

ANDREW PINNOCK

Boring for Britain: the Design, Development and Mass Deployment of Dolmetsch Recorders, 1920–1980

The modern recorder revival was well under way in England and in Germany by the start of the Second World War. Makers in both countries were aware of each other's work but, for reasons part patriotic and part self-promotional, tended to downplay the extent to which they were influenced by it.

Anglo-German cultural relations collapsed when war was declared, and after the war took time and effort to re-establish. During this hiatus period two very different national revival narratives evolved, each with its own larger-than-life father figure: Arnold Dolmetsch in England, Peter Harlan in Germany. Like the great men of remoter history, Dolmetsch and Harlan picked up credit for a range of achievements, some undoubtedly theirs, some for which more modest collaborators deserved a share, a few entirely mythical.

Readers who follow the progress of recorder research—easily done via Nicholas Lander's Recorder Home Page website¹—will already know that Dolmetsch-Harlan myths have been deflated and that the pioneer revivalists' roll of honour now includes dozens of names. Dolmetsch did not make 'the first modern recorder ... in 1919' or in any other year (others beat him to it); 'Harlan never made recorders himself'.² Peter Thalheimer has

shown that, in the 1930s, recorders were produced in a cluster of small- and medium-sized workshops centred on Markneukirchen in the Vogtland region of modern east-central Germany, bordering the modern Czech Republic. His 2010 book *Die Blockflöte in Deutschland 1920–1945: Instrumentenbau und Aspekte zur Spielpraxis* links different recorder models to their workshops of origin, and different makers with different dealers.³ German recorder brands—Bärenreiter, Herwiga, Sonora, etc., as well as Harlan—were in most cases owned by dealers rather than makers.

Harlan was in his twenties when he started to sell recorders, still fairly close in age and outlook to active members of the German 'Wandervogel' youth movement to which he himself had belonged. These were the customers to whom he turned his attention after trying and failing to develop a premium quality Baroque reproduction model: tens of thousands of them, looking for simple and affordable folk-like instruments that they could carry about and play recreationally.

Harlan had cracked a huge new market open but did not have it to himself for long. Because his business approach was readily imitable and instruments branded Harlan were fairly easy to copy, other dealers teamed up with other makers

¹ <<https://www.recorderhomepage.net/>>.

² <<https://www.recorderhomepage.net/>>, History, 'Modern period', accessed 1 January 2022.

³ P. Thalheimer, *Die Blockflöte in Deutschland 1920–1945: Instrumentenbau und Aspekte zur Spielpraxis* (Tutzing: Hans Schneider, 2010).

and piled in behind him. Competition kept German suppliers under constant pressure to innovate. Hence the large number of instruments illustrated in Thalheimer's book, and their wide design variety: different sizes, different pitches, different pitch relationships between recorders built to be played in consort; different bore profiles, different fingering patterns, different systems of keywork ranging from no system (no keys!) through to multi-key systems like those used on the Boehm flute and Boehm clarinet.

Cheap instruments suited beginners. At first almost everyone buying a recorder or having one bought for them was a beginner: customers unable to judge the quality of the product had to take it on trust. Looks mattered as much as playability; perhaps more. But over time, as beginners who took to the recorder kept practising, new cohorts of intermediate and advanced player emerged—turning hopefully to publishers for music that would match and further stretch their capabilities. Telemann in particular soared up the charts, doubly welcome as a Bach contemporary with special affinity for the recorder. Thalheimer lists over 70 new editions of late Baroque solo or small ensemble music featuring recorder(s), published in Germany between 1932 and 1942. Fully realized keyboard parts were included as a matter of course. These editions rendered instruments built to pitch standards unacknowledged by piano tuners increasingly obsolete, choked off general demand for instruments in keys other than C and F, and turned some of the design features of early revival instruments into definite design flaws. Through the 1930s, then, after an uncoordinated and in retrospect rather a confusing start, German makers worked to develop second-generation 'solo' or 'Baroque'-type recorders on which fast-moving music with a full two-octave-plus range could feasibly be played. They studied surviving eighteenth-century examples more attentively than had seemed worthwhile in the early days of the revival—and looked to the Dolmetsch workshop for a practical lead. I shall return to that aspect of the story later.

Dolmetsch approached the recorder from a

completely different angle. Born in 1858, 40 years before Harlan, he was by 1900 a widely respected authority on early music and its interpretation. He gave concerts and lecture-recitals with other members of his family, moving from salon to salon and from patron to patron, and when he did make instruments sold them mainly to people in the same well-heeled circle of supporters. He made his first recorder in 1919, to replace an original Bressan treble (alto) lost on one of his concert outings.

Dolmetsch had bought his Bressan at auction in 1905. When playing it in public prior to 1919 he stuck to simple 'Old English' tunes (the same few tunes recycled from programme to programme);⁴ but he knew what sorts of music it had been designed to negotiate and knew from contemporary fingering charts that it could produce all the notes required of a treble recorder in pieces like Brandenburg 2 and Brandenburg 4.

Here is Dolmetsch on 'lost [woodwind] instruments', in *The Interpretation of the Music of the XVIIth and XVIIIth Centuries*, 1915:

Only two ... have yet been revived: the recorder and the 18th century one-keyed flute ... At the first sound the recorder ingratiates itself into the hearer's affection. It is sweet, full, profound, yet clear, with just a touch of reediness, lest it should cloy ... The intonation of the recorder right through the chromatic compass of two octaves and one note is perfect, if you know how to manage the instrument; but its fingering is complicated, and requires study.⁵

Dolmetsch wrote *Interpretation* not to launch a revivalist movement but to keep second-generation members of a movement already under way on what he took to be the right practical-experimental track. Guinea pigs were needed, willing and able to persist with practice along lines suggested by old treatises until they could play convincingly in public. 'Willing and able' placed the burden of revival on non-professionals at this stage: no-one trying to make a regular living through music could afford to give so much time to unpaid work.⁶

⁴ A. Williams, 'The Dodo was Really a Phoenix: The Renaissance and Revival of the Recorder in England 1879–1941', PhD Thesis, University of Melbourne, 2005, p.77.

⁵ A. Dolmetsch, *The Interpretation of the Music of the XVIIth and XVIIIth Centuries* (London: Novello, 1915), p.457.

⁶ Dolmetsch knew 'a flautist' who had studied Jacques Hotteterre's 1707 *Principes* 'thoroughly and patiently ... with the result that he can now play on the old flute more perfectly in tune than he ever did before upon a highly improved and most expensive modern instrument'. No-one with that flautist's stamina seemed to exist in the brass world. A 'skilled player of the modern trumpet' charmed or cajoled by Dolmetsch had once agreed to practise on the natural trumpet for a few weeks ... he 'succeeded in playing some difficult passages perfectly well; but ... could not be prevailed upon to continue the experiment'. A. Dolmetsch (1915), pp.458, 461–2.

For an instrument with no obvious modern role outside lecture-recitals, the new Dolmetsch recorder sold improbably well. ‘Many hundreds ... [were] in use’ by 1932.⁷ His lost Bressan treble delivered fresh recorder-making impetus when, just as improbably, it reappeared—bought in a London junk shop by F.G. Rendall of the British Museum ‘[a] year or so after the first modern [Dolmetsch] recorders were produced’.⁸ Rendall was in touch with Dolmetsch and returned it to him.⁹ Now he could check details of original Bressan design and refine his own in light of lessons learned. (Other versions of this loss-and-recovery story are considered in Appendix One.)

It took Dolmetsch six years at most to create a full SATB consort of recorders, introduced to the world during the 1926 Haslemere Festival. It is not completely clear how he did this. Scaling up and down from the Bressan treble could have produced close-to-viable tenor, bass and descant prototypes. Edgar Hunt praised him, decades later, not for ‘copy[ing] an existing set of recorders [which on its own] would have been an achievement; but ... [for] extrapolating the measurements from the treble ... and designing the reamers and other tools necessary to make them ... a formidable task’.¹⁰ Carl Dolmetsch, in 1941, stated unequivocally that Arnold (Carl’s father) ‘made [recorders] to his own designs which none the less conformed to the basic principles of the instrument ... not copies of old ones’.¹¹ This was the family line; Hunt went along with it.

Evidence presented in this article suggests, to the contrary, that tenor and bass recorders good enough to put on general sale were copied from eighteenth-century originals, as were really successful Dolmetsch trebles once his Bressan had returned to the fold. Experiments to get a full consort of recorders built and working optimally continued through the 1920s. Customers wanting to buy one complete with a bass probably had to wait until 1930.

Enough recorders survive from the early years

of the revival to make comparisons between them meaningful, as well as feasible. This article has been written mainly to share results obtained by comparative means, and from these results draw reasonable inferences about recorder design and development events that happened in workshops not in research laboratories, unobserved by anyone with cause either at the time or later to describe them fully and accurately in writing.

Dolmetsch had since his arrival in London been performing Old Music at ‘old pitch’, around a¹415.¹² This allowed him to keep string tensions on lutes and viols at a safe and pleasant-sounding level. Dolmetsch old pitch was nearly a tone lower than the so-called ‘Philharmonic Pitch’ to which late nineteenth-century British orchestras were used to tuning (around a¹455), and to which British military bands were ordered to tune by Queen’s Regulations.¹³ The difference was wide enough to matter, not another Dolmetsch affectation; and for a while it had no inconvenient consequences outside the Dolmetsch circle.

In 1896, shamed into action by vocal health campaigners, the two leading London orchestras agreed to adopt a lower pitch standard, closer to France’s government-mandated *diapason normal*, a¹435. British ‘New Philharmonic Pitch’ settled a fraction higher, at a¹439. The drop down to New Philharmonic Pitch had costly implications for woodwind and brass players, many of whom resisted it. (British military bands stayed officially high until 1929).¹⁴

So Dolmetsch started making and selling recorders at a time of significant pitch instability. To some customers his early models sounded a tone flat, to others only a semitone. Players appearing with Dolmetsch needed 415 recorders; those unconnected with Dolmetsch would in most cases be better served by 439 instruments. Today the issue looks clear cut—415 and 439/440 are instantly

⁷ R. Donington, *The Work and Ideas of Arnold Dolmetsch: The Renaissance of Early Music* (Haslemere: The Dolmetsch Foundation, 1932), p.16.

⁸ C. Dolmetsch, “‘This will be very useful to me’”, in J. Turner (ed.), *A Birthday Album for the Society of Recorder Players* (Manchester: Forsyth Brothers, 1987), p.84.

⁹ This story has been told many times. Here for instance: M. Dolmetsch, *Personal Recollections of Arnold Dolmetsch* (London: Routledge & Kegan Paul, 1957), pp.130–32.

¹⁰ E. Hunt, ‘Carl Frédéric Dolmetsch’ [obituary], *The Galpin Society Journal* 51 (1988), p.12.

¹¹ C. Dolmetsch, ‘The Recorder or English Flute’, *Music & Letters* 22/1 (January 1941), p.72.

¹² Hunt (1988), p.12.

¹³ King’s Regulations after Queen Victoria’s death in 1901.

