it came to making this appointment.

At this stage a crucial piece of palaeographical evidence needs to be considered. On fol. 261^r of Trent 90, a mere twenty folios from the end of his copy of the main layer of Trent 93, Wisser, who hitherto had adhered so steadfastly to his task, suddenly and unexpectedly broke off work during a Sanctus setting. Having copied the first four of the work’s five sections (fols. 260^v–261^r), he left the final section (fol. 261^v) to an assistant, who then proceeded to complete Trent 90C. The possible significance of this event should not be underestimated. The task in which Wisser was engaged must have been one with which he wished to be personally identified; that he was keen to make his mark as a scribe is suggested by what appears to be an unwarranted attempt to append his name

⁹⁴ Schrot is cited as Wisser’s succentor on 2 December 1460: ‘Johannes Wisser artium gramatice professori et altariste altarii Sancte Dorathee et Sancti Nicholai in dicta ecclesie fundati et magistro Petro Sroch succentori predicti idem Johannem Wisser’ (TAC, Instrumenta Capitularia X, fols. 65^r–66^r, at fol. 65^r). A document of 8 June 1465 cites a certain Petrus as ‘rector scolarium’ and describes him as chaplain of the cathedral altar of S. Caterina, apparently incorrectly, since this chaplaincy was held by Prenner from 1455 until his death c.1483 (TAC, Instrumenta Capitularia XI, fols. 69^v–70^r, at fol. 69^v; summarised in Santifaller, *Urkunden und Forschungen*, pp. 374–5, no. 499). That this ‘Petrus’ is indeed Schrot appears to be confirmed by a later document, of 26 August 1476, in which ‘Petrus Schrot’ is described as ‘rector scolarum’ (ITL, *Urkundenreihe I*, no. 5431; summarised in F. Schneller, ‘Beiträge zur Geschichte des Bisthums Trient aus dem späteren Mittelalter’, *Zeitschrift des Ferdinandeums für Tirol und Vorarlberg*, ser. iii, 39 (1895) [part 2], pp. 181–230, at p. 198, no. 825). This document is of additional interest on account of the fact that it cites all three members of the ‘triumvirate’ – Prenner, Schrot and Wisser – as witnesses.

⁹⁵ *Die Matrikel der Universität Wien, ii: 1451–1518*, ed. W. Szaivert and F. Gall (Publikationen des Instituts für Österreichische Geschichtsforschung, ser. vi, 1/ii; Graz, Vienna and Cologne, 1967), p. 4, no. 236; Schroff matriculated on 14 April 1451 and is listed under ‘Natio Renensium’. I have not yet had an opportunity to check the unpublished graduation records for his name.

to one of his contributions to Trent 93.⁹⁶ One can only guess at the possible reasons behind Wiser's sudden abandonment of a task to which he had so far dedicated himself with such single-mindedness, but it is precisely the kind of event likely to have been occasioned by some external change of circumstance.⁹⁷ It occurs towards the end of the first run of BH4 paper, which in turn follows the initial run of Tower paper, including, as it does, the inserted half-leaf of Crayfish paper (see Figure 14). Given the likelihood that Wiser had reached this point of the manuscript during the later part of 1454, or perhaps even the early months of the following year, it is difficult to resist the idea that it was the news of his appointment to the succentorship at Trent that prompted the interruption. But maybe this news was itself the catalyst for Trent 90C; perhaps Wiser found himself, for whatever reason, with no more than a few weeks in which to replicate the Trent 93 main layer, but not quite long enough to complete the task. Either way, this could explain the absence from Trent 90 of the sequences, which may have become available for copying too late to be included.

The person who did complete Trent 90C, whom we may designate 'scribe X', apparently had an especially close working relationship with Wiser. As well as being entrusted with this important task, he was the one scribe apart from Wiser who contributed to both manuscripts, and in the case of Trent 93-2 he actually used the same stocks of paper with which Wiser began Trent 90.⁹⁸ The fact that once he had completed Trent 90C scribe X made no fur-

⁹⁶ The work in question is the Kyrie on fol. 125^v, which is followed by the inscription 'Scriptum notatum' (as in the *explicit* to Trent 90) and an indecipherable erasure where, presumably, Wiser's name once stood (see n. 82 above).

⁹⁷ One has only to think, for example, of the circumstances believed to have caused the abrupt and premature curtailment by the main scribe of the Old Hall Manuscript of his original compilation. This interruption was first diagnosed by Margaret Bent ('Initial Letters in the Old Hall Manuscript', *Music & Letters*, 47 (1966), pp. 225–38, esp. 234–8), and a convincing explanation for it subsequently offered by Roger Bowers ('Some Observations on the Life and Career of Lionel Power', *Proceedings of the Royal Musical Association*, 102 (1975–76), pp. 103–27, at pp. 109–10).

⁹⁸ Scribe X contributed two pieces to Trent 93-1, the Kyrie on fols. 107^v–108^r and the Gloria on fols. 210^v–211^r, and inscribed two of the three gatherings that make up Trent 93-2: XXXII (fols. 366–73; only fol. 366^r is in a different hand) and XXXIII (fols. 374–82). Scribal analyses of Trent 93 and Trent 90 are given, respectively, in Wright, *The Related Parts*, pp. 304–5 (where scribe X is designated 'scribe C'), and id., 'Johannes Wiser's Paper', p. 35.

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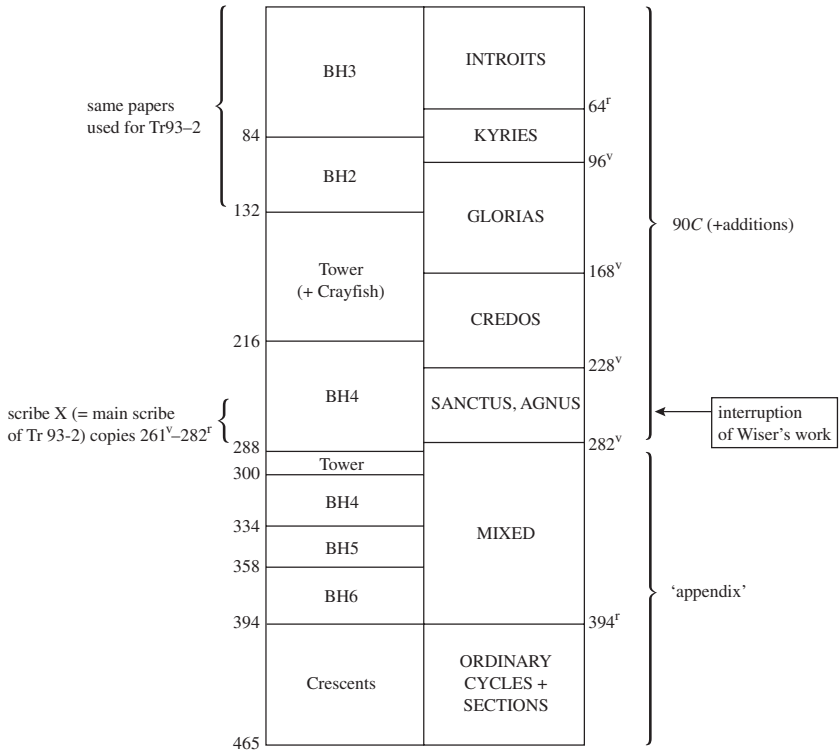


Figure 14 The compilation of Trent 90

ther contribution to this or any of the later codices would support the idea that the two men became separated around this time.

The news of Wisser's appointment at Trent Cathedral could have occurred suddenly and unexpectedly, necessitating a precipitate departure from Munich. Young musicians working in the *Kantorei* as assistants to the schoolmaster and succentor had to be prepared, as Strohm observes, 'to learn quickly and to take up jobs elsewhere at short notice like the travelling apprentices of other crafts and trades'.⁹⁹ Wisser could have delegated the task of completing the copy of the Trent 93 main layer to a colleague while he prepared himself for his departure, perhaps suspending his copying activities during the ensuing journey. At that stage he would presumably have had residues of the Tower and BH4 papers waiting to be

⁹⁹ Strohm, *The Rise of European Music*, p. 290.

inscribed, and perhaps also the BH5 paper, whereas the two papers that complete the volume, BH6 and Crescents, are more likely to have been purchased en route to Trent or on arrival there.

If indeed Wiser did begin work on Trent 90 in Munich, where might he have been employed? Arguably the most plausible context in the city for his early career is that provided by the church of St Peter, principal church of the diocese in the mid-fifteenth century and one renowned for its musical traditions.¹⁰⁰ With a foundation dating back to the origins of the city itself, St Peter's is regarded as being synonymous with the beginnings of music in Munich. From the thirteenth century it had its own school, where the boys received an education in the liberal arts and instruction in singing. While the records of musical activities may be sparse prior to the sixteenth century, we know, for instance, that from 1343 the boys of the choir school sang spiritual songs as part of the procession for Corpus Christi, and that in 1384 a nine-bellow organ was built for the church by Lorenz von Polling. The church had a cantor and its own school;¹⁰¹ we even know the name of the schoolmaster who was in post at the time when Wiser would have been embarking on his scribal career.¹⁰² Given the pattern of that career, it would seem that this is just the kind of background from which he is likely to have emerged: a church choir school where, as one of the schoolmaster's *Astanten* (assistants), he would have been engaged in copying music and helping with the training of the boys.¹⁰³

At this stage of his career – the early 1450s – Wiser must have been in his early twenties; he had probably just completed, or was in the process of completing, his university education.¹⁰⁴ A birth

¹⁰⁰ For a brief outline of the early history of the musical activities of the church, see B. A. Wallner, 'Beiträge zur Geschichte der Kirchenmusik bei St. Peter in München bis Ende des 17. Jahrhunderts', *St. Peters-Kalender für das Jahr 1917* [Munich, 1917], pp. 52–7. Still the best historical overview of music in Munich is that given in O. Ursprung, *Münchens Musikalische Vergangenheit: Von der Frühzeit bis zu Richard Wagner* (Munich, 1927); see also the entry 'München' in *Die Musik in Geschichte und Gegenwart*²: *Sachteil*, vi (1997), cols. 582–3.