¹⁴ For a summary of pitch movements in late nineteenth century Britain, see B. Haynes, *The History of Performing Pitch: The Story of “A”* (Lanham, MD: Scarecrow Press, 2002), pp.378–9.

recognizable neo-Baroque and modern standards—but in the 1920s and 30s it was anything but.

Dolmetsch and his supporters entered the decade 1920–30 determined to secure his legacy, and to hand the Dolmetsch business on to his children in a fair and orderly way as they came of age. Around 1920 Marco Pallis, a wealthy patron and Dolmetsch student, paid for a workshop extension and for new equipment including some electric power tools: these would accelerate production.¹⁵ New workshop employees were taken on. Oskar Dawson and Robert Goble both helped with recorder making. Both, when they left, set up independently in competition with Dolmetsch.

Dolmetsch and his third wife Mabel had four children, all brought up around music and all assigned to roles in the family ensemble when ready to perform in public. Haslemere, where the family lived—a pleasant Surrey commuter town about the same distance from London as Oxford and Cambridge—was during the interwar years known as a centre for practically-grounded musical learning, a private university settlement almost (as Oxford and Cambridge had started out). Students came from around the world to learn what Dolmetsch alone was in a position to teach them.

With a larger pool of players and singers available to him than ever before, Dolmetsch could programme with unprecedented freedom. It was not practicable to take so many people and so many instruments on tour, and with that in mind Dolmetsch promoted annual Haslemere Festivals starting in 1925. These attracted international media coverage, and interest from the fledgling BBC. Radio broadcasts and gramophone recordings gave Dolmetsch hitherto undreamt-of scope for national and international outreach. He moved, in his mid 60s, from a position on the outer fringes of the British musical establishment close to its celebrity centre. And here the Dolmetsch and Harlan stories intersect.

Harlan attended the first Haslemere Festival. ‘He

went there on a grant from the Prussian government along with the musicologist Max Seiffert’.¹⁶ Theirs was an overt intelligence-gathering mission: Olin Downes, reviewing the festival for *The New York Times*, noticed ‘an accredited representative of the German government ... [among] visitors from many other countries’.¹⁷ Three broken consort programmes in which one mildly anachronistic eighteenth-century recorder joined with viols and a lute impressed *The Musical Times* more than they did Harlan and Seiffert, probably. But—as Edgar Hunt later put it—‘recorders had really arrived when [on 4 September 1925], Bach’s Concerto in F for harpsichord, two recorders and strings was played’, Bach’s own arrangement of Brandenburg 4.¹⁸

Harlan went home with a very good idea of Dolmetsch treble recorder capabilities though not, as Hunt went on to claim, with a full set of recorders ‘bought from Dolmetsch with the intention of copying them’.¹⁹ (The Haslemere debut of Dolmetsch’s SATB consort was still a year away.) Instead Harlan set out with instrument maker Kurt Jacob to copy an eighteenth-century treble borrowed from the Staatliche Musikinstrumentensammlung in Berlin.²⁰ Harlan’s own-brand range launched the following year: a treble in E (at a⁴435: French *diapason normal* was also the prevailing pitch in Germany), sounding the same bottom note as the museum original. Harlan did not then know enough about historical pitch drift to recognize the latter as a standard F treble tuned to a flatter-than-modern pitch standard.²¹

Good Baroque recorders are ‘capable of playing all chromatics exactly through more than two octaves without keys. The physics of the recorder helped make this possible. A sharply tapering conical bore allows for enough volume [a long enough column of air in the instrument] for playing the lowest tones while permitting cross-fingerings to have a sufficiently lowering effect’.²²

The Baroque bore taper allows finger holes to be more closely spaced than they could be if the

¹⁵ M. Dolmetsch (1957), p.136.

¹⁶ H. Moeck, ‘The Twentieth-Century Renaissance of the Recorder in Germany’, *The American Recorder*, 23/2 (May 1982), p.63 [= Moeck 1982b in subsequent references].

¹⁷ O. Downes, ‘Dolmetsch’s Revival of Old Scores – Works Heard at Haslemere Festival’, *The New York Times*, 20 September 1925, p.7.

¹⁸ E. Hunt, *The Recorder and its Music* (London: Herbert Jenkins, 1962), p.132.

¹⁹ Hunt (1962), p.132.

²⁰ R. Ehrlich, *The Great Recorder Epidemic: Reinventing the Recorder, 1925–1950* (Portland, OR: Instant Harmony Music, 2021), p.12.

²¹ Moeck (1982b), pp.63–4.

²² Moeck (1982b), p.64.

bore were cylindrical. In this way the finger stretch on larger sizes of instrument can be reduced to something manageable. Where the taper steepens—towards the bottom (bell) end of the recorder—cross fingerings have a more pronounced note-flattening effect than they do further up, and affect some notes in the second octave more than equivalent notes in the first octave. This is not in itself a desirable feature, but it is one that makers have to understand and accommodate. Treble recorder bottom b^1_b , and bottom b^1_{\sharp} overblow nearly but not quite to b^2_b and b^2_{\sharp} . Makers have to ensure that fingering strategies allowing players to widen these near-miss octaves by just the right amount are available, dependable and as far as possible transferable from instrument to instrument.

On most original Baroque trebles still extant and still playable, the notes are best in tune when fingered like this:

b^1_b T | 1 2 3 | 4 6 |
 b^1_{\sharp} T | 1 2 3 | 5 6 | 7
 b^2_b F | 1 2 3 | 4 6 |
 b^2_{\sharp} F | 1 2 3 | 5 | or F | 1 2 3 | 5 6 |

To sharpen b^1_b , when overblown to b^2_b , the player half-holes with finger 6 (right-hand 3). This hole is fully closed for b^1_b , the octave below. To sharpen b^1_{\sharp} when overblown to b^2_{\sharp} , the player lifts fingers 6 and 7 (5 stays on), or lifts 7 while sliding 6 to half-hole position (5 again stays on).

While experimenting with recorder design in the 1920s Dolmetsch found another, on the face of it easier way to make the same tuning adjustments. Dolmetsch fingerings for b^1_b / b^2_b , b^1_{\sharp} / b^2_{\sharp} were (and still are) these:

b^1_b T | 1 2 3 | 4 6 | 7
 b^1_{\sharp} T | 1 2 3 | 5 6 |
 b^2_b F | 1 2 3 | 4 6 |
 b^2_{\sharp} F | 1 2 3 | 5 |

Half-holing in the second octave was no longer necessary: fingers were either up or down, holes either open or closed. Adult beginners welcomed on/off fingering clarity. Teachers looking round a class could see at a glance who had the b_b / b_{\sharp} fingerings right and who had them wrong. Dolmetsch

equipped his customers with a simple tablature and confidence-inspiring instructions: ‘All the notes will sound perfectly clear and in tune, if proper care is used in blowing.’²³ Harlan by contrast gave Harlan-Jacob recorder buyers a ‘copy of the fingering chart from the recorder method of Silvestro di Ganassi dal Fontego of 1535’ and a note wishing them luck: ‘The individual search for halftone fingerings is the surest method of acquainting oneself with the nature of recorders’.²⁴

Ganassi’s basic chart—the one that Harlan chose to reproduce—gives a range of an octave and a sixth, with fingerings only for notes in the recorder’s home key: fa’ and fa’’ (b^1_b / b^2_b in Baroque treble terms) are both cross-fingered. Presumably these cross-fingerings worked on Harlan-Jacob instruments too.

Other Ganassi charts (in *dal Fontego* there are six in total) suggested fingerings for every note in a two-and-a-half octave chromatic scale. To avoid undermining consumer confidence in his own product, Harlan kept this extra information to himself.

Once reconciled to the Harlan-Jacob recorder’s limitations, Harlan looked to turn them to business advantage. A simplified design would play comparably well and cost less to produce. Harlan subcontracted manufacture to Martin Kehr, whose Vogtland workshop could comfortably fulfil bulk orders, and had the new model on sale within months.²⁵ ‘German’ or Harlan fingering of the flageolet/penny whistle type replaced Harlan-Jacob ‘Ganassi’ fingering at this simplifying stage, producing an in-tune diatonic scale upward from bottom e^1 when fingers were lifted one at a time. Harlan had hit upon a genuine improvement, or thought he had: a system that made life easier than ever for beginners, yet no harder than it had been in previous centuries to modulate freely. Cross fingerings would have to be learned eventually, but until beginners needed to modulate they could be spared the effort.

Dolmetsch, by recreating the ‘Baroque “ideal” system’ and even (perhaps) improving on it, had—in Hermann Moeck’s words—solved ‘a puzzle in which all parts have to fit together exactly. Any modification of single parts is ... very limited. To put it more clearly: the voicing, fingering, and sound of a Baroque recorder can be combined in one way

²³ A. Dolmetsch, *Tablature and Tunes for the Treble Recorder in F* (Haslemere: Arnold Dolmetsch, January 1929), unpaginated introduction.

²⁴ Moeck (1982b), p.65.

²⁵ Ehrlich (2021), p.15.

and no other'.²⁶ Defeated by the same puzzle, Harlan went on to create a different sort of recorder; and claimed he had wanted to do that all along.

German/Harlan fingering 'permitted greater freedom in the choice of conical-bore dimensions. They did not have to be so complicated [internally], and the recorders were therefore easier to produce'.²⁷ This was just as well: other makers and dealers entering the German market behind Harlan could offer viable instruments at a keen price, in a growing range of keys and—for consort playing purposes—key combinations. Harlan kept adding instruments to his own catalogue, and designed a distinctive-looking set for sale by the music publisher Bärenreiter.

German instruments with wide, only gently conical bores out-performed Dolmetsch's in some respects: they were louder, with stronger-toned low notes. German instruments with narrower bores and more of a taper, when these became available, could match Dolmetsch's for ease of high note production if not in tonal sophistication. There were pluses and minuses on both sides; and moves on both sides to try to have the best of both worlds.

In 1927 a great-and-good group of Dolmetsch supporters set up the Dolmetsch Foundation 'to ensure that the results of Mr. Arnold Dolmetsch's researches ... shall be handed on intact to future generations'.²⁸ Issue 1 of the Foundation's journal *The Consort*, dated October 1929, reported a number of successes: money had been raised for further 'enlargement of the Haslemere workshops' and to support 'scholars who will be among the performers, teachers, and craftsmen of the future'. The workshops were 'steadily turning out remunerative work in increasing quantities', gearing up for an export drive: 'In Germany at any rate there is already a demand for makeshift instruments'. The recorder department in particular was thriving: 'probably the most definitely productive department of all ... [there] Mr Carl Dolmetsch has recently introduced a striking improvement for which he has received an award

from the Foundation, and he has another in hand at the present time'.²⁹

Carl Dolmetsch, Arnold and Mabel's younger son, had been put in charge of recorder development in 1926.³⁰ He was 15 at the time, by present-day standards far too young to be managing anything. (But 15 was the normal school leaving age in inter-war Britain.) Carl's 1929 award-winning improvement was probably the 'invention' of double holes for right-hand fingers three and four. The improvement he had in hand may have been SATB consort expansion: Carl played his re-invented sopranino for the first time in public on 11 March 1931.³¹

A gradual handover of power from Arnold to Carl seems more likely. Though he hid his disappointment from Haslemere Festival audiences, Arnold's first attempt at making a bass had not been entirely successful. He came across a promising original in Dublin Museum (the National Museum of Ireland) on a family visit there in 1929. When 'ready to make a second attempt to produce a bass, in all ways satisfactory, he wrote to the curator asking whether he would lend this instrument, which Arnold undertook to put into good playing order ... This request was most graciously acceded to, and thus was Arnold enabled, after a close study of this particular instrument ... to solve his own intricate problems satisfactorily'.³² Arnold enclosed a letter to the curator when returning the bass to Dublin: that letter survives in the Royal Academy of Music Library. Its content and its date—28 March 1930—corroborate Mabel's later published reminiscences.³³ Until 1930, demonstrably, Arnold retained a personal interest in recorder design problems and held himself responsible for finishing projects once he had started them off. (Sadly the Dublin bass itself can no longer be traced.)³⁴

Carl's role in adult life, for which Arnold had set him up, was to build a Dolmetsch recorder empire selling to the world. 'Let no one fail to realize that the time is critical, if only in its opportunities' wrote Dolmetsch Foundation chairman Lionel Glover

²⁶ Moeck (1982b), p.65.

²⁷ Moeck (1982b), p.65.

²⁸ The Dolmetsch Foundation, initial prospectus [a folded single sheet, unpaginated], November 1927.

²⁹ L. Glover, 'The Dolmetsch Foundation', *The Consort* 1 (October 1929), p.16.

³⁰ Hunt (1988), pp.11–12; C. Dolmetsch (1987), p.83.

³¹ Williams (2005), p.89.

³² M. Dolmetsch (1957), p.149.

³³ <<https://collections.ram.ac.uk/IMU/#/details/ecatalogue/6907>>, accessed 2 January 2022.

³⁴ Thalheimer (2010), pp.45–6.

in 1929.³⁵ Carl had to prove himself as a maker with independent ideas, committed to product improvement while somehow staying true to the spirit of the past; as a businessman, and as an all-round recorder evangelist. Since Arnold blamed virtuosi for the near extinction of home music-making,³⁶ and made frequent speeches to that effect from the concert platform, Carl's late teenage emergence from the family rank and file to become—by 1929—its regularly featured, concerto-playing recorder soloist had a paradoxical aspect. (So did Rudolph Dolmetsch's parallel emergence as a solo harpsichord recitalist and orchestral conductor.)

Carl did not have the benefit—or, as his father saw it, crushing disadvantage—of a formal conservatoire training on any instrument; nor, with a workshop to run, was he free to practise to anything like the extent expected of present-day professionals. Rising stars of the 1960s and 70s played a great deal better; but by then Carl had been performing, broadcasting and recording for 40 years. Head-to-head comparison between him and (say) Frans Brüggen would not have been fair or fruitful, and for that reason sensible commentators refrained from it.

If a single year of secession had to be identified, by the end of which it was clear to almost everyone in the recorder world that control had passed from surviving members of its pre-Second World War pioneering generation to younger players and younger makers rebelling against their elders more or less politely, then 1972 would be the inevitable choice. J.M. Thomson's pamphlet *Recorder Profiles*, published in 1972, placed Carl Dolmetsch along with Edgar Hunt and Walter Bergmann in—implicitly—a gratefully-remembered enabler category: they had cleared the ground on which Brüggen and other disruptors profited by Thomson were building far more glamorous careers.³⁷

Brüggen's three-LP box set *Frans Brüggen Spielt 17 Blockflöten* appeared in 1972. These were original

instruments, not the modernized type of recorder with which listeners and players including Brüggen had been broadly content till then – and in Brüggen's opinion the originals were incomparably better: '[I]n the case of the majority of these 17 recorders my standard of playing has been far below the standard of the instrument'.³⁸

17 Blockflöten, a brilliant feat of musicianship, was no less brilliant a marketing coup. No-one after Brüggen could expect to be allowed long-term playing access to as many old instruments, certainly not to the borrowed museum specimens that had cracked in his hands.³⁹ So no-one after Brüggen would ever learn as much from them. Hope for Brüggen's students and for others inspired by Brüggen on vinyl lay in modern copies of old instruments, for which demand soared. Manufacturers other than Dolmetsch responded by tweaking their recorder designs in the direction of greater authenticity and selling the results as copies after so-and-so. New makers setting up workshops from scratch could be as radically authentic as they liked. Dolmetsch could have joined the revolution, but for him this would have meant re-living recorder revival history in reverse, pointless from the point of view of a 60-year-old who had been promoting recorder design improvements for most of his life and who really did believe in the possibility of progress. Older customers stayed loyal to the Dolmetsch brand, in England especially, but occasional repairs to instruments they already owned were not enough to keep business wheels turning. Carl relinquished his hereditary role as Chairman of Arnold Dolmetsch Ltd in 1978;⁴⁰ and in 1981 the firm filed for bankruptcy.⁴¹ His career had 'enter[ed] a new era', as J.M. Thomson tactfully explained in an *Early Music* editorial published soon afterwards.⁴²

The same issue—recorder-themed—contained a brief introduction by Brüggen, Fred Morgan's urbanely self-promotional article 'Making Recorders Based on Historical Models', and a revealing piece

³⁵ Glover (1929), p.15.

³⁶ A. Dolmetsch, 'Home Music: The Causes of its Decay and How to Re-establish it', *The Consort* 1 (October 1929), pp.12–14.

³⁷ J. Thomson, *Recorder Profiles* (London: Schott, 1972).

³⁸ F. Brüggen, '17 Original Instruments': booklet notes issued with the three-LP boxed set *Frans Brüggen Spielt 17 Blockflöten* (Hamburg: Teldec [Telefunken-Decca], 1972: SMA 25 073–T/1–3), p.4.

³⁹ Brüggen (1972), p.5.

⁴⁰ Hunt (1988), p.15.

⁴¹ D. Green, 'In Memoriam: Carl Dolmetsch (1911–1997)', available at <<https://aswlted.com/chresto97oct.htm>>, accessed 2 January 2022.

⁴² J. Thomson, Editorial in *Early Music* 10/1 (January 1982), p.2.

by Hermann Moeck: 'Recorders: Hand-Made and Machine-Made'. Moeck, a decade or so younger than Carl Dolmetsch, had like Carl inherited a family instrument-making business, which he continued to manage until 2002. Moeck at the outset expressed frank and by then unfashionable admiration for Dolmetsch products. He was wrong to attribute their entire success to Arnold, but right to insist on measuring success against multiple criteria: musical, practical-logistical, commercial. Were Dolmetsch instruments the best that could have been made in the quantities demanded, for sale to customers all over the world (a factor complicating after-sales service), at prices within target customers' reach, using workshop machinery of the type available when they were designed?

... understanding of [recorder] acoustics ... was completely lost and had to be newly acquired. Arnold Dolmetsch succeeded in doing so in a relatively short time and to an astonishing extent. (That he made compromises in the manufacture of his recorders and that today, half a century later [1982], there are other recorders which more closely approach their originals is beside the point.) ... Arnold Dolmetsch made his recorders by hand, using tools not much different from those used in the Baroque. The manufacture of larger quantities of such instruments was then not yet feasible without better techniques of wood machining, as the very fine windways and labia would have had to be made by hand; this would have required a staff of very skilled craftsmen. So until the 1960s, no acceptable machine-made Baroque recorders were on the market.⁴³

Though in this context too modest to say so, Moeck himself was one of the main architects of the acceptable machine-made Baroque recorder era. His own firm's 'Rottenburgh' range launched in 1968,⁴⁴ and is still in production. Moeck commissioned Friedrich von Huene to design the Rottenburgh instruments: von Huene had a contractual right of veto over design changes even when Moeck considered these necessary for manufacturing practicability. Moeck spoke from experience when he mentioned compromises, therefore, and knew

how difficult it could be to achieve compromises that everyone affected by them would be happy to accept.⁴⁵

No hard-and-fast line can be drawn between hand and machine production. Every recorder maker needs a lathe for wood turning, treadle-driven in the eighteenth century, powered by electricity today, but either way a machine. More important is the degree of autonomy enjoyed by individual workshop employees: the extent to which choices they are allowed or required to make as work progresses will affect the quality and character of the end product.

When 'completely individual' recorders are required—close copies of museum originals, for instance, or prototypes of instruments intended but not yet ready for mass production—then the only economical way to make them is by hand.⁴⁶ Arnold Dolmetsch and his workshop assistants in the 1920s were extraordinarily good at making, testing and refining prototypes, and at moving on from prototypes to low volume manufacture using the same tools and hand-crafting techniques.

But to expand output in the 1930s new, more efficient, semi-mechanised production methods had to be devised: a job for Carl rather than Arnold. New workshop premises were bought and equipped (Dolmetsch Foundation benefactors put up the money); new staff were hired, trained, and set to work on a rationally-laid-out recorder production line. Each performed the same few tasks over and over again, with great skill but little scope to deviate from patterns supplied.

In short:— the design compromises to which Moeck referred happened during a second phase of Dolmetsch recorder development, not the original revival phase, in the mid to late 1930s. The 'modern recorder' repudiated by Brügger (after at least 15 years playing it) came into being during this second phase. Since Dolmetsch set the standard for ambitious makers in other countries until well past 1960, compromise decisions taken by Carl in the 1930s had international ripple effects, some of which can still be felt. Parts Two and Three of this article explore the nature of these compromises in greater detail than has to my knowledge been attempted before, along with rationales behind them.

⁴³ H. Moeck, 'Recorders: Hand-Made and Machine-Made', *Early Music* 10/1 (January 1982), p.10 [= Moeck 1982a in subsequent references].

⁴⁴ G. Burgess, *Well-Tempered Woodwinds: Friedrich von Huene and the Making of Early Music in a New World* (Bloomington, IN: Indiana University Press, 2015), p.121.

⁴⁵ For von Huene's thoughts on a 'collaboration ... not without difficulties', see Burgess (2015), pp.121–2.

⁴⁶ Moeck (1982a), p.10.

PART TWO

Arnold Dolmetsch Ltd's order books and other records were lost, presumed destroyed, when the company folded in 1981. Events once very thoroughly documented in the missing company archive have now to be reconstructed using other types of evidence:

- Dolmetsch recorders made in the 1920s and 1930s. Most of these are serial numbered, and can be tied with reasonable confidence to a likely year of manufacture, with possible manufacture a year or two either side.
- Other recorders made in the 1920s and 1930s, not by Dolmetsch, which differ from Dolmetsch's in revealing ways.
- Published material from the 20s and 30s, shedding light on recorder manufacture and on early-revival (pre-Second World War) recorder technique.
- Later recollections of recorder revivalist activity, published and unpublished, by people who were there at the time.
- Work by fairly recent recorder researchers whose interests overlap with mine and who have covered some of the same ground—work gratefully acknowledged.