¹⁰¹ For mid-fifteenth-century references to the posts of cantor and schoolmaster, see M. J. Hufnagel and F. von Rehlingen, *Pfarrarchiv St. Peter in München: Urkunden* (Bayerische Archivinventare, 35; Neustadt an der Aisch, 1972), p. 47, no. 129; also p. 42, no. 119.

¹⁰² *Ibid.*, p. 50, no. 138: the rector in 1453 was Johannes Wirtel.

¹⁰³ See Strohm, *The Rise of European Music*, pp. 289–90.

¹⁰⁴ It is not known where Wiser took his first degree. Staehelin, 'Trienter Codices und Humanismus', pp. 165–6, noting that there is no record of a Johannes Wiser having matriculated at the University of Vienna, suggests that he may have studied in Italy.

date of about 1430 seems very likely. This would be perfectly compatible with the fact that Wisser was apparently still alive as late as 1503,¹⁰⁵ and would fit comfortably with the knowledge that he was probably ordained a priest – for which the normal minimum age was twenty-four¹⁰⁶ – some time between July 1455 and March 1458.¹⁰⁷ Trent 90 thus seems almost certain to be the product of a man in his early or mid-twenties; the elementary nature of many of Wisser's mistakes, and the particularly pronounced script changes that occur in the course of the manuscript, suggest a scribe on a steep learning curve. To what extent his exceptional assiduity as a music copyist was self-motivated, and to what extent driven by external factors, is impossible to determine. But it may be that Wisser was in some sense perceived as a torch-bearer for the 'fourth man' in this nexus of Tridentine musicians, Johannes Lupi, compiler and owner of the two earliest Trent Codices.

Lupi's will, the autograph document that provides the key to his identity as the compiler and principal scribe of Trent 87 and 92,

Proposing Padua, Pavia, Ferrara and Bologna as possibilities, he reports a negative find in the case of Bologna (see G. Knod, *Deutsche Studenten in Bologna (1289–1562)*, [Berlin], 1899). There is no matriculation record for Wisser at Padua either (see *Acta Graduum Academicorum Gymnasii Patavini, ab anno 1435 ad annum 1450*, ed. J. Brotto (Padua, 1970) and *Acta Graduum Academicorum Gymnasii Patavini, ab anno 1451 ad annum 1460*, ed. M. P. Ghezzi (Padua, 1990), *Fonti per la Storia Università di Padova*, 4 and 11). The possibility raised by Spilsted ('The Paleography and Repertory', p. 174, n. 9) that Wisser is the 'Johannes Organista de Monaco' who matriculated at the University of Vienna in 1454/55 (*Die Matrikel der Universität Wien . . .*, ed. Szaivert and Gall, i, p. 31, no. 47) cannot be ruled out, and it certainly acquires added interest in the light of the present proposal that work on Trent 90C may have been drawing to a close at around this time (the date of matriculation was 2 November 1454, not the summer semester of 1455 as given by Spilsted). While there is no reason why Wisser could not have travelled from Munich to Trent via Vienna (although this would leave unanswered the question of if and how he completed his degree), it should be pointed out that my own watermark searches of dated Viennese manuscripts of the 1450s have so far revealed no trace of any of the Trent 90/93 papers.

¹⁰⁵ Gozzi, *Il manoscritto Trento, Museo Provinciale d'Arte, cod. 1377 (Tr 90)* (above, n. 22), p. 11, n. 22, cites a payment of 13 March to 'Viser pro scriptura procuratorii'. Prior to this the latest known reference to Wisser is in a chapter document of 12 April 1497 (TAC, *Instrumenta Capitularia XIII*, fol. 135^v); cited in G. Boni, 'Origini e memorie della chiesa plebana di Tione', *Studi Trentini di Scienze Storiche*, 19 (1938) [part 3], p. 253).

¹⁰⁶ *Dictionnaire de droit canonique*, ed. R. Naz, 7 vols. (Paris, 1935–65), 'Ordnation Sacrée', vi, col. 1126.

¹⁰⁷ The document of 30 July 1455 citing Wisser as succentor (TAC, *Instrumenta Capitularia IX*, fol. 284^{r-v}) refers to him simply as 'Johannes Wissar', suggesting he had not yet been ordained a priest, whereas in the document of 3 March 1458 (*ibid.*, fol. 333^{r-v}), in which he is first cited as 'magister scholarium', and in all subsequent archival references, his name is accompanied by the title 'dominus'. As master of a church school he would have needed to be ordained.

was drawn up before 30 July 1455; it seems he had fallen seriously ill (at one point he was even mistaken for dead) and was making the necessary provision.¹⁰⁸ The period during which he is most likely to have made his will – the first half of 1455 or the late months of 1454 – was also, as we have seen, the very period when Wiser is most likely to have completed his work on Trent 90C and travelled to Trent to take up his new appointment. While it may be merely fortuitous that he did so at the time of Lupi's apparent decline, it may equally be that something more than coincidence was at work here.

Wiser must have quickly become acquainted with Lupi once he arrived in Trent (assuming that they did not know each other previously). Whatever the state of Lupi's health in the middle of 1455, he evidently recovered well enough to be able to continue with at least some of his duties, which apparently included those of cathedral organist, until his death in 1467.¹⁰⁹ Organist and succentor must have worked together closely on a regular basis; when Wiser was installed as a cathedral altarist in 1459, it was Lupi who was named as collator of the benefice, a task normally entrusted to a friend or close acquaintance. There is even evidence to suggest that at some level they collaborated, since the two groups of manuscripts for which they were respectively responsible are scribally connected.¹¹⁰ Moreover it appears that Lupi must have altered his original bequest of his music books to the parish church of his native town of Bolzano, since there is no record of the bequest having been executed or of the codices having belonged to this church. An encounter between the two men – one ailing, his career as a musical scribe over, the other young, energetic and at the outset of his – could have provided precisely the impulse for such a change of mind, and prompted Lupi to bequeath his music books to his younger colleague. But it could also be that

¹⁰⁸ For full details of Lupi's biography, see Wright, 'On the Origins' (above, n. 9), pp. 255–60.

¹⁰⁹ The only references to Lupi's appointment as organist date from the early 1450s, but since it was customary for this post and that of altarist of San Maxentia in Trent Cathedral to be held concurrently, and since Lupi is known to have occupied the latter post from at least 1447 until his death, it seems reasonable to suppose that he remained organist for the rest of his life (Wright, 'On the Origins', p. 257). The likelihood that he did so is confirmed by the fact that no successor to him was appointed until 1467 (Gozzi and Curti, 'Musica e musicisti', p. 92).

¹¹⁰ See Wright, *The Related Parts* (above, n. 56), pp. 83–6.

Lupi's apparent demise itself prompted the search for a suitable figure to 'carry the torch'. Although there is no evidence that Lupi was active as a music copyist beyond the early 1440s, his lengthy tenure of the post of cathedral organist suggests that he remained a significant and influential musical figure in the locality. It could well be that a need was felt to replace his skills in some shape or form, and that the post of succentor was even created specifically in response to this need.¹¹¹

The idea that parts of Trent 90 and Trent 93 may be of Bavarian origin finds support in an important study by Nicole Schwindt, who claims to have discovered traces of Bavarian dialect in the two German songs located in Trent 93-2 (and copied by Wisser's assistant, scribe X, on the same paper that opens Trent 90), and has identified both these pieces and the first of the two German songs in Trent 90, entered just a few folios after the conclusion of Trent 90C, as works belonging to the south German/Bavarian tradition of song writing.¹¹² And the fact, noted by Schwindt, that the only concordances to any of these three works occur in sources with Bavarian/south German connections¹¹³ may not be without signif-

¹¹¹ The first known reference to the post of succentor in the cathedral chapter acts is that associated with Wisser. However, Lupi's will, which probably dates from just a few months earlier, contains a bequest to an unnamed holder of this office (Wright, 'On the Origins', p. 270, ll. 138–9). This could be a reference to Wisser, or to the occupant of a post in the parish of Caldaro, where Lupi was rector. One of the wealthiest and most important parishes of the diocese, Caldaro appears to have had its own school and *rector scholarum* (TAC, Capsa 26, no. 23–1).

¹¹² Schwindt, 'Die weltlichen deutschen Lieder' (above, n. 32), pp. 46–54. The two songs in Trent 93-2 are *Dein trew dy ist noch wol* (fol. 368^r) and *Der summer gar leiplichen* (fol. 369^v), and the first of the Trent 90 songs is *Mein hertz in staten trewen* (fol. 294^r). To these observations one might add the fact that the work that immediately follows Trent 90C, *Parle qui par la vudra*, with the contrafact 'Nesciens mater virgo virum' (fol. 282^r), is otherwise known only from a Bavarian source, albeit a much later one, namely the collection of songs and Gregorian chant assembled and copied by Johannes Greis, schoolmaster at the Benedictine Abbey of Benediktbeuern, in 1495 (MBS, Cgm 5023). The song appears in this source with the contrafact 'O salutaris refectio'. A thematic index of the polyphonic pieces is given in *Handschriften mit mehrstimmiger Musik des 14., 15. und 16. Jahrhunderts*, ed. K. von Fischer and M. Lütolf (Répertoire International des Sources Musicales, B IV 3–4; Munich and Duisberg, 1972), B IV 3, pp. 360–72. According to Lorenz Welker (private communication), the dialect features identified by Schwindt as Bavarian are also to be found in the Tyrol.