Figure 2 (above). *Dolmetsch bass recorder #603. Pitch a^1415 . Coded F in this article. (Also in the colour section.)*

Figure 1 (left). *Dolmetsch recorders #609 (sopranino), #649 (descant), #647 (treble), #648 (treble), #646 (tenor). Pitch a^1415 . Coded A–E in this article.*

Dolmetsch recorders A–F (Figs. 1 and 2 – for Fig. 2 see also the colour section) are the star witnesses in this enquiry, bought from a German collector several years ago to facilitate research. They were made in or around 1932–3, and probably shipped to Germany soon after as a demonstration set. They do not seem to have been much played. There are no signs of the wear and tear that would have been inflicted on them, had they been used in an educational setting for any length of time.

The viol maker Günther Hellwig acted as Dolmetsch's German agent from 1932.⁴⁷ Hellwig returned to Germany that year, following a four-year apprenticeship in Haslemere. He would have needed a set of recorders to show potential customers.

Edgar Hunt, realizing sooner than either Dolmetsch that an English school recorder movement could be summoned into being only when cheap, well-tuned instruments were available for schools to buy, travelled to Germany in 1933 to find a potential supplier.⁴⁸ At the time, according to Hunt, '[Wilhelm] Herwig was the only maker ... prepared to manufacture recorders with the English [Dolmetsch] fingering, to [Hunt's] design'.⁴⁹ Herwig, in fact a dealer not a maker (Hunt was unaware of backroom arrangements), 'obtained a set of Dolmetsch recorders as models' and passed them on to his manufacturing partner Max König. Dolmetsch-fingered König instruments branded Herwiga arrived back in England via Hunt initially, then—in greater numbers—via Rushworth and Dreaper in Liverpool, who took the Herwig import franchise over from Hunt. Hunt 'later [after 1934] obtained a Dolmetsch treble recorder ... for Hermann Moeck of Celle [Hermann Moeck senior] ... as he wanted to study the differences involved in the two'.⁵⁰

Carl Dolmetsch, in 'The Recorder or English Flute', an exaggeratedly patriotic wartime (1941) article for *Music & Letters*, noted the 'traditional supremacy in both instruments and players which England always enjoyed'.⁵¹ In the later 1930s 'a number of German firms responded to the appeals from this side for a very cheap recorder with English

fingering by producing inexpensive models based as nearly as possible on the measurements of a number of Dolmetsch instruments obtained quite openly for that purpose'.⁵² Carl did not say which firms, how many recorders they had bought from him, or what sorts of recorder they were. Instead, he claimed vague credit, on his recently-deceased father's behalf, for the serviceable quality of every 'real recorder' added to England's swelling national inventory since the start of the revival.

Their early 1930s date, and the fact that they are low-pitch instruments (a⁴415), connect recorders A–F more probably with Hellwig than with Herwig/König or with other German makers. Recorders at 439 would have been more useful as models for German firms targeting the English school market. For Hellwig, on the other hand, as a Dolmetsch-trained early strings specialist thoroughly used to it by the time he returned home, 415 would have been the natural choice. With suggestive and perhaps retaliatory timing, Harlan announced a new recorder range in 1933:

Finally I make yet another set of recorders, in the old lower chamber pitch. I call these Baroque recorders and turn them in Baroque chair-leg style in contrast to regular [much plainer] Harlan style, which is used everywhere by most imitators of my recorders ... These [Baroque] recorders are notated in *f, c', f', c''* but are a half-tone lower than today's pitch; thus their actual pitches are *e, b, e', b'*. Many people think that I have thereby introduced a new confusion into the pitch question, but these recorders are necessary for ensembles that wish to play most advantageously with gambas, violins, and lutes ... Improved quality of sound for gambas, lutes, and recorders is connected with the adoption of old pitch for these instruments.⁵³

These recorders were necessary, above all, to fill what customers in Germany and beyond might otherwise have come to see as a Dolmetsch-shaped hole in Harlan's catalogue.

Recorders A–F comprise what Dolmetsch, from 1931, called the instrument's 'complete family'—

⁴⁷ Moeck (1982b), p.65.

⁴⁸ Ehrlich (2021), pp.33–4. Hunt remembered the year of his visit to Germany as 1934 but Ehrlich presents evidence to 'prove it happened one year earlier'.

⁴⁹ Hunt (1962), p.136.

⁵⁰ Hunt (1962), p.136.

⁵¹ C. Dolmetsch (1941), p.74.

⁵² C. Dolmetsch (1941), p.73.

⁵³ Moeck (1982b), p.66.

sopranino, descant, treble, tenor, bass—plus a spare treble. Carl's 're-invention' of the sopranino added one to the family of four unveiled at the 1926 Haslemere Festival. The bass of the set, **F**, is presumably of Arnold Dolmetsch's post-1930 Dublin-improved type. Whether the set was intended for display and possible audition in Hellwig's workshop or sent to a German fellow maker for copying purposes, it is safe to assume that all six instruments were tested carefully before they left Haslemere. As trade ambassadors from England to Germany they were on a mission to impress.

Five recorders in the **A–F** set could be used today, for live concert work and for recordings, without embarrassing or noticeably inconveniencing their players and without any detectable decline in the quality of tone or tuning accuracy arousing listeners' suspicions. Five of the six are, in this sense, as or nearly as 'good' as the a^1415 Baroque-type instruments sold by leading modern makers.

The tenor in the set, recorder **E**, is its one disappointment, not a complete dud (it is well tuned, with a full two octave range), but tonally anaemic compared to the others. Efforts were made to improve the instrument's voicing early on. The block has been sawn across and wedged to increase its height at the windway exit end: this re-directs the airstream slightly, so that it hits the edge at a different angle. Thin and shallow grooves scored into the top of the block, again at its windway exit end, must have been intended to influence airflow too.⁵⁴ These block modifications were probably though not provably made before the **A–F** set passed Dolmetsch quality control. **A–D** and **F** were good to go: tenor **E** presented a hold-up problem, for which a quick partial solution would have been better than none at all.

To get **E** playing to the best of its design capacity, an experiment taking time that Dolmetsch may not have had, John Willman made a replacement block for it. Willman worked on the project intermittently for a number of months in 2020 and 2021, testing and adjusting patiently until no further room for improvement remained. 'Improvement' is of course a subjective proposition. The new block can easily be removed and the old one put back.

Dolmetsch recorder **G**, also a tenor but at a^1439 , is much more rewarding to play (**E** and **G** are pictured together in Figure 3). Its top notes 'sound clear and full ... [t]he middle register is warm and round, and the lower notes full, firm and very clear' (these are



Figure 3. Dolmetsch tenor recorder **E** (left) pictured alongside Dolmetsch tenor **G**, #267. Pitches a^1415 (**E**) and a^1439 (**G**). **G**'s beak has been sheathed in palisander, matching the colour and grain of the original wood as closely as possible. This is a recent repair, securing cracks and allowing the instrument to remain in use.

⁵⁴ Six are about 25mm long; six more only a few millimetres long (more like scratches than grooves). The shorts and longs alternate.

Fred Morgan's words, intended to describe the tonal character of well preserved historical trebles but broadly applicable here).⁵⁵ Arnold Dolmetsch Ltd, in a 1971 letter to G's then owner, confirmed 1929 as its date of manufacture and named the customer who bought it originally. This information would have been retrieved from company files that still existed when the letter was written.⁵⁶

G very closely resembles two surviving voice flutes by Thomas Stanesby Senior, and may have been copied from one of them. This would explain its strong performance. One, owned for a long time by Leonard Lefkovitch of Bourne End, Buckinghamshire,⁵⁷ sold at Sotheby's in 2008. Nothing definite is known about earlier phases in its custodial history. The other, shipped from Yorkshire to New Zealand in 1900, decades later gifted to the Wellington-based early music pioneers Zillah and Ronald Castle and regularly played in concerts they presented, is now in Auckland Museum's Castle Collection of musical instruments. These two Stanesbys differ in length by one centimetre, but only because the Castle Collection's has a longer beak. Their head-joints from the blockline down, centre joints and foot joints are the same length, and near-identically turned.⁵⁸

Carl Dolmetsch, in 1965, asked by J.M. Thomson to comment on a tenor recorder that George Bernard Shaw had owned, considered it a 'very likely' Dolmetsch (Shaw was a staunch Dolmetsch supporter), 'almost certainly based on a recorder, probably a Stanesby, belonging to Sir Francis Darwin, the son of Charles'.⁵⁹ Mabel Dolmetsch told the same story more elaborately but without mentioning Stanesby: Carl added this useful extra

information. Around 1916, during a Dolmetsch family concert in Birmingham, Arnold—looking in the usual bag—realized he had forgotten to pack his Bressan treble. Consort items in which he usually played it would have to be dropped from the programme. Arnold explained and apologised to the audience.

At this point there arose a distinguished-looking gentleman who, advancing towards the platform, produced from a capacious overcoat pocket, as by a conjuring trick, a recorder!

There was loud applause from the audience. Unfortunately it was not a treble but a tenor recorder, and so not able to achieve the high notes of the key in which our consort was pitched. Arnold, however, improvised a few strains on it, but observed that it was in need of repair. The gentleman revealed himself as Sir Francis Darwin, only surviving son of the physiologist, Charles Darwin; and, after some interesting talk, it was arranged that he should come and see us in Hampstead. [The Dolmetsch family moved from Hampstead to Haslemere shortly after.] The tenor recorder was put into good playing condition, and when Sir Francis Darwin came to fetch it, he was delighted with its warm, colourful tone ...⁶⁰

Darwin's tenor could well have been a voice flute. No-one early in the twentieth century would have thought to place a voice flute in any recorder category other than tenor.⁶¹ D tenors were among the 'few intermediate sizes' mentioned in Carl Dolmetsch's 1941 article 'The Recorder or English

⁵⁵ F. Morgan, 'Recorders Based on Historical Models', *Early Music* 10/1 (January 1982), p.16.

⁵⁶ Most of the letter is typed but a Dolmetsch company director (not Carl) inserted the date of manufacture by hand. Of two possible readings, 1924 and 1929, 1929 looks to me to be the one more probably intended.

⁵⁷ See E. Halfpenny, 'Further Light on the Stanesby Family', *The Galpin Society Journal* 13 (1960), p.65.

⁵⁸ Both instruments are listed in P. Young, *4900 Historical Woodwind Instruments* (London: Tony Bingham, 1993), p.219. Young, following Halfpenny (1960), called the Castle Collection's a tenor, but he did not assign it an approximate pitch and is unlikely to have examined it personally. Photos of both are available online, along with further particulars. See <<https://www.sothebys.com/en/auctions/ecatalogue/2008/musical-instruments-l08251/lot.149.html>>; and <https://www.aucklandmuseum.com/collections-research/collections/record/am_humanhistory-object-55830?ordinal=0>.

⁵⁹ See J. Thomson, 'The Recorder Revival I: The Friendship of Bernard Shaw and Arnold Dolmetsch', in J. Thomson and A. Rowland-Jones (eds), *The Cambridge Companion to the Recorder* (Cambridge: Cambridge University Press, 1995), p.147.

⁶⁰ M. Dolmetsch (1957), p.131.

⁶¹ Except Christopher Welch, who thought that voice flute was another name for sixth flute. Both are D recorders, true, but sixth flutes play an octave higher than voice flutes. See C. Welch, *Six Lectures on the Recorder and Other Flutes in Relation to Literature* (London: Henry Frowde/Oxford University Press, 1911), p.150 n.4.