¹¹³ Schwindt, 'Die weltlichen deutschen Lieder', p. 46. *Der summer gar leiplichen* has concordances with the Lochamer Liederbuch (Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, MS 40613), which was copied in or near Nuremberg during the 1450s, and the Buxheim Orgelbuch (MBS, Cim. 352b), which, while unlikely as formerly believed to emanate from Munich, contains a repertoire with strong connections with this region. (On the origin of this manuscript see Lorenz Welker's forthcoming article 'Das

icance in the present context. While the number of mid-fifteenth-century polyphonic sources previously known or suspected as being of south Bavarian origin may be small, it is still larger than for other parts of central Europe and furnishes ample evidence of polyphonic practice in the region.¹¹⁴ The fact that it includes no vocal sources of sacred polyphony should not, however, stand in the way of acceptance of the idea that Trent 90 and at least part of Trent 93 may be Bavarian in origin. Had the Trent Codices not survived, what grounds could there ever have been for claiming the city of Trent as an important centre for polyphonic music? Or to put the question another way: 'Since nobody would have suspected the existence of the Trent collection before it was discovered, how many other centres of polyphonic musical practice around Europe might be forgotten today?'¹¹⁵

Strohm's theory of the origins of Wiser's collection, which is partly a reformulation of the old Austrian position, remains an attractive one. The idea that the initiation of what was to become the most important musical collection of the fifteenth century was the result of a 'comprehensive re-orientation' within the church at Trent seems distinctly plausible. And one can see the appeal of such an idea to a scholar who has engaged as fully as Strohm has done with issues concerning the relationship between central European musical sources and the institutions for which they were created (not to mention the extent to which he has furthered our understanding of these issues). But the absence of firmer supporting evidence makes Strohm's theory hard to sustain. So far there is no real basis for believing that Hinderbach's appointment as provost had the far-reaching effects that Strohm claims: there is no evidence that he was present in Trent either before or during his time as provost, or that at this point in his career he would

Buxheimer Orgelbuch: Provenienz und Überlieferungsgeschichtliche Einordnung', which the author kindly allowed me see in advance of its publication.) *Mein hertz in staten trewen* has a concordance with the Schedel Liederbuch (MBS, Cgm 810), which, though largely copied in Leipzig, has additions possibly made during 1462–3 when its compiler, Hartmann Schedel, was in Augsburg and at his home in Nuremberg.

¹¹⁴ Of the various fifteenth-century fragments brought to light by Martin Staehelin, at least two are of Bavarian origin. See M. Staehelin, 'Münchener Fragmente mit mehrstimmiger Musik des späten Mittelalters', in *Nachrichten der Akademie der Wissenschaften in Göttingen* I, Phil.-hist. Klasse, Jg. 1988, no. 6 (Göttingen, 1988), pp. 167–90: MBS, Clm 29775, nos. 2 and 6.

¹¹⁵ Strohm, 'European Cathedral Music', p. 15.

have been in a position to influence decisions there; any connection of him at this stage with either Wisser or Prenner remains entirely speculative.¹¹⁶ There is, however, evidence, as we have seen, to suggest that Wisser embarked on Trent 90 before Strohm's critical year of 1455, that he did so not in Trent but in southern Bavaria (probably Munich), and that it may have been more as a result of his own natural career aspirations than as a consequence of any grander designs that his great collection came into being.

University of Nottingham

¹¹⁶ Strohm, *The Rise of European Music*, p. 511, goes as far as to describe Wisser as 'his [that is, Hinderbach's] schoolmaster'. It is, of course, quite possible that Hinderbach, whom Wisser was to serve as a chaplain during the 1470s, was at some level influential on the later development of the collection.

APPENDIX 1

Trent Watermark Equivalents Organised by Type

Note: watermark types are listed in order of their first appearance in Trent 93 and Trent 90. Full details of each source are given in Appendix 2.

Cross (Trent 93-1) *1450–3* Figure 1

ITL, U. I 1350: Innsbruck, 21 January 1450: A
MBH, AR 395: [Landshut, L. Bavaria] 1453: B
MBH, KAA 228: Munich, 17 December 1450: A
MBH, KAA 228: Munich, 25 March or 15 August 1451: A
MBH, KU 27910: Straubing (L. Bavaria), 2 April 1452: B
MS, Kamm. 1/60: [Munich] 1451: A + B
TAS, APV, s.t., Capsa 27.l: Termeno (S. Tyrol) 10 January 1453: A

Bull's head 1 (Trent 93-1) *1450–1, 1454 [or 1452?]* Figure 2

ITL, U. I 3719: Innsbruck, 14 December 1450: A2
ITL, U. I 6223/5: Innsbruck, 10 December 1450: A2
ITL, U. I 6225/24: Innsbruck, 11 June 1451: A2
ITL, U. I 6484/1: Innsbruck, 22 November 1450: A1(?)
ITL, U. I 6484/3: Innsbruck, 20 December 1450: A2(?)
ITL, U. I 6484/4: Innsbruck, 20 December 1450: A2
ITL, U. II 350: Innsbruck, 19 July 1451: A2
MBH, KAA 1949: Starnberg (U. Bavaria), 4 July 1454 [or 1452?]: A2
(later state?)

Cross-on-mounts (Trent 93-1) *1450–3* Figure 3

ITL, U. I 6228/3: Bolzano (S. Tyrol), 19 September 1451: A1
ITL, U. I 6229/25: Innsbruck, 28 November 1451: A1
MBH, AR 395: [Landshut, L. Bavaria], 30 March 1453: A1
MBH, KAA 228: Kötzting (Oberpfalz, Bavaria), 24 September 1451: A1
MBH, KAA 1574: Regensburg (Oberpfalz, Bavaria), 27 June 1450, A2
MBS, Cgm 396: Bavaria 1452: A1 + A2
TAS, APV, s.t., Capsa misc. no. 9: (S. Tyrol/Trentino) 14 November 1451:
A2

Bull's head 2 (Trent 93-2, Trent 90) *1452, 1454, 1455* Figure 4

IU, Cod. 45: Stams (N. Tyrol), completed 14 June 1455: A² + B²
MBH, AR 270: Ingolstadt (U. Bavaria) 1452: A¹ + B¹
MBH, KAA 1: Rauhenlechsberg (U. Bavaria), 17 October 1454: A¹

Bull's head 3 (Trent 93-2, Trent 90) 1454 Figure 5

ITL, U. I 3139: [N. Tyrol], mid-fifteenth century: A

MBS, Cgm 379: Augsburg (Schwabia) 1454: A + B

Tower (Trent 90) 1453-4 Figure 6

MBH, AR 395: [Landshut, L. Bavaria] 1453: Aa² + Ba

MBH, KU 9753: [Munich?], 6 July 1454: Aa

MBH, KU 27592: [Munich?], 23 October 1454: Aa

MBH, KU 35960: [?Schaunberg, U. Austria], 17 April 1454: Aa

MBS, Cgm 351: [Tegernsee, U. Bavaria], btw. 1440 and 1460: Ab + Ba/b

MBS, Cgm 519: Augsburg (Schwabia), completed 26 December 1454: Ab + Ba + Bb

MBS, Cgm 549: Schäftlarn (U. Bavaria) 1454: Ac + Ba

MBS, Cgm 572: Augsburg? (Schwabia), btw. 1440 and 1460: Ab + Bb

MBS, Cgm 1114: Augsburg (Schwabia), 4 October 1453 – 5 January 1454: Ab + Ba

Crayfish (Trent 90) 1453-5 Figures 7 and 8

ITL, Hs. 175: Liechtenberg (N. Tyrol) 1453: B1¹

ITL, P 1348/2: Bolzano (S. Tyrol), 18 April 1453: B1¹

ITL, U. II 8396: [Imst, N. Tyrol], 21 July 1455: B1⁴

MBH, AR 270: Ingolstadt (U. Bavaria) 1453: B2¹

MBH, AR 395: [Landshut, L. Bavaria] 1453: B2¹

MBH, AR 396: [Landshut, L. Bavaria] 1454: B1³ + B2³ (+ B2²)

MBH, KU 9750: [in or near Landsberg, U. Bavaria], 12 June 1454: B2⁵

MBH, KU 15064: [Riedenburg, L. Bavaria], 17 September 1455: B1⁴

MBH, KU 18489: [Munich?], 19 September 1454: B1²

MBH, KU 29241: [U. Bavaria], 10 April 1455: B2⁵

MBS, Cgm 351: [Tegernsee, U. Bavaria], btw. 1440 and 1460: B1¹

MBS, Cgm 605: Munich, btw. 30 September and December 1454: B1⁴ + B2⁴

MBS, Cgm 641: Polling? (U. Bavaria), btw. 1440 and 1460: B1⁴ + B2⁴

MBS, Cgm 667: Tegernsee? (U. Bavaria), completed 15 March 1455: B1³ + B2³

MBS, Cgm 688: Bavaria, second half of fifteenth century: B1⁴ + B2⁴

MBS, Cgm 778: Tegernsee (U. Bavaria), early 1454: B1² + B2¹

MBS, Cgm 781: [Tegernsee, U. Bavaria], 1455: B1³ + B2³

MBS, Cgm 2153: Bavaria [Munich?], completed 30 October 1454: B1³ + B2³

MS, Kamm. 1/63: [Munich] 1454: B1¹

MS, Kamm. 1/64: [Munich] 1455: B1⁴ + B2⁵

The Genesis of Johannes Wiser's Collection

Bull's head 4 (Trent 90) *1454–5* Figures 9 and 10
ITL, P 1080: [Bressanone region, S. Tyrol], 9 April 1455: B1a
MBS, Cgm 605: Munich btw. *c.* September and December 1454: B1a + B2b + others
MBS, Cgm 775: Bavaria: Munich? 1454: B2b?
MBS, Cgm 2153: Bavaria [Munich?] 1454: B1b + B1c + B2a + B2b + B2c