Flute'. Catalogues produced by Arnold Dolmetsch Ltd into the 1970s listed D tenors as special order items. Though players today more often think of voice flutes as altos in D,⁶² they were always tenors in the Dolmetsch scheme, and are still more likely to be classed as tenors than as altos in museum inventories.

Apparently Arnold 'had it in mind to make a recorder as a "one day" project' before losing his Bressan treble, and did have 'measurements of the bore diameters, hole positions, section lengths and embouchure' to refer to when force of circumstance pushed the project to the top of his to-do list.⁶³ While carrying out repairs he had ample opportunity to measure Darwin's instrument, to test it for pitch and tonal compatibility with his Bressan, and to think about copying it for concert use alongside his Bressan. Dolmetsch would have realized, had he found himself playing one, that voice flutes built at common early eighteenth-century English chamber pitch, around a¹405, need only slight lengthening in order to function as C tenors at a¹439. (The pitch difference between a¹439 and a¹405 is about three quarters of a tone.)

G's head joint (below the blockline) and centre joint exactly match their Stanesby voice flute equivalents for length. **G** is turned in what the Lefkovitch and Castle instruments suggest was standard Stanesby voice flute style. To lower the pitch of its bottom note by a quarter tone **G** did need a slightly extended foot joint, but all other notes could be flattened off the same (small) amount by adjusting centre joint tone hole sizes and slightly re-positioning them. **G**'s indebtedness to Stanesby is too close to have come about by chance. Dolmetsch must have measured and later copied either the Lefkovitch voice flute (possible if Darwin owned it in the early twentieth century and Lefkovitch acquired it later), or another instrument very much like the Lefkovitch and Castle voice flutes, probably a Stanesby, that did belong to Darwin at one time but can no longer be traced.

G and **E**, Dolmetsch C tenors at a¹439 and a¹415 respectively, have interchangeable head joints, nearly the same length from their blocklines down (**E**'s is longer by 0.5cm, not a lot given the overall

sounding length of these instruments). **E**'s centre joint is 3cm longer than **G**'s. Their foot joints are practically the same length. **E** is a stretched version of **G** essentially—stretched bodily but not widened in bore diameter. The stretch involved significant distortion of **G**'s Stanesby-derived 'Baroque ideal' bore proportions, making the voicing and tuning of **E**-type tenors harder even than usual to optimize. But for a¹415 consort part-filling they were more than adequate. This was their main intended use in the 1920s and 30s.

a¹439 treble design presented the opposite problem: shortening Dolmetsch's a¹415 Bressan-derived model to raise its pitch by a semitone. Recorder **H** jumps the gap by rather drastic means, fitting a short head joint (tête de rechange?) to centre and foot joints of the same length and bore diameter as **C**'s and **D**'s. This substitution alters overall bore proportions significantly: the **C/D** ratio of cylindrical to conical bore is about 1:2, while in **H** it is about 1:3. (Baroque recorder head joints have a cylindrical bore, centre and foot joints an irregularly tapering bore.)

H is stamped 'DOLMETSCH' on all three joints, but not numbered. Two recorders very similar in external appearance are housed in public collections: Object Number 2012/41/2 in Sydney Museum of Applied Arts and Science's Powerhouse Collection (formerly owned by Nicholas Lander, described as rare and early on the museum's website);⁶⁴ and Horniman Museum 2015.125, one of several Dolmetsch instruments made for Miles Tomalin in the mid-1920s, acquired by the Horniman in 2015. Tomalin was a Dolmetsch student and regularly played recorder in Dolmetsch concerts from 1925 to 1931.

H and 2015.125 are turned in a practically identical fashion. Their centre joint top and bottom bore diameters correspond, but 2015.125 has a total sounding length about 1.5cm shorter than **H**'s, all three of its joints being 0.5cm shorter than their **H** equivalents. 2015.125 is in all likelihood one of the low pitch (a¹415) **G** treble recorders specially built for use in the 1926 Haslemere Festival performance of Brandenburg 4. (Tomalin had been expecting to play in this alongside Rudolph Dolmetsch, but had

⁶² See for instance D. Lasocki, *Not Just the Alto: Sizes and Types of Recorder in the Baroque and Classical Periods* (Portland, OR: Instant Harmony Music, 2020), p.30.

⁶³ C. Dolmetsch (1987), p.83.

⁶⁴ <<https://collection.maas.museum/object/407859>>, accessed 2 January 2022. According to Lander's Recorder Home Page this is a low-pitch instrument, at a¹415 (<<https://www.recorderhomepage.net/history/the-modern-period/>>, accessed 2 January 2022).

to withdraw at short notice. Carl Dolmetsch stepped in to replace him.)⁶⁵

It is not at this distance possible to tell whether **H** was a planned outcome of shortening experiments mainly intended to produce low-pitch G trebles like 2015.125, or a happy accident. Dolmetsch could have started selling F trebles at a¹439 as early as 1926 if, as seems likely, **H** was a proof-of-concept instrument made that year. Recorders like a¹439 tenor **G** were certainly available to order by 1929.

Figure 4 shows **H** and **C** side by side. The finger holes in **H**'s centre joint have been displaced—moved south—to compensate for head joint shortening. The bore of the centre joint carries that of the head joint down into the body of the instrument, tapering only gently until reaching its first so-called 'jog' (where the taper steepens). So although **H** and **C/D** have head joints obviously differing in length, there is still roughly as much cylindrical or near-cylindrical bore above **H**'s topmost finger-hole as there is above **C/D**'s, and roughly as much irregularly conical bore below. **H** and **C/D** turn out to have finger holes drilled in almost the same places when proportionate distance along each recorder's air column is taken as the measure, rather than absolute distance from either end. **H** is, in this respect, an accurately scaled-down version of **C/D**.

But in another respect **H** is not so accurately scaled. **C** and **D** marry the 'Baroque ideal' taper to finger holes opening into the bore at points optimally sited in relation to its taper. **H** has finger holes opening into the bore at different points, sub-optimally sited in relation to its taper. **H** could not be tuned as accurately as **C** or **D** therefore, nor could it match them for richness of tone or ease of response in the high register.

H's compromise design entailed performance trade-offs of no great commercial consequence while Dolmetsch produced recorders only in small numbers, all pre-sold to customers on a waiting list, but a growing liability as the firm sought to increase output and expand its sales reach internationally. a¹439 treble re-design emerged as a business priority in the 1930s, as Carl worked to modernize the Dolmetsch recorder fleet and put an unsinkable treble flagship at the head of it.

No **C** descant (soprano) and hardly any **F** soprano recorders made in England survive from the eighteenth century. Measurement reveals that descant **B** and soprano **A** are both fairly accurately



Figure 4. Dolmetsch treble recorder **H** (left; instrument unnumbered) alongside Dolmetsch treble **C**. Pitches a¹439 (**H**) and a¹415 (**C**).

⁶⁵ Reported in Williams (2005), pp.87, 367, on Carl's posthumous authority—via a programme note written by his widow Greta. In Margaret Campbell's earlier account the performance went ahead as planned, and Tomalin did take part in it: see M. Campbell, *Dolmetsch: The Man and his Work* (London: Hamish Hamilton, 1975), p.220.



Figure 5. Dolmetsch descant recorder **B** (left) alongside Dolmetsch descant **I**, #1040 (centre) and Dolmetsch descant **L**, #1193 (right). Pitches a^1415 (**B**) and a^1439 (**I** and **L**). (See also image in the colour section.)

scaled-down versions of treble C/D. Finger-hole spacing on the sopranino has been evened out, so that gaps between the holes are all as wide as possible. Both play well, retaining as many of the trebles' tonal virtues as instruments so much smaller could reasonably be expected to possess. Both, like the trebles, have a full two octave plus range, and are accurately tuned across the whole of it.

a^1439 descant **I** (#1040, c1937–8) derives from **B**, seemingly, joining a shortened head and slightly shortened foot to a body practically the same as **B**'s (Figure 5). Accurate scaling from a^1439 tenor **G**—halving all **G**'s main measurements—would have produced 439 descants with slightly wider bores than they actually have, and tone-holes in very different places. 439 sopranino **J** (#733, c1934–5) derives from **A** via accurate scaling rather than head joint shrinkage (Figure 6). Despite appearances, **A** and **J** are one-piece instruments. Their joint-like external turning preserves the family likeness but is in other respects non-functional.

Throughout the pre-war decade 1930–1939, Haslemere Festival audiences heard Dolmetsch's five-part SAATB recorder consort most often playing pieces by Anthony Holborne,⁶⁶ and the four-



Figure 6. Dolmetsch sopranino **A** (left) alongside Dolmetsch sopranino **J**, #733. Pitches a^1415 (**A**) and a^1439 (**J**).

part SATB consort playing Bach chorales. Arnold adopted C.S. Terry's 1929 omnibus edition *The Four-Part Chorals of J.S. Bach* as recorder consort repertoire partly to fill a gap (hardly any music written or arranged specifically for recorder consort was available in England at the time), but partly too to strengthen connections between recorder ownership and active involvement in the Bach

⁶⁶ From *Pavans, Galliards, Almains, and Other Short Æirs*, 1599.

revival. Terry was a Bach expert of international repute, and a prominent supporter of the Dolmetsch Foundation.⁶⁷

Early Dolmetsch basses like **F** have a slightly restricted range, an octave and a sixth (F–d¹ as notated, sounding an octave higher), but Holborne bass lines keep within it; so do most of the 400+ Bach chorales in Terry’s edition. Dolmetsch basses at a¹439 made before the Second World War and for some while afterwards had the same restricted range: Carl saw no pressing need to extend it, and may have been reluctant to trade tonal solidity in the bottom octave for extra high notes offering players little in the way of practical advantage. His position changed when German-made recorders arrived back on the English market in the 1950s. According to F.F. Rigby, writing in 1958, ‘modern’ Dolmetsch basses could play up to high g¹ (notated)—matching their Schott competitors, imported from Germany—but had only ‘fairly recently’ been redesigned to make that feat possible.⁶⁸

Original eighteenth-century recorders almost always have a curved edge (labium), an equivalently curved windway to point air at the edge, and a cambered upper ramp cut into the head joint wall, reducing it nearly to edge thin-ness. Only a little wood is cut or filed away inside the head joint to thin the edge from beneath. Modern makers often refer to this minimally-intrusive type of lower ramp as the ‘candle flame’, since it is shaped rather like one.

Modern makers, like their eighteenth-century predecessors, usually ensure that the windway roof and the top of the block (forming the windway floor) are curved both to match each other and to match the curve of the edge. The top of the block at the windway exit end is, in a typical Baroque and Baroque-copy set-up, just a fraction lower than the underside of the edge. So although the air-stream fans out when it leaves the windway, a process assisted by chamfers at the edge end of the windway roof and at the edge end of the block-top, still rather more air is directed over the edge than under it into the bore of the instrument.

First impressions of treble **C**, to take one example

from the **A–F** set, are of an instrument that does not follow eighteenth-century voicing principles at all closely. It has an elongated upper ramp and a very definite lower ramp, removing much more wood from the inner wall of the head-joint bore than would be lost to a neatly-carved candle flame. Its edge, though curved in the original manner, sits in the middle of the airstream: the top of the block at the windway exit end is about as much lower than the edge as the windway roof is higher than the edge. The windway roof is arched to match the curve of the edge, but for most of its length the top of the block (forming the windway floor) is nearly flat, acquiring a curve only a few millimetres away from its windway exit end. Work seems to have been done using hand tools of the sort available to eighteenth-century makers, to rather less exacting tolerances, without the aid of templates or jigs to guide the tools and so ensure consistent voicing results from instrument to instrument. Consistent results were not achieved, as becomes clear when **C** and **D** are compared.

C and **D** are the **A–F** set’s treble pair, consecutively serial numbered; made at the same time by the same person or same small workshop team. Their edges have been cut in a near-identical way, with the same curvature and upper and lower ramp dimensions, but their windways differ markedly: **D**’s is half the height of **C**’s at the beak end, into which the player blows (Figure 7), though the same height as **C**’s at its windway exit end. **C** funnels much more air towards the edge therefore: it is a louder, possibly (subjectively) a coarser instrument, which a player wanting to compete against orchestral forces or fill a large hall could push harder than he or she could push **D**. Whether **C** and **D** differ to the extent they do by accident or design is now an unanswerable question: **C** could have left the Dolmetsch workshop with a windway much like **D**’s, subsequently opened up.⁶⁹

But looks are deceptive. However large or letter-box-like an early Dolmetsch windway might appear to be at the blowing end, it will narrow down to eighteenth-century jet dimensions before releasing air at its edge end. Careful roof and block chamfering

⁶⁷ See C. Terry (ed.), *The Four-Part Chorals of J.S. Bach* (2 vols, Oxford: Oxford University Press, 1929).

⁶⁸ F. Rigby, *Playing the Recorders* (London: Faber & Faber, 1958), p.59.

⁶⁹ **H**, Horniman Museum treble 2015.125 and Horniman tenor 2015.126 have flat or only minimally curved edges, and windways rectangular in cross-section at their edge-facing exit ends (despite an apparent slight arch at the blowing end in two cases, **H** and 2015.125). None of these were standard Dolmetsch instruments. 2015.126 (#102) must be one of the first Dolmetsch tenors ever made, for Miles Tomalin. Whether their straight edges were prototyping shortcuts or a design rationalization with which Dolmetsch was experimenting in the mid-1920s cannot be determined at this point. Curved edges and circle-segmental windways—with arched roofs and flat floors only shaped to match the curve of the edge close to their windway exit ends—were the Dolmetsch norm until well past 1930.

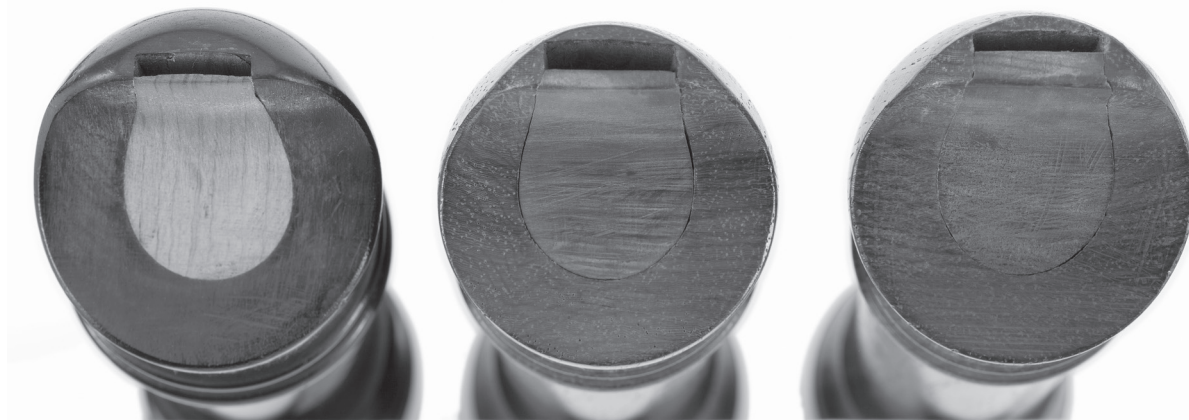


Figure 7. *Windways compared: H (left), C (centre), D (right).*

at the windway exit end ensures that air hitting the edge does so at angles approaching eighteenth-century over- and under-edge optima. Instruments with an eighteenth-century sound and ‘feel’ and with what Alec Loretto called eighteenth-century flexibility are the upshot—flexibility being the breath pressure variations that a recorder can accommodate without going too far out of tune—yet at the same time instruments that players used to modern woodwinds can blow as hard as prior (non-recorder) experience might tempt them to.

Fortunately for Arnold, his several deviations from common eighteenth-century voicing practice worked well in combination, allowing him to meet the high performance standards set by eighteenth-century makers via an alternative route. Less fortunately, the variations that resulted from freehand windway cutting turned each instrument into a bespoke block-fitting and voicing challenge. Tenor E’s problems began with its windway roof, probably (this is John Willman’s diagnosis). Their partial solution required block adjustments to compensate for over-heightening of the windway roof—localized, not along its entire length—and these adjustments were time consuming. Block-fitting and voicing would speed up very significantly if windway uniformity could be guaranteed. Straight edges and straight windways replaced more authentically curved versions of both in the mid 1930s, clearly with that in mind.

By then, though this had not been the case at the start of the decade, Dolmetsch faced effective competition from German makers who were

producing good Dolmetsch-fingered instruments—not so easily laughed off in England—and whose prices were by Dolmetsch standards highly attractive. The Herwiga-branded ‘Hamlin’ recorders bulk-imported for school use were incredible bargains. Higher grades of Dolmetsch-fingered Herwiga were built at a¹439 for sale in England and 435 for mainland Europe, in all four SATB sizes, a degree of market customization that Dolmetsch would have been pushed to match. Ivory-trimmed Bärenreiter-branded ‘Ruetz-modell’ instruments with Dolmetsch fingering threatened Dolmetsch on several fronts: they were well tuned, matched Dolmetsch’s two-octave-plus range, had exceptionally powerful bottom notes (thanks to their wide bell-joint bore and key for bottom f¹); and in Manfred Ruetz their player-sponsor had an energetic and influential champion. Ruetz was during ‘his short career ... Germany’s leading recorder virtuoso’.⁷⁰ Carl Dolmetsch had no means of knowing, then, that war when it did break out would lift the threat of German competition and keep it lifted till the 1950s, or that Ruetz would be killed in action. Carl was not modernizing the recorder in a market vacuum in other words. He was manoeuvring in relation to rivals: surrendering ground that looked certain to be overrun by school recorder mass producers while doing everything possible to protect his firm’s best-in-the-world reputational supremacy.

Dolmetsch could justify a ten-fold price differential vis-à-vis Herwiga Hamlin only if people who paid the extra would receive a far superior solo instrument

⁷⁰ Ehrlich (2021), p.17.

in return. That superiority had to be apparent even when Dolmetsch recorders were tested against the best available German-made, Dolmetsch-fingered alternatives. Hence the later 1930s Dolmetsch drive for maximum volume, for effortless high note production (a crucial advantage in Bach and Telemann), for the strongest low note production possible without opening out the footjoint bore almost to a cylinder and adding keywork like Ruetz's; and for totally stable, clog-proof voicing.

Treble **K**, at a^1439 , is an interesting transitional instrument made $c1937-8$ (#1131; Figure 8, second from left. For a larger image, see the colour section). Its beak is sheathed in plastic rather than ivory: the sort used to make billiard balls. **K** has a straight edge; the floor and roof of its windway are flat not arched. Five thin and shallow grooves run along the full length of the windway roof. The windway tapers slightly, from 13.7mm width at the blowing end down to 12mm at the windway exit end. **K** has a neatly fashioned lower ramp closely resembling

H's, but unlike **H** has been scaled to preserve the joint proportions of a 1415 Dolmetsch trebles such as **C** and **D** (to preserve **C/D**'s 1:2 ratio of cylindrical to conical bore in other words). **K** is a new type of 1439 treble, evidently, designed for peak performance at the higher pitch and for somewhat simplified manufacture. The ivory lengthening ring at the top of its centre joint (real ivory, not plastic) suggests that whoever tuned **K** thought it played sharp and wanted to flatten it permanently. Later iterations of basically the same design, **M** for instance (Figure 8, third from left), are slightly longer than **K** in all three joints.

K, despite its prototype traits, is a remarkably successful instrument: loud when the player wishes it to be—its lowest notes gloriously so—yet remaining flexible in Loretto's sense, well in tune across its whole two-octave-plus range, clear-toned but with enough reediness or bite to help the player make it sound consistently interesting.

Compared to all the older Dolmetsch recorders discussed in this article, **K** has a short upper ramp—short also by eighteenth-century standards—fanning out noticeably as it slopes away from the edge. The upper ramp reveal has side walls angled outward rather than vertical. These changes were presumably intended further to reduce edge and ramp resistance to air flow through the windway, to allow harder blowing and greater volume. a^1439 descant **L**, $c1937-8$ (#1193; Figure 5), has a similarly shortened upper ramp: it is a good deal louder and brighter-sounding than descant **I**, though in serial number terms the two are only 150 or so apart. Tenor and bass designs were modernized at the same time, to reach similar performance goals.

More wood has to be removed from the head-joint wall to cut a straight edge and flat ramps than would be were the edge curved and ramps arched but of equivalent width. The modernized Dolmetsch recorder's thickened head-joint walls allowed for this, and also made beak-sheathing in ivory more straightforward. When some of that extra wood had been turned away to leave a stub over which the sheath fitted, still it was possible to cut a windway into the stub wall without breaking through to surrounding sheath material. Tiny gaps between wood and ivory or plastic if and where breakthrough happened would shift and distort over time, as moisture seeped into them, so it was best avoided. **K** and **M** both have windways with small splits at their blowing end top corners (Figure 9), for which cutting tool breakthrough from stub to sheath can be blamed. Post WWII models eliminated this structural vulnerability through further slight



Figure 8. Four Dolmetsch trebles. **H**, **K** (#1131), **M** (#1205), **N** (#1307). Pitches a^1439 (**H**, **K**, **M**) and a^1440 (**N**). (See also image in the colour section.)