Bull's head 5 (Trent 90) *1454, 1455?, 1456, (1457)* Figure 11
ITL, U. II 1679: [Völs, N. Tyrol], 17 March 1456: B
MBH, AR 270: Ingolstadt (U. Bavaria) 1454: A + B
MBH, AR 313: [Ingolstadt, U. Bavaria] 1454/(?55): A + B
MBS, Cgm 351: [Tegernsee, U. Bavaria], btw. 1440 and 1460: A + B
MBS, Cgm 379: Augsburg (Schwabia) 1454: A? + B?
MBS, Cgm 521: Munich? 1456: A + B
MBS, Cgm 744: Rebdorf (nr. Eichstätt, Mittelfranken, Bavaria), btw. 1440 and 1460: A variant + B + B variant
MBS, Cgm 795: Rebdorf (nr. Eichstätt, Mittelfranken, Bavaria), btw. 1440 and 1460: A + B
TAS, APV, s.l. 26.28: Trent, 5 February 1454: A (variant state)

Bull's head 6 (Trent 90) *1454–6* Figure 12
ITL, Hs. 175: Liechtenberg (N. Tyrol) 1454: A + B¹
ITL, Urbar 166/1: Schnals (S. Tyrol) 1455: B¹
ITL, U. I 5982/2: [Innsbruck?], 8 April 1456 or shortly after: A
ITL, U. I 5984/2: Innsbruck, 19 April 1456: B¹
ITL, U. I 5985/4: Innsbruck, 29 April 1456: A
ITL, U. I 8518: (S. Tyrol/Trentino), 17 June 1456 or after: B²
ITL, U. I 8522: (S. Tyrol/Trentino), 30 June 1456 or after: B²
IU, Cod. 45: Stams (N. Tyrol) 1455: A + B¹
MBS, Cgm 744: Rebdorf (nr. Eichstätt, Mittelfranken, Bavaria), btw. 1440 and 1460: A + B¹

Crescents (Trent 90, Trent 88) *1456* Figure 13
TAS, APV, s.l. Capsa 22.6: Trent, mid fifteenth century: A + B
TAS, APV, s.l. Capsa 26.28: Trent/Volsana? (Trentino), 25 May 1456: A
TAS, APV, s.t. Capsa 53.xx: Castel Telvana (Trentino), 28 October 1456: A

Archival Documents and Manuscript Books Containing Paper
Related to that of Trent 93 and Trent 90

This appendix lists all newly discovered sources of the papers used in Trent 93 and Trent 90.¹ In the vast majority of cases the watermarks contained in these sources are identical to those of the musical codices, but in a small number of cases they are so nearly identical as to suggest a common origin. In each case only the most pertinent information about a source is given. For manuscript books, information about such matters as provenance, date, structure and scribes has been extrapolated from published catalogues. An indication is always given of whether a mark should be viewed from the recto or the verso of a leaf.

Innsbruck: Tiroler Landesarchiv (ITL)

Handschriften (Hss.)

ITL, Hs. 175. Comprises seven oblong-format account books from Liechtenberg (N. Tyrol): one, apparently of 1453,² contains Crayfish B1¹; another, of 1454, contains BH6-A and BH6-B¹.

Parteibriefe (P)

ITL, P 1080. Legal document (with seal) of 9 April 1455, [Bressanone region, S. Tyrol]; single leaf containing BH4-B1a (verso). See Figure 9b.

ITL, P 1348, [no. 2]. *Mandatum* (concept, without seal) of 18 April 1453, Bolzano (S. Tyrol); single leaf containing Crayfish B1¹ (recto). See Figure 7b.

Urbare

ITL, Urbar 166/1. 1455, Schnals (S. Tyrol); 6 fols., unnumbered; uses BH6-B¹.

Urkundenreihe I (U. I)

ITL, U. I 1350. Legal document (with seal) of 21 January 1450, Innsbruck; single leaf containing Cross A (recto).

ITL, U. I 3139. Mid-fifteenth-century copy of a letter dated 15 January 1450, Innsbruck; bifolium containing BH3-A (fol. 1^v).

¹ A small number of these documents were subsequently found among examples of the Piccard Archive and are listed below in Appendix 3.

² Headed 'Raittung von liechtenberg von dem lij Jarnucz', this book appears to have been copied in 1453 (fol. 6^v).

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ITL, U. I 3719. Receipt (with seal) of 14 December 1450, Innsbruck; single leaf containing incomplete BH1-A2 (verso). See Figure 2c.

ITL, U. I 5982, no. 2. Contemporary copy of a *mandatum* dated 8 April 1456, Innsbruck; unfoliated bifolium containing BH6-A ([fol. 2^v]).³

ITL, U. I 5984, no. 2. Letter (with seal) of 19 April 1456, Innsbruck; single leaf containing BH6-B¹ (verso). See Figure 12d.

ITL, U. I 5985, no. 4. Letter (with seal) of 29 April 1456, Innsbruck; single leaf containing BH6-A (recto). See Figure 12b.

ITL, U. I 6223, no. 5. Receipt (with seal) of 10 December 1450, Innsbruck; single leaf containing incomplete BH1-A2 (recto).

ITL, U. I 6225, no. 24. Receipt (with seal) of 11 June 1451, Innsbruck; single leaf containing BH1-A2, partly obscured by seal (verso); document is on same paper and appears to be in same hand as ITL, U. II 350, written the following month (see below).

ITL, U. I 6228, no. 3. Receipt (with seal) of 19 September 1451, Bolzano (S. Tyrol); single leaf containing incomplete Cross-on-mounts A1 (verso).

ITL, U. I 6229, no. 25. Receipt (with seal) of 28 November 1451, Innsbruck; single leaf containing incomplete and partly obscured version of Cross-on-mounts A1 (verso).

ITL, U. I 6484, no. 1. Receipt (with seal) of 22 November 1450, Innsbruck; single leaf containing remains of what appears to be BH1-A1 (recto).

ITL, U. I 6484, no. 3. Receipt (with seal) of 20 December 1450, Innsbruck; single leaf containing remains of what appears to be BH1-A2 (verso).

ITL, U. I 6484, no. 4. Receipt (with seal) of 20 December 1450, Innsbruck; single leaf containing BH1-A2 (recto).

ITL, U. I 8518. Contemporary copy (S. Tyrol/Trentino) of contract dated 17 June 1456, [Trentino]; bifolium containing BH6-B² (fol. 2^v).

ITL, U. I 8522. Contemporary copy (S. Tyrol/Trentino) of a letter dated 30 June 1456, Trent; bifolium containing BH6-B² (fol. 2^v).

Urkundenreihe II (U. II)

ITL, U. II 350. Letter (with seal) of 19 July 1451, Innsbruck; single leaf containing BH1-A2 (recto); document is on same paper and appears to be in same hand as U. I 6225/24, written the previous month (see above).

ITL, U. II 1679. Contract of 17 March 1456, [Völs, N. Tyrol]; single leaf containing BH5-B (verso).

ITL, U. II 8396. Legal document (with seal) of 21 July 1455, [Imst, N. Tyrol]; single leaf containing Crayfish B1⁴ (verso).

³ The copy bears the date 'Anno lvj' in a fifteenth-century hand.

Innsbruck: Universitätsbibliothek (IU)

IU, Cod. 45. Hugo de Prato Florido. 326 fols. (folio size); Stams (N. Tyrol), completed 14 June 1455 (fol. 323^{va}). Structure: VII ¹³⁽¹⁴⁾ + 26 VI ³²⁴⁽³²⁶⁾; single scribe.

The last two papers used in the manuscript are BH2 and BH6 respectively. BH2 is used in fols. 224–5 and 233–66, but in distinctly later states than those found in any of the other known sources of this paper (A²: 263^v, B²: 251^r), and BH6 is used for the remainder of the manuscript (fols. 267–325; A: 324^r, B¹: 318^v).

Munich: Bayerisches Hauptstaatsarchiv (MBH)

Herzogtum Bayern: Ämterrechnungen bis 1506 (AR)

MBH, AR 270. Ingolstadt (U. Bavaria) 1447–55. 462 fols., arranged in eleven gatherings, only some of which are relevant. Each gathering covers one or two years of payments, sometimes with the later year entered first, suggesting that it was in this year rather than the earlier one that the gathering in question was inscribed. The relevant gatherings are as follows:

Gatherings VI (196–242) and VII (243–8): entries from 1451 and 1452, but not in sequence; almost certainly inscribed 1452; BH2 paper used throughout (e.g. A¹: 226^v, B¹: 217^r, with possible variant states). See Figures 4b and 4d.

Gathering VIII (249–302):⁴ apparently copied in 1453, with most entries dated that year, alongside retrospective payments for 1452; has an insert ([262]/282a) dated ‘1453’ containing the remains of Crayfish B2¹ (282a^r, clearly in same hand as surrounding material). See Figure 8a.

Gathering X (351–406): apparently copied in 1454, most entries dating from that year, alongside retrospective payments for 1453; uses BH5 (e.g. A: 382^v, B: 406^v) in all but two sheets.

MBH, AR 313. [Ingolstadt, U. Bavaria] 1454 (1454/?55). ‘1454 Rechnung im Oberland’ on front cover. Eleven folio-size leaves folded vertically and foliated 1–22. Most entries dated 1454, but a few later additions dated 1455 (fols. 15, 16, 19). All but one of the watermarked leaves contain BH5 (A: 1^r, 8^v, 19^r; B: 9^r). See Figures 11b and 11d.

⁴ Strictly speaking this comprises three gatherings, one of which (249–57 and their conjugate folios, 294–302) encloses two others (258–85 and 286–93).

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MBH, AR 395. [Landshut, L. Bavaria] 1453. On front cover: 'Aller Ambtleut Rechnungen meins genadigen herrn herzog ludwigs etc lannde Indem Ranntmaister ambt zu lannczhuet Bey Fridreichen Tobelhaym Ranntmaister Anno Quinquagesimo Tercio etc'. 132 fols. arranged in two gatherings, I (4–62) and II (63–132), which are both preceded by and include a number of inserts, most of which are loose and unbound. All dates contained in the body of the book give the year 1453, although a number of the inserts, the nature of whose relationship to the book is often unclear, bear a date of 1454 (see fols. 3, 32, 46, 61, 89, 114, 115). Relevant watermarks are found in three of these inserts:

fol. 2: receipt (with seal) dated 9 March⁵ 1453; contains Cross-on-mounts A1 (recto). See Figure 3b.

fol. 44: dated 1453 and in same hand as surrounding contents; contains Cross B (recto).

fol. 122: Crayfish B2¹ (recto; n.d., but clearly contemporary with surrounding material, all of which dates from 1453).

Gathering II has variety of marks including the Tower, found in two adjacent sheets: fols. 78/116: 78^r (Ba) and 79/112: 112^v (Aa?). See Figure 6e.

MBH, AR 396. [Landshut, L. Bavaria] 1454. On the cover: 'Aller Ambtlaute Rechnungmems genadign Herrn Herzog Ludwigs etc lannde Inndem Ranntmaisterambte zu landzhuet bey Fridrichen Tobelhaimer Ranntmaister vom liiiij Jare'. 102 fols. arranged in two gatherings, I (1–48) and II (49–102); Crayfish paper (B1³ and B2³) is used in all but two sheets of gathering I, and in just one sheet (49^r: B2²) of gathering II. See Figures 8b and 8d.

Kurbayern: Äußeres Archiv (KAA)

MBH, KAA 1, fol. 20. Concept of 17 October 1454, Rauhenlechsberg (nr. Apfeldorf, U. Bavaria); contains BH2-A¹ (recto).

MBH, KAA 228, fol. 175. Concept of 17 December 1450, Munich; contains Cross A (verso).

MBH, KAA 228, fols. 187–8. Concept dated 26 March or 20 August⁶ 1451, Munich; contains Cross A (187^r).

MBH, KAA 228, fol. 239. Letter (with seal) dated 18 September 1451, Kötzing (nr. Cham, Oberpfalz, Bavaria); contains lower portion of Cross-on-mounts A1 (recto).

⁵ 'Freitag vor dem Sonntag als mon singet letare in der heiligen vasten', here taken to mean the Friday before Laetare Sunday (11 March).

⁶ The date, 'freytag nach unsere liebenfrauen tag', could refer to either the Annunciation (25 March) or the Assumption (15 August).

MBH, KAA 1574, fol. 68. Report of 27 June 1450, Regensburg (Oberpfalz, Bavaria); contains Cross-on-mounts A2 (recto).

MBH, KAA 1949, fol. 40. Letter (with seal) of 4 July 1454 [1452?],⁷ Starnberg (U. Bavaria); contains BH1-A2 (recto; later state?).

Kurbayern: Urkunden (KU)

MBH, KU 9750. Receipt (with seal) of 12 June 1454, [in or near Landsberg, U. Bavaria]; single leaf containing incomplete Crayfish B2⁵ (verso).

MBH, KU 9753. Receipt (with seal) of 5 July 1454, [Munich?]; single leaf containing incomplete Tower Aa (verso). See Figure 6b.

MBH, KU 15064. Legal document (with seal) of 17 September 1455, [Riedenburg, L. Bavaria]; single leaf containing Crayfish B1⁴, partly obscured (recto).

MBH, KU 18489. Receipt (with seal) of 19 September 1454, [Munich?]; single leaf containing incomplete Crayfish B1², partly obscured (recto). See Figure 7d.

MBH, KU 27592. Receipt (with seal) of 23 October 1454, [Munich?]; single leaf containing Tower Aa (recto).

MBH, KU 27910. Receipt (with seal) of 2 April 1452, Straubing (L. Bavaria); single leaf containing Cross B, partly obscured (verso).

MBH, KU 29241. Receipt (with seal) of 10 April 1455, [U. Bavaria]; single leaf containing incomplete Crayfish B2⁵ (verso).

MBH, KU 35960. Letter (with seal) of 17 April 1454, [?Schaunberg, U. Austria]; single leaf containing Tower Aa (verso).

Munich: Bayerische Staatsbibliothek (MBS)

MBS, Cgm 351. Heinrich von Langenstein • Evangelistar • Sprüche • Gebete • Meisterlieder. III + 278 fols. (quarto size); [Tegernsee], Bavaria; Part I: btw. 1440 and 1460; Part II: btw. 1420 and 1440.

Two independent parts bound together at the end of the fifteenth century, of which only Part I (2 + 173 + 1) is relevant. New foliation.

Structure of Part I: (VI-2)¹⁰ + 6 VI⁸² + IV⁹⁰ + 4 VI¹³⁸ + II¹⁴² + VI¹⁵⁴ + V¹⁶⁴ + (V-I)¹⁷³.

Nine sections: 1. 1^r–87^v; 2. 87^v–88^r; 3. 91^r–142^v; 4. 143^r–153^v; 5. 153^v–154^r; 6. 155^r–156^r; 7. 156^r–169^r; 8. 169^v–172^v; 9. 173^{r-v}.

Tower paper is used at the end of section 1 (for most of the gather-

⁷ Dated 'Sand Ulrichs tag Anno etc. liiiij^{do}'. The use of the incorrect superscript form ('do' rather than 'to') may indicate that the scribe meant to date this document 1452 rather than 1454.

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ing comprising fols. 83–90) and in section 6 and the opening of section 7 (together occupying one gathering comprising fols. 155–64). *Ab* (83^r/90^v) is combined with a mark that may be either *Ba* or *Bb* (84^r/89^v, 156^r/163^v, 158^r/161^v): because this is a quarto-size volume and part of a mark is always buried in the 'gutter', it is difficult to be completely certain.

BH5 paper is used alongside Tower paper in section 1 (one sheet: 86/87), and throughout much or most of the section comprising fols. 91–142 (A: 119^r/122^v, B: 118^v/123^r). A pair of marks closely related to BH5 is found throughout fols. 1–58 and 165–73, and then interspersed with the BH5 pair in fols. 91–142.

Sheets of Crayfish B1¹ paper are used for sections 4 and 5, contained in a single gathering comprising fols. 143–54 (144^r/153^v, 146^r/151^v, 148^r/149^v).

MBS, Cgm 379. Augsburg *Liederbuch*. 225 fols. (quarto-size); Augsburg (Schwabia), c.1454, with later additions. At the end of one of the book's numerous sections (fol. 147^v) is a completion date of 11 July 1454; at the head of fol. 166^r is the date '1454' in the same hand as the contents.

Structure: (VI-1)¹¹ + 8 VI¹⁰⁷ + V¹¹⁷ + 9 VI²²⁶.

New foliation 1–226, skipping from 221 to 223.

BH3, one of three papers used, is employed throughout gatherings II–XI (12–141; A: 14^r/21^v; B: 110^r/115^v), each of which is in the hand of the main scribe of the manuscript. For most of the rest of the manuscript a paper is used containing marks almost identical to BH5 (A: 170^v/173^r, B: 146^r/149^v); these represent either different states of the Trent marks or sibling marks. See Figures 5b and 5d.

MBS, Cgm 396. *Belial* • Ps.-Bernhard de Clairvaux. 110 fols. (quarto size); Bavaria 1452.

Structure: 2 VI²⁴ + (VI-2)³⁵ + VI⁴⁷ + (VI-1)⁵⁹ + 2 VI⁸³ + VII⁹⁷ + (VI-2)¹⁰⁷ + III¹¹³.

New foliation 1–113, skipping from 4 to 6, 32 to 34, 56 to 58; single hand throughout.

Cross-on-mounts paper used in fols. 84–107, combining A1 (e.g. 96^r/85^v) and A2 (e.g. 98^r/107^v).

MBS, Cgm 519. 'Gemahelschaft Christi' u.a. I + 276 fols. (folio size); Augsburg (Schwabia) 1454 (completed 26 December); apparently written for the monastery of St Ulrich and St Afra.

Structure: (VI + 1)¹² + 22 VI²⁷⁵; single hand throughout.

New foliation 1–275; does not include blank folio between 178 and 179.

Tower paper is used in a single sheet (159^v/164^r) and four consecutive gatherings (168–215), all of which occur in the first and longest section of the manuscript. *Ab* (e.g. 171^v) is combined with *Ba* (e.g. 183^r) and *Bb* (e.g. 173^v).