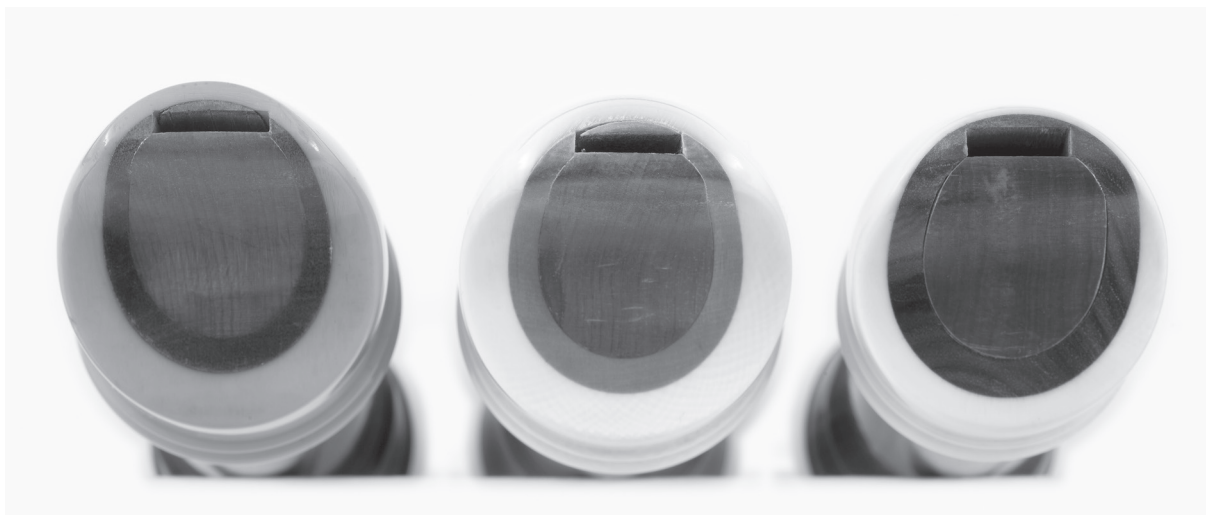


Figure 9. *Windways compared: K (left), M (centre), N (right).*

narrowing of the windway at its blowing end: windways from then on were parallel-sided rather than tapered (N is an early example, also shown in Figure 9).⁷¹

All the earlier, pre-modernization Dolmetsch recorders examined so far (up to and including J) have, like the eighteenth-century originals on which they were based, fingerholes that look from the outside to be roughly the same size. (Larger holes on larger instruments obviously, and ignoring double holes which complicate the picture.) Inside the bore these holes are coned out—undercut—as much as necessary to get the instruments in tune.

Undercutting encourages smoother air-flow through the holes when fingers are lifted, strengthening individual notes and enriching tone across the range. Straight-sided fingerholes made just with a drill enter the bore at abrupt angles, 90 degrees unless set at a slant for some reason. Sharp corners at the junctions so created can be acoustically destabilizing: these are the corners with which undercutting does away.

Tuning by undercutting is a skilled job. Arnold and Carl guarded the technique as a trade secret and were reluctant to discuss it outside the family. But in the German workshops tuning know-how seems to have been more widely dispersed. Even the cheap school Hamlins were tuned partly by undercutting. This would have made no business sense unless staff on hand to do the tuning could deliver accurate results at production line speed.

Dolmetsch **K** and **M** have finger holes which are much more nearly straight-sided than (say) **C**'s or **D**'s. They have been relocated, and in two cases noticeably re-sized, to ensure that recorders made in this modified way emerge almost ready-tuned from the drilling stage of the production process. Now Carl could check each instrument for tuning accuracy and make final adjustments in minutes rather than hours.

K has finger holes nearly where they ended up in the final version of the new design (but not quite there), close to straight-sided but undercut where they needed to be to make **K** work as well as possible on its own prototype terms. **M** (#1205, with the date 1940 neatly etched into its head joint), has finger holes sited and sized almost exactly as they ended up in the final design. So with **M** as witness, the year in which the Dolmetsch treble recorder arrived at fully modernized perfection can be determined with reasonable confidence: 1940 or a little earlier.

In 1978, via Irving Sloane (an American instrument maker and author of books about instrument making), Carl put detailed technical drawings of 'The Dolmetsch [treble] Recorder' into the public domain.⁷² 1978 was the year of the boardroom rift at Arnold Dolmetsch Ltd, forcing Carl out: with trouble brewing but the final blow yet to fall he may have collaborated with Sloane in order to secure his legacy as a maker. Sloane spent time in Haslemere watching Dolmetsch wooden recorders being made. He described each manufacturing step fully, and

⁷¹ N is a slightly shorter instrument than K and M, as it would need to be for comfortable playing at post-war international standard pitch, a¹440. Pitch in the USA had been standardized at a¹440 in 1917. See Haynes (2002), pp.350–63.

⁷² 'The Dolmetsch Recorder', in I. Sloane, *Making Musical Instruments* (New York: E.P. Dutton, 1978), pp.146–57.

included pictures of the hand tools and machinery used. Sloane's book, together with 1970s film footage showing Dolmetsch craftsmen working with the same tools and machines,⁷³ does away with any need to speculate about Dolmetsch wooden handmade treble recorder design developments from 1945 onwards. Sloane's technical drawings match **M**'s actual measurements almost exactly.

PART THREE

During the Second World War the Dolmetsch workforce made aircraft parts instead of musical instruments. (**M** may have been dated 1940 to confirm and quietly celebrate its arrival literally under the radar.) Interviewed in 1945, Carl could not discuss the firm's war efforts in any detail but did admit both to prior experience of mass production and to pride in his team for embracing it more radically:

Suffice it to say that much of the old spirit has remained, and that the extremely high standards of workmanship, required for the peacetime manufacture of musical instruments, [were] readily applicable to production of delicate components by the hundred thousand for the needs of war. Although we were [before the war] by no means averse to the use of mass production methods to a reasonable degree, where the quality of the finished article did not suffer, it was perhaps in this field where the greatest reorganization had to be effected.⁷⁴

Mass production lessons learned during the war probably were applied to instrument making across the board, when it resumed, not just to the design and distribution of plastic recorders starting in 1947. Some of the tools pictured in Sloane's book will have entered service after the war. But as **M** attests, the Dolmetsch wooden treble had by 1940 already assumed a form that would allow it to be made at speed in the manner described by Sloane—and a form pre-adapted to plastic moulding. In this respect Carl struck very lucky indeed. While modernizing recorders in the 1930s he had no idea that a plastic revolution lay over the horizon.

Before turning attention to its plastic offspring,

another design change affecting the Dolmetsch wooden treble needs acknowledging. **M** (but no earlier instrument so far examined) has a greatly elongated and re-angled lower ramp running the entire length of the head joint from the edge southward. A ramp of this type can be made using a long file over which the head joint slides, the file itself clamped immovably, or with a lever-operated broaching tool as pictured in Sloane: the same process in reverse, clamping the head joint tight and moving a set of cutting teeth to and fro within it. Intricate inner-bore excavation with small, stick-mounted tools and files was no longer necessary.

Since the fully modernized Dolmetsch instrument has upper and lower ramps that both differ markedly from the eighteenth-century type, it produces a far from eighteenth-century sound—'purer' in Carl's opinion, with hardly any of the reediness that Arnold (based on Bressan playing experience) favoured 'lest it cloy', and did manage to preserve in earlier models. Tonally, though of course this is a matter of taste, the elongated lower ramp may have been a modernizing step too far; one at which still-evolving prototype **K** stopped short.

War when declared put an immediate halt to the import of German manufactured goods, but not to recorder teaching in English schools. Rather the reverse: children evacuated from large cities to country towns and villages were ripe for induction into the 'folk' ways of their ancestors, which they were told included recorder-playing. A shortage of school-level instruments resulted.

The first to spot this business opening and move to fill it was apparently Mark Barnes, co-proprietor of the London musical instrument dealership Barnes and Mullins. Barnes approached Edgar Hunt, by now working in Schott & Co.'s London showroom as the firm's in-house recorder consultant, with a proposition and a prototype: a descant with a moulded plastic head-joint and wooden body. Barnes hoped to take it to the market with Schott's backing. (Alexandra Williams elicited this and much more valuable information from Hunt when interviewing him towards the end of his life.)

Barnes's prototype 'was not up to a standard of which Hunt could approve' but the pair 'put their heads together outside official work hours, and

⁷³ Footage now in the Huntley Film Archive. Details may be found here: <<https://www.huntleyarchives.com/preview.asp?image=1008378>>, accessed 2 January 2022. The film must have been made in the late 1960s or 70s, since it shows craftsmen at work inside Dolmetsch's 'modern factory', opened in 1968.

⁷⁴ C. Dolmetsch, 'Carl F. Dolmetsch: Music and Craftsmanship', essay in J. Farleigh (ed.), *Fifteen Craftsmen on their Crafts* (London: The Sylvan Press, 1945), pp.32–3.

came up with a different design that eventually became that of the first [Schott] plastic recorders'. Hunt 'didn't have a lot of say in the preparatory side. Mark Barnes ... handled a lot of ... the preliminary details', setting up a small recorder factory in South Kensington and hiring a team of 'mainly elderly' women to work the machines. Schott plastic descants sold initially for the same price as Herwiga Hamblins had done before the war (four shillings and sixpence). Barnes and Hunt each claimed a halfpenny royalty per instrument sold, and according to Hunt made 'a very useful couple of hundred pounds a year' that way.⁷⁵

Barnes very likely took his plastic-and-wood prototype to other potential business partners. Joseph Williams and Co., of 29 Enford Street, London W1, had 'The Enford School Recorder' on sale by November 1939, along with a tutor book by Ernest Haywood.⁷⁶ The 'Lyra' school recorder was an Enford clone, differing only in the composition of the plastic used to make its head joint. Joseph Paxton & Co. (36–38 Dean Street, W1) advertised 'Paxton Recorders' in March 1940,⁷⁷ and 'The Paxton Dulcet Recorder: British Made and Tested' from January 1941.⁷⁸

The Paxton Dulcet very closely resembled Rose, Morris & Co.'s post-war Dulcet, though it cost more. Since 'Dulcet' was a long-established Rose, Morris & Co. trade name it may have been loaned to Paxton for the duration of the war, allowing Paxton to make school recorder hay while Rose, Morris factory staff were officially busy producing bomb components. Paxton also advertised 'Music for the recorder arranged in graded form by Edgar H. Hunt': three books, for unison, two-part and three-part playing. Hunt's unconcealed involvement with one of Schott's publishing rivals suggests a rather more opportunistic approach to deal-making than Alexandra Williams was ready to allow, and a looser contract with Schott's than modern lawyers would probably advise.

Rose, Morris & Co. (not Paxton) filed a patent application in May 1944, seeking to protect what they claimed were innovative aspects of their recorder head-joint moulding process. Illustrations

supporting that application show the Dulcet head joint, unmistakably.⁷⁹ A longitudinal section through the Dulcet's one-piece body revealed the conical bore and hole positions on which Dolmetsch fingering depended—copied from pre-war Hamblins probably, which in turn had been copied from Dolmetsch. Since no later British recorder makers venturing into plastic wanted to copy Dulcet head joints, the Rose, Morris patent had no commercially inhibiting effect, but its presence on the register warned others to protect design specifics when heavily invested in them. Dolmetsch in particular took note.

The Enford, Lyra and Dulcet descants had identical black-painted wooden bodies, probably obtained from the same supplier, onto which different retailers fitted differently-branded heads. They were viable instruments, just about, better than no recorder at all; which is what the choice boiled down to until Schott's all-plastic descants became available. Schott model one, in cellulose acetate, was softer-toned than its Bakelite successor, less likely to break when dropped, but liable to warp when left in the sun or near a hot radiator. The balance of pros and cons settled in Bakelite's favour.