The presence at front and rear of the volume of parchment fragments thought to belong to the same manuscript that serviced MBS, Cgm 572 (see below) strengthens the possibility that the two manuscripts share the same provenance and approximate date.

MBS, Cgm 521. Historienbibel • ‘König von Reussen’ • ‘Der Heiligen Leben’. I + 302 fols. (folio-size); Bavaria (Munich²); completed 2 February 1457 (fol. 297^v).

Structure: 12 VI¹⁴³ + (VI-1)^{149c} + 10 VI²⁶⁹ + 2 VII²⁹⁷; single hand throughout.

New foliation 1–297, does not include five blank folios between 149 and 150.

Four sections: 1. 1^{ra}–146^{vb}; 2. 146^{vb}–149^{va}; 3. 149^{va}–^{vb}; 4. 150^{va}–297^{vb}.

BH5 is used throughout fols. 36–143, and in the gathering comprising fols. 144–149^e (A: 47^r; B: 149^d^v) alongside a paper marked with a decorated tower.

Given the completion date of the manuscript, and the location of the BH5 paper in the first half of the book, it is clear that this paper cannot have been used any later than 1456.

MBS, Cgm 549. Oberbayerisches Landrecht • Wasserburger Stadtrecht. 88 fols. (folio size); Bavaria: Schäftlarn (at least section 1) 1454.

Structure: 6 VI⁷² + (VI-2)⁸² + (VI-8)⁸⁶ + (VI-10)⁸⁸.

At the end of the first of the three sections of the manuscript (55^r) is a deleted colophon with the date 1 April 1454 and the name ‘Scheftlarn’ just legible.

Gatherings I and II (1–24) use Tower paper; the marks are difficult to read because of the dense script: the identity of Tower *Ba* (mark and mould) is clear (e.g. 19^v), whereas Tower A (3^r) appears to be almost but not quite identical to both *Aa* and *Ab* – hence its designation ‘*Ac*’.

MBS, Cgm 572. Herzog Ernst, lat. und dt. Prosa. 72 fols. (folio-size); Schwabia: Augsburg², btw. 1440 and 1460.

Structure: 6 VI⁷¹.

Tower paper is used in gathering II (13–24), combining *Ab* (e.g. 23^r) and *Bb* (e.g. 24^r); the ensuing change in paper is accompanied by a change of hand. See Figures 6c and 6f.

The presence at front and rear of the volume of parchment fragments

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thought to belong to the same manuscript that serviced MBS, Cgm 519 (see above) strengthens the possibility that the two manuscripts share the same provenance and approximate date.

MBS, Cgm 605. Otto von Passau • Tauler • Johann von Neumarkt u Martin von Amberg. 212 fols. (folio-size); Munich 1454.

Structure: 17 VI²⁰³ + (VI-4)²¹¹.

Old foliation *I-CXXX*, jumps from 76 to 78, duplicates 84; new continuation 131–211, duplicating 198.

Five sections: 1. 1^{ra}–132^{vb}; 2. 132^{vb}–138^{ra}; 3. 138^{va}–207^{vb}; 4. 207^{vb}–208^{rb}; 5. 208^{rb}–209^{vb}.

Entire manuscript copied by a single scribe (Georg Werder), who indicates that the first section had been completed by 30 September 1454 (132^v), and that the remainder of the manuscript was completed the same year (209^v).

Crayfish paper is used in fols. 174–209, with a combination of B1⁴ (e.g. 185^v) and B2⁴ (e.g. 175^v).

BH4 is used in fols. 91–170 and 210 as follows:

B2b: 91^v, 99^v, 101^r, 103^v, 108^r, 117^v, 132^v, 139^r, 142^r, 143^r, 151^v, 154^r, 156^r, 164^r, 165^r, 166^v, 169^r, 210^v. See Figure 10c.

B1a (= Trent 90): 116^v, 119^v

B1 variant: 100^r, 115^r, 136^v, 137^v, 146^v, 148^v, 157^v, 158^v

B variant 1: 98^v, 118^v, 127^r, 129^r, 131^v, 170^r

B variant 2: 128^v, 130^r.

All the Crayfish paper and most of the BH4 paper must have been inscribed between 30 September and the end of December 1454.

MBS, Cgm 641. Vocabularius Ex quo u.a. • Alanus ab Insulis: Distinctiones. II + 313 fols. (folio size); Bavaria: Polling?; Part I. btw. 1440 and 1460, Part II btw. 1400 and 1450. Two different parts bound together between 1440 and 1460; only Part I (I–183) is relevant.

Structure of Part I: (VII-2)¹⁴ + 8 VI¹¹⁰ + V¹²⁰ + 5 VI¹⁷⁹ + (V-6)¹⁸³.

New foliation 1–313, duplicates 166.

Crayfish paper used throughout Part I, combining B1⁴ (e.g. 120^r) with B2⁴ (e.g. 101^r); a sub-state of this mark is found in fol. 116^v). See Figure 8e.

MBS, Cgm 667. Vocabularius Ex quo. 156 fols. (quarto-size); Tegernsee? (U. Bavaria) 1455. Explicit (156^v) indicates that the volume was completed 15 March 1455.⁸

⁸ The entry for this manuscript in the published catalogue gives the year as 1454. In response to my querying of this interpretation Dr Dietrich Kudorfer of the Bayerisches Staatsbibliothek kindly confirmed 1455 as the correct reading.

Structure: 13 VI¹⁵⁶.

Uses a variety of papers, including the Crayfish, which is found in the final gathering (XIII: 145–56) but with the marks split between conjoint folios. States B1³ (147^r/154^v and 149^v/152^r) and B2³ (145^r/156^v) occur together here.

MBS, Cgm 688. Antonius Rampegolus • Glossare • Gesta Romanorum • Evangelistar • Antonius Azaro de Parma • u.a. I + 251 fols. (quarto size); Bavaria; seven different parts, of which only Part V (192–213a), dated second half of fifteenth century, is relevant.

Structure of Part V: VI^{198e} + V²⁰⁸ + (V-4)^{213a}.

Factitious manuscript. New foliation 1–243; omits one folio between 66 and 67, counts 76 twice, does not include empty folios (five between 198 and 199, one between 213 and 214).

Part V comprises three gatherings (192–198^e, 199–208, 209–213^a), the first and third of which use Crayfish paper, combining B1⁴ (193^r/[198^d], 197^v/198^r) with B2⁴ (195^v/[198^b], 211^v/213^a^v: the lower part of the mark is obscured by script).⁹

MBS, Cgm 744. Gebete, z. T. Umkreis Johann von Neumarkt • Lektionar • Katechetische Texte • Johannes von Indersdorf • Heinrich von Langenstein. 262 fols. (quarto size); Bavaria: Rebdorf (nr. Eichstätt, Mittelfranken); Parts I, III 1480–1500, Part II btw. 1440 and 1460.

The manuscript was bound together from three different sections. The new foliation skips from 111 to 113, omits one folio between 159 and 160 and does not include empty folios (one between 94 and 95, three between 104 and 105).

Only Part II (105–64) is relevant; structure: 5 VI.

BH5 is used in the first two gatherings of Part II (105–17 and 118–29; B: 106^v/116^r, 109^v/113^r; B variant: 108^v/114^r; A variant: 121^v/126^r).

BH6 is used in the third gathering (130–41; A: 130^v/141^r, 133^v/138^r; B1¹: 134^v/137^r). A generically related variant of the Tower B mark occurs in 123^v/124^r.

MBS, Cgm 775. Johannes von Indersdorf • Spruchsammlung von Eigenbesitz • Büchlein von der geistlichen Gemahelschaft. I + 270 fols. (quarto size); Bavaria: Munich? 1454.

Structure: V⁹ + 14 VI^{171e} + (III+4)¹⁸¹ + 5 VI²⁴¹ + (VI-1)²⁵² + (VI+1)²⁶⁵.

New foliation 1–265, omitting five empty folios between 171 and 172.

⁹ Folios 209 and 213a are artificially conjoined, but since 213a contains the upper part of the mark and 209 the lower part it seems likely that they were originally conjugate leaves.

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Four sections: 1. 1^r–160^v; 2. 160^v–165^r; 3. 165^r–171^v; 4. 172^r–263^r.

Section 4 contains two leaves of BH4, one (173^r) with what appears to be the upper half of B2*b*, the other ([264*a*^v]) with what appears to be the lower half; each leaf lacks its conjugate, but it does not appear that they were ever conjoined with each other.

MBS, Cgm 778. *Mystische Texte, u. a. Meister Eckhart • Acht Traktate des 'Tegernseer Anonymus' • Johannes von Indersdorf • Albrecht Lesch • Cato*. 157 fols. (quarto-size); Bavaria, Part I Tegernsee, Parts I–II btw. 1440 and 1460, Part III *c.*1400.

Three different parts bound together, of which only Part I is relevant. New foliation 1–151, not including one empty folio between 99 and 100, another between 121 and 122, and two between 53 and 54 and 140 and 141.

Structure of Part I (1–121^a): I² + 2 VI²⁶ + VIII⁴² + 6 VI¹¹¹ + (VI-1)^{121a}; copied by six hands working contemporaneously.

Total of twenty-two sections, of which nos. 4 (40^v–52^r) and 5 (52^v–53^v), both in the same hand, coincide with the relevant paper.

A note on fol. 74^v ('han ich dir mit churzen Worten yn der benanten czedel geschriben und dir zwm newen jar geschikt anno Xpi 1454') suggests Part I was begun early in 1454.

Crayfish paper used for gathering comprising fols. 43–[53*a*] (B1²: 45^v/52^r; B2¹: 47^v/50^r, 48^r/49^v).

MBS, Cgm 781. *Buch von geistlicher Armut*. 194 fols. (quarto-size); Bavaria: [Tegernsee], 1455. On fol. 1^r, written in a script closely contemporary with the manuscript itself, is the following note: 'Das puchlein ist des closter Tegernsee'.

New foliation 1–193, not counting two empty folios between 1 and 2; skips from 166 to 168.

Structure: I^{1a} + 4 VI⁴⁸ + V⁵⁸ + 11 VI¹⁹¹ + (VI-10)¹⁹³; single hand.

Tegernsee shelf-mark on front and rear covers.

Crayfish found in ten consecutive gatherings (71–191); marks are buried in the binding and difficult to read, but appear to be B1³ (e.g. 169^r/178^v, but with possible evidence of a more advanced state in 173^v/174^r) and B2³ (e.g. 183^v/188^r).

MBS, Cgm 795. *Passionen • Heinrich von St. Gallen • Ps.-Bonaventura • Johannes Gerson • Drittordensregel • u.a.* 164 fols. (quarto size); Rebdorf (Mittelfranken, Bavaria), Part I end of fifteenth century or beginning of sixteenth; Part II btw. 1440 and 1460.

Two different parts bound together. New foliation 1–148, skipping blank folios, including two between 134 and 135.

Only Part II is relevant, comprising a single gathering (135–48) of BH5 (A: 140^r/143^v, B: 135^v/148^r, 137^r/146^v, 138^r/145^v) inscribed essentially by a single copyist.

MBS, Cgm 1114. Belial. 76 fols. (folio-size); Augsburg (Schwabia) 1453–4. New foliation 1–76.

Structure: 6 VI⁷² + (III-2)⁷⁶. Copied by one scribe, Georg Müllich, apparently btw. 4 October 1453 (3^{ra}) and 5 January 1454 (75^{va}).

Tower paper used in gatherings III–VII (25–76): *Ab* (e.g. 57^r) and *Ba* (e.g. 33^r = Trent 90).

MBS, Cgm 2153. Münchener Stadtrecht. III + 47 fols. (folio size), Bavaria [Munich?] 1454.

New folio numbering Ia, I–II, pagination 1–93.

Structure: (VI-1)¹⁸ + 3 VI⁹⁰ + 2. Copied by one scribe, Andreas Rackendorffer, and completed 30 October 1454; uses two papers, BH4 and Crayfish.

Crayfish combines B1³ (e.g. 93) and B2³ (e.g. p. 73). See Figures 7e and 8c.

With BH4 the situation is complex, since there is more than one version of each twin:

B1b: II^r, 4, 5, 32, 36. See Figure 9c.

B1c: 22

B2a: 24 (= Trent 90). See Figure 10b.

B2b: 2, 34, 18 (later state)

B2c: 20.

Munich: Stadtarchiv (MS)

MS, Kammerrechnungen 1/60. Munich, city accounts; [Munich] 1451; 108 fols.; Cross paper (A: e.g. 67^r, + B: e.g. 55^r) used throughout. See Figures 1b and 1d.

MS, Kammerrechnungen 1/63. Munich, city accounts; [Munich] 1454, with later additions from 1455; 121 fols.; volume includes a loose, inserted and unnumbered sheet of Crayfish B1¹ folded vertically; dated 1454, it apparently forms part of the main contents of the manuscript. See Figure 7c.

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MS, Kammerrechnungen 1/64. Munich, city accounts; [Munich] 1455, with later additions from 1456; I + 115 fols.; Crayfish paper (B1⁴ : e.g. 115^v, + B2⁵: e.g. 110^v) used throughout. See Figures 7f and 8f.

Trent: Archivio di Stato, Archivio Principesco-Vescovile (TAS, APV)

Sezione Latina (s.l.)

TAS, APV, s.l., Capsa 22.6. Investiture book, 342 fols; uses a large variety of papers; apparently copied in Trent; bears dates ranging from 1447 to 1464; it is clear from the relationship between the dates of individual gatherings and the papers on which they are inscribed that this must be wholly or partly a retrospective collection. One gathering, that comprising fols. 183–94, bears dates from 1447 to 1450, yet uses Crescents paper (A: 186^v; B: 187^v, 188^v, 192^r, 193^r, 194^r), a paper otherwise known only from two documents of 1456. See Figure 13d.

TAS, APV, s.l., Capsa 26.28. Eight loose, unnumbered sheets, each containing a single document. Among these are: (i) a receipt (with seal) of 5 February 1454, Trent, containing BH5-A (verso; variant state); (ii) a receipt (with seal) of 25 May 1456, Trent/Volsana? (Trentino), containing Crescents A (verso).

Sezione Tedesca (s.t.)

TAS, APV, s.t., Capsa 27.1. Receipt (with seal) of 10 January 1453, Termeno (= Tramin, S. Tyrol); contains Cross A (recto).

TAS, APV, s.t., Capsa 53.xx. Inventory (with seal) of Castel Telvana, nr. Trent (Trentino), dated 28 October 1456; unfoliated bifolium containing Crescents A ([fol. 1^r]). See Figure 13b.

TAS, APV, s.t., Capsa misc. no. 9. Letter (with seal) of 14 November 1451 (S. Tyrol/Trentino); large sheet containing Cross-on-mounts A2 (verso). See Figure 3d.

Trent 93 and Trent 90 Watermark Data

This appendix presents a synopsis of published and unpublished data for each watermark or pair of watermarks contained in Trent 93 and Trent 90, listing these in order of first appearance in the two musical codices. Each entry falls into two parts:

1. A description of the watermark type; the measurements of each mark to the nearest half-millimetre (height then width, these dimensions referring to the most distant opposite points unless otherwise indicated); the position of each mark's attendant chain-lines (referred to by counting from left to right); the archival equivalent cited by Saunders (with reference to Piccard) and the degree of actual identity involved.

2. A list of all examples in the Piccard Archive (see above, n. 41) that have been found to be either the same as ('=') or bearing a close similarity to ('≈') the Trent mark(s) in question. The details accompanying each drawing (archival details, place and date) are those provided by Piccard.

Key to abbreviations:

FA Nst	Neuenstein, Hohenlohe-Zentralarchiv
HStA	Hauptstaatsarchiv Stuttgart
HStAMÜ	Hauptstaatsarchiv Munich (= MBH)
mLF ^o	mould-side, left folio (designated 'A')
mRF ^o	mould-side, right folio (designated 'B')
SAA	Stadtarchiv Augsburg
SAF	Stadtarchiv Frankfurt am Main
SAGÖ	Stadtarchiv Göttingen
SA, MÜ	Stadtarchiv Munich (= MS)
SAN	Stadtarchiv Nördlingen
StAJ	Staatsarchiv Innsbruck (= ITL)
StAK	Stadtarchiv Königsberg

Cross (Trent 93-1) Figure 1

Small cross on a base.

A: 33.5 × 24.5 [3, 4]

B: 33.5 × 25 [3, 4]

Only one mark is reproduced in Saunders (Figure 17, p. 245 = A), which is equated (p. 203) with Piccard Findbuch XI, Kreuz II 463, where it is

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given in reverse. This is a good match, as is II 464 for Cross B. (For details of the actual source of these marks, see Appendix 2, s.v. 'MS, Kammerrechnungen 1/60'.)

Piccard Archive: Fach 12/12

FA Nst Li A 23: Meissen (nr. Dresden) 1451 \approx A

SA, MÜ Kammerrechnungen: Munich 1451 = A (see Appendix 2, s.v. MS)

SAN Missive: Munich 1450 \approx B

StAK O.B.A.: Neuhaus (= Gurjevsk, Russia), May 1451 \approx A in reverse

Bull's head 1 (Trent 93-1) Figure 2

Bull's head without eyes, surmounted by a five-petal flower on a single stem.

Both members of the pair appear in mLF^o and are therefore designated 'A1' and 'A2'.

A1: 118×34.5 [3, 4]

A2: 116×35.5 [3, 4]

Only one mark is reproduced in Saunders (Figure 18, p. 246 = A1), which is equated (p. 203) with Piccard Findbuch II, Ochsenkopf XII 67–8. XII 67 is only vaguely related, XII 68 much more strongly, lying especially close to A2.

Piccard Archive: Ochsenkopf Fach 6/1 XII 67–8

StAJ Lehnbücher, Liber fragm. II, 213: Innsbruck 1450 \approx A1 in reverse

StAJ Lehnbücher, Liber fragm. II, 222: Innsbruck 1450 \approx A2 in reverse

StAK O.B.A.: Elbing (= Elblag, Poland), January 1452 \approx A1

StAK O.B.A.: Königsberg (= Kaliningrad, Russia), August 1452 = A2

StAK O.B.A.: Thorn (Toruń, Poland), August 1451 \approx A2 in reverse

Cross-on-mounts (Trent 93-1) Figure 3

Three mounts surmounted by a cross on a two-line stem.

Both members of the pair appear in mLF^o and are therefore designated 'A1' and 'A2'.

A1: $105.5/106 \times 34$ [3, 4]

A2: $105.5/106 \times 30$ [3, 4]

Saunders's Figure 19 (p. 247 = A2) is equated (p. 203) with unpublished German marks from 1451 (Lauingen) and 1452 (Königsberg), which presumably correspond to examples listed below.