With his descant recorder supply problems solved Hunt moved on to larger sizes. He sketched out designs for 'Schott's wooden treble and tenor' in summer 1941.⁸⁰ Externally these resembled the German Herwiga-Rex recorders developed at Hunt's instigation in 1933–4 (the most expensive Dolmetsch-fingered instruments in König/Herwig's export range—hence Rex, also of course a pun on König). Some were stamped 'SCHOTT'S MADE IN ENGLAND' prior to sale, others 'RUSHWORTH & DREAPER LIVERPOOL'. They were neatly turned, well tuned but poorly voiced. No-one who had played a Herwiga, even the cheapest, would have found these Schott-Rushworth substitutes remotely satisfactory. They were not available for long. Hunt later (in *The Recorder and its Music*, first edition 1962) blamed rationing for recorder shortages unrelieved by the arrival of Schott's plastic descant ('Wood was out of the question'),⁸¹ and that may have been partly true: wood allocations were controlled as the war dragged on and stocks dwindled. Schott

⁷⁵ Williams (2005), pp.144–6.

⁷⁶ Advertised in *The Musical Times* 80/1161 (November 1939), p.743.

⁷⁷ *The Piping Times* 3/7 (March 1940), p.26. Cited in Williams (2005), p.405.

⁷⁸ *Music & Letters* 22/1 (January 1941), unpaginated front matter.

⁷⁹ British Patent No. 582347. Application Date 19 May 1944; Specification Accepted 13 November 1946.

⁸⁰ Ehrlich (2021), p.50.

⁸¹ Hunt (1962), p.141.

and Rushworth could withdraw their wooden models under war economy cover.⁸²

The Dolmetsch Bakelite treble went on sale in 1947. 'AT LAST!', ran an advert placed in 1948: 'An inexpensive Treble Recorder by DOLMETSCH[,] Plastic model accurately based on the Dolmetsch pattern, incorporating the qualities for which these recorders have so long been famous. Range of nearly 2½ octaves, chromatically complete and in perfect tune, with pure, round tone'.⁸³ At 2 guineas plus 14s Purchase Tax the new Dolmetsch trebles cost eight times as much as Schott plastic descants. That price came down over time, but the point at which it was set initially sent important signals. Here were products of uncompromised quality made far quicker than was possible using traditional methods, cheaper than handmade recorders only for that reason. Whether they bought in Bakelite or in ivory-mounted exotic hardwood, customers would acquire an 'instrument ... made under the personal direction of Mr. Carl Dolmetsch ... guaranteed for intonation and accuracy of manufacture'.⁸⁴ The plastic version was simpler in external appearance, with the same basic silhouette as its wooden original but none of the detailed turnery. In Arts and Crafts spirit, Carl respected the integrity of the new material and chose to make a virtue of it.

To head off imitators Arnold Dolmetsch Ltd filed a patent application giving detailed measurements: bore dimensions were specified, so were finger hole diameters, so were finger hole locations measured in inches from the tip of the beak. British Patent No. 628268, issued on 25 August 1949, turned the modernized treble design which Carl had developed step by experimental step (and might in other circumstances have gone on developing) into *the* Dolmetsch pattern, legally protected, frozen in its 1940s moment for decades to come. British Patent No. 665757 did the same for the Dolmetsch Bakelite descant, launched in 1950.

Surviving Dolmetsch Bakelite recorders can be approximately dated. Wording in the text box on their head joint undersides changed over time. The first trebles produced were simply labelled 'DOLMETSCH | TREBLE RECORDER | PATENT APPLIED FOR'. 'MADE IN ENGLAND' was added

early on, followed by 'BRITISH PATENT No. 628268' when the patent had been granted. The initial omission of 'MADE IN ENGLAND' suggests that Dolmetsch underestimated the Bakelite treble's export potential. Thousands were needed to meet pent-up domestic demand (since new, pleasurable playable trebles had been impossible to obtain in England since 1939); and Dolmetsch at that stage had no high-volume international distribution systems in place. Carl struck a worldwide distribution deal (minus Australia) with Boosey & Hawkes in or around 1950, and from then on left Boosey & Hawkes in charge of much of his firm's marketing. Boosey & Hawkes, as Britain's leading manufacturer of brass and orchestral woodwind instruments—suppliers to the Empire, while there was one—had a global reputation and global reach: while they continued to prosper so in theory would Dolmetsch.

Dolmetsch's plastic descant, 'MADE IN ENGLAND' from the beginning, like the treble went through a 'PATENT APPLIED FOR' phase before acquiring a number, displayed from then on. Very early examples had an elegantly thin-walled foot joint, which would shatter if the instruments were assembled or adjusted roughly. A spate of accidents in school brought this weakness to light. Dolmetsch responded by re-shaping the foot joint. Though trivial in itself, this episode shows the importance he attached both to visual aesthetics and to full functionality even when working in plastic. A two-piece descant with an immovable foot (like Schott's) would have been easier to make.

A Bakelite tenor joined the treble and descant in the mid-1950s. Early examples made the now-familiar 'PATENT APPLIED FOR' claim but a patent number never appeared. The claim may have been dropped. Though musically successful, these were larger, heavier instruments than young players could conveniently handle, unlikely to sell in numbers sufficient to interest rival manufacturers.

Schott had some catching up to do. Hunt designed a new-look Schott plastic descant in the early 1950s, and—now Dolmetsch had proved the viability of the concept—a plastic treble to match. Both the new Schott models copied Dolmetsch finger hole spacings and hole diameters, easily done with reference

⁸² They may have been made in Rushworth's Liverpool organ-building workshop: Hunt's pre-war business connection with Rushworth, the firm's pre-war interest in recorder retailing and the seeming ease with which organ builders could be redeployed to a recorder production line all point in this direction.

⁸³ In J. Manifold, *The Amorful Flute: An Unprofessional Handbook for Recorder Players and All Amateurs of Music* (London: Workers' Musical Association, 1948), p.xiii (at the back of the book).

⁸⁴ Guarantee card packed up with all 1950s Dolmetsch recorders, plastic as well as wooden.

to Dolmetsch patent documentation and to the Dolmetsch plastic instruments themselves.

Hunt gave the new Schotts a radically un-Dolmetsch-like silhouette, and ramp geometry bearing no relation to Dolmetsch's. Changes rather for the worse—made for legal reasons possibly, to steer round Dolmetsch patents—meant that Schott could sell plastic recorders against Dolmetsch competition only by selling them cheaper. Rose, Morris & Co. brought all-plastic 'Dulcet' descant and treble models to the market in the 1950s. The former very closely resembled Herwiga's pre-war Hamlin descant, fondly remembered by schoolteachers (Rose, Morris had copied Herwiga, obviously). Main treble dimensions seem to have been derived from the descant's by proportionate scaling up, but finger-holes misplaced on the larger instrument made it practically impossible to play in tune.

Eager to patent ideas of his own, Hunt designed a wooden school descant for Schott. This was voiced in a novel manner, its edge formed by thinning only the outer wall of the head-joint (this completely eliminated the lower ramp, along with the challenge of cutting it), and with windway and block arrangements also adapted to rapid manufacture using simple woodworking machines. The design evolved over the next quarter century, collecting further patents along the way. A moulded plastic beak section replaced the original wooden one, with (ultimately) the whole of the windway pre-formed within it. Although 'Schott's Wooden Descant' did not play as well as the plastic model also sold by Schott, and nothing like as well as Dolmetsch plastic descants, it did offer customers drawn to the lure of 'real wood' a cheap option; and it was by plastic standards mercifully quiet. This may explain school recorder teachers' willingness to recommend it.

Dolmetsch Bakelite prices dropped to maximize sales volume on schools' markets across the English-speaking world. Carl toured the world with

his keyboard accompanist Joseph Saxby, giving thousands of recitals, tirelessly promoting the brand. Until well past 1970, well-advised beginners would—if susceptible to British pedagogic influence apart perhaps from Hunt's—start with Dolmetsch and aspire to end there, trading plastic for hand-made wood when they could afford to and, if really keen, acquiring a full S⁸SATB set of instruments.⁸⁵

Brüggen, in 1982 (joking in *Early Music*) imagined 'all the recorders that exist today ... lengthened into one sonic serpent ... reach[ing] from Amsterdam to Melbourne'.⁸⁶ By then, Dolmetsch alone had contributed more than 2,000 recorder kilometres to the creature's total length,⁸⁷ an immense achievement whether measured in metaphorical distance covered or in terms of musical and pedagogic impact. Recorder makers copying Dolmetsch before and after the Second World War added thousands more kilometres. Friedrich von Huene (USA) and Hans Coolsma (the Netherlands), later-to-be-famous makers, started in the 1950s by copying Dolmetsch. Von Huene undercut Dolmetsch by \$10 per handmade instrument when starting out, choosing to compete on price until he had built a reputation for comparable quality.⁸⁸

Of course the serpent kept on growing. Japanese plastic recorders replaced Dolmetsches as its main source of nutrition despite Dolmetsch efforts to stay current by completely re-designing their own plastic range and switching from Bakelite to much lighter ABS. This happened in the late 1960s and produced a fresh crop of Dolmetsch patents.

Superior Japanese marketing, attractive Japanese products and perhaps a sense that teachers were ready for a change slowed Dolmetsch sales, especially export sales.⁸⁹ The resulting cashflow problems hastened the firm's demise. So—unexpectedly—did von Huene (encouraged by Morgan, as Geoffrey Burgess has shown),⁹⁰ with a damning product review in *The American Recorder Magazine*, August 1971.⁹¹

⁸⁵ 'Sooner or later the keen recorder player decides he must possess one or more of these [handmade Dolmetsch] instruments; generally, the decision is in favour of not just one but more' (Rigby, 1958, p.81).

⁸⁶ F. Brüggen, untitled introduction to 'The Recorder: Past and Present' themed issue, *Early Music*, 10/1 (January 1982), p.5.

⁸⁷ 'More than 6,000,000 people play Dolmetsch recorders': this was Arnold Dolmetsch Ltd's advertised sales tally in 1974 (Haslemere Festival Golden Jubilee Souvenir Programme, p.20). Three descants placed end to end span almost a metre. If 30 million really were produced, as Carl later claimed (C. Dolmetsch (1987), p.83), then Dolmetsches alone would stretch two thirds of the way from Amsterdam from Melbourne.

⁸⁸ Burgess (2015), p.65.

⁸⁹ Boosey & Hawkes were embattled too, facing strong Japanese competition across their whole brass and woodwind product range. Their marketing efforts on behalf of Dolmetsch may have slackened off in consequence.

⁹⁰ Burgess (2015), pp.164–5.

⁹¹ F. von Huene, 'A Plea for Standard Pitch', *The American Recorder* 12/3 (August 1971), pp.77–8.

The alleged sharpness of Dolmetsch ABS descants supplied a pretext, but von Huene had been wanting to pick a public fight for some time. Dolmetsch hegemony was the real issue at stake.

Carl was unwise, in retrospect, to claim as often and as forcefully as he did that his instruments were unequivocally the best that had ever been produced, or ever would be unless further improved by himself. This claim was sure to be falsified as other capable makers came forward, as leading players took their instruments up and as students taught by leading players followed