Piccard Archive: Fach 13/12

SAGÖ Kämmereregister: Göttingen (Lower Saxony) 1452/53 ≈ A1
SAN Missive: Lauingen (Schwabia, Bavaria) 1451 ≈ A2 in reverse
SAN Missive, Wemding (Schwabia, Bavaria) 1454 = A1
StAK O.B.A.: Königsberg (= Kaliningrad, Russia), March 1452 ≈ A2
StAK O.B.A.: Löbau (nr. Dresden), September 1452 ≈ A2
StAK O.B.A.: Marienburg (= Malbork, Poland), April 1455 = A1

Bull's head 2 (Trent 93-2, Trent 90) Figure 4

Bull's head with eyes, surmounted by a seven-petal flower on a single stem forking into a double stem.

A: 104 × 36 [3, 4]

B: 100 × 35 [3, 4]

Saunders's Figure 20 (p. 248 = A) is equated (p. 203) with Piccard Findbuch II, Ochsenkopf XIII 39 (Neustadt a.d. Aisch 1454; not 1453-4 as given in Saunders), to which it approximates quite closely. Saunders's Figure 23 (p. 251 = B in reverse) is equated (p. 203) with Findbuch II, Ochsenkopf XIII 37 (Ilgenburg 1455), to which it is quite close.

Piccard Archive: Fach 6/8 XIII 37-9

Seventeen examples ranging from 1451 to 1455, with most concentrated in the years 1452-4; unusually large number of examples, which are so closely related to each other as to suggest that they are representations of the same mark.

FA Nst GA 50, 7: Öhringen (Baden-Württemberg) 1454 = B

FA NSt GA 78 235 and 236: 1454 = B

FA Nst Li.A.23: Öhringen (Baden-Württemberg) 1454 = A, B in reverse

SA Ulm 1109: Nürnberg (Bavaria), March 1452 = ?A, ?B in reverse

StAJ Lehenbücher, Liber fragm II 256: Innsbruck 1452 = A in reverse

StAJ Sigmundiana. IX, 62: Brixen (= Bressanone, S. Tyrol) 1454 = A

StAJ Sigmundiana. VIII, 20: Innsbruck 1452 = B in reverse

StAK O.B.A.: Danzig (= Gdańsk), May 1455 = B in reverse

StAK O.B.A.: Elbing (= Elbląg, Poland), March 1455 = A

StAK O.B.A.: Königsberg (= Kaliningrad, Russia) 1452 = B in reverse

StAK O.B.A.: Marienburg (= Malbork, Poland), January 1453 = A

StAK O.B.A.: Rawe (? = Rawa Mazowiecka, Poland), April 1453 = B in reverse

Bull's head 3 (Trent 93-2, Trent 90) Figure 5

Bull's head with eyes, surmounted by a six-petal flower on a single stem.

A: 91×33 [4, 5]

B: 92.5×34 [2, 3]

Saunders's Figure 21 (p. 249 = B) is equated (p. 203) with Piccard Findbuch II, Ochsenkopf XII 255 (1452–6); the match, while the best among the published examples, is not particularly close. Saunders's Figure 22 (p. 250 = A, apparently in reverse) is equated (p. 203) with Piccard Findbuch II, Ochsenkopf XII 254 and 257, neither of which provides a convincing match. Piccard groups 254–7 together and gives a date range of 1452–6 for those variants whose dimensions correspond most closely to the BH3 marks.

Piccard Archive: Fach 6/3 XII 254–7

Twenty examples, drawn from a wide geographical and chronological spectrum (1451–71). Of these, just eight show some meaningful correspondence to the Trent marks, though none could be considered equivalent or near-equivalent. Those documents whose location is known come from Augsburg (one: 1451), Gdańsk (one: 1452), Nördlingen (three: 1452, 1453) and Öttingen (one: 1454).

Tower (Trent 90) Figure 6

Tower with three merlons. The Trent 90 twins are designated 'Aa' and 'Ba' in order to distinguish them from a closely related pair, 'Ab' and 'Bb'.

Aa: 54×32 [4, 5]

Ba: 53×31 [3, 4]

Saunders's Figure 24 (p. 252 = Ba in reverse) is convincingly equated (p. 203) with Piccard Findbuch III, Turm II 326 (Sterzing 1454, 1455; also given in reverse). Saunders's Figure 25 (p. 253 = Aa) is apparently equated (p. 203) with Piccard II 327 (Erding, Munich; 1457, 1458), which it only loosely resembles.

Piccard Archive: Fach 8/8 II 171–762

HStA WR 2551: 1453: ? = B in reverse

HStAMÜ Kurbaiern U28869: Erding (U. Bavaria) 1457; only loosely similar to A; bears the number 327

SAF r.s.i. 5048/7: [Munich] 1458; only loosely similar to Aa; bears the number 327

StAK O.B.A.: Sterzing (= Vipiteno, S. Tyrol), January 1455 = Ba in reverse; bears the number 326.

Crayfish (Trent 90) Figures 7 and 8

This mark is not a scorpion, as Saunders and others have suggested, but a Crayfish with a letter 'S' appended; the height and width here refer to the body of the fish. Both members of this pair, if viewed with the 'S' at the bottom, appear in mRF^o and are therefore designated 'B1' and 'B2'.
B1: 42 × 13.5 [3, 4] B2: 42 × 13.5 [3, 4]
Saunders's Figure 26 (p. 254 = B1 in reverse) is equated (p. 203) with an unpublished example (provenance unspecified) from the Archivio di Stato, Brescia (1453).¹⁰

Piccard Archive

While there is as yet no published Findbuch that covers this type of mark, there are a number of Crayfish marks in the archive, currently in the process of being sorted. Four of these belong to the same type as the Trent marks:

SA MÜ Kammerrechnungen, Munich 1455 = B1⁴ (in reverse) + B2⁵ (see Appendix 2, s.v. MS)

SAN U7488, 1: Nördlingen (Schwabia, Bavaria) 1455 ≈ B1⁴ in reverse

SAN Missive: Nördlingen (Schwabia, Bavaria) 1455 = B2⁵ in reverse

Bull's head 4 (Trent 90) Figures 9 and 10

Bull's head with eyes, surmounted by a five-petal flower on a single stem. Both members of the pair appear in mRF^o; they are designated 'B1a' and 'B2a' in order to distinguish them from closely related variants of the same type.

B1a: 116 × 33 [2, 3]

B2a: 121 × 31 [3, 4]

Saunders's Figure 27 (p. 255) is equated (p. 203) with Piccard Findbuch II, Ochsenkopf XII 177 (1454–6); while this certainly provides a close match for the mark shown as Figure 27 (B1a in reverse), it provides an even closer match for its twin mark (B2a in reverse), with which it is all but identical.

Piccard Archive, Fach 6/2 XII 177–8

Just five examples are given, only three of which may be considered related:

SAN Missive: Wimpfen (Baden-Württemberg) 1455 ≈ B2a in reverse

SAN Missive: Nördlingen (Schwabia, Bavaria) 1455: ≈ B1a

¹⁰ This could be the example reproduced in Mazzoldi, *Filigiane di cartiere bresciane* (see n. 58 above).

StAJ Sigmundiana XIII, 70: Brixen (= Bressanone, S. Tyrol) 1454 = B2a in reverse; this must be the example published as Piccard Findbuch II, Ochsenkopf XII 177.

Bull's head 5 (Trent 90) Figure 11

Bull's head with eyes, surmounted by a seven-petal flower on a two-line stem.

A: 110.5×34.5 [centred on chain-line 4]

B: 109×34.5 [centred on chain-line 3]

Saunders's Figure 28 (p. 256 = B in reverse) and Figure 29 (p. 257 = A) are equated (p. 203) with Piccard Findbuch II, Ochsenkopf XIII 246–7 (1452–9). 246 is a poor match for A or B, 247 a reasonably close match for A.

Piccard Archive: Fach 6/9: XIII 246–7

Nineteen examples in all, ranging from 1452 to 1462, most (and the most closely related) of them dating from 1454–5:

SAA Baumeisterrechnungen: Augsburg (Schwabia, Bavaria) 1454 = A + B

SAN Missive: Agram (= Zagreb) 1455 \approx B in reverse

SAN Missive: Pappenheim (Mittelfranken, Bavaria) 1459 \approx A

SAN Vollmachten: Eichstätt (Mittelfranken, Bavaria) 1455 \approx A

Bull's head 6 (Trent 90) Figure 12

Bull's head with eyes, surmounted by a six-petal flower on a single stem.

A: 94×34.5 [4, 5]

B: 95.5×33 [3, 4]

Saunders's Figure 30 (p. 258 = B in reverse) and Figure 31 (p. 259 = A) are equated (p. 203) with Piccard Findbuch II, Ochsenkopf XII 253 (1454–8), which approximates closely to A in reverse.

Piccard Archive: Fach 6/3 XII 253

SAN U7505,1: n.p., 1455: = A in reverse

StAJ MS 175: Liechtenberg (nr. Innsbruck) 1454 = A + B (see Appendix 2, s.v. ITL, Hs. 175)

StAJ U. I 5984: Innsbruck 19 April 1456: = B (see Appendix 2, s.v. ITL)

StAJ U. I 5982: Innsbruck 8 April 1456: = A (see Appendix 2, s.v. ITL)

There are several examples from Böblingen (one: 1456), Bressanone (two: 1458) and St Raphaelsberg (three: 1458) that provide loose approximations.

Crescents (Trent 90) Figure 13

Two crescents surmounted by a star on a single stem.

A: 33×28 [3, 4]

B: 33×29 [3, 4]

Apparently no published examples.

Saunders's Figure 32 (p. 260 = **B** in reverse) is equated (p. 203) with TAS, APV, s.l., Capsa 26.28 (see Appendix 2); this document in fact uses Crescents A rather than B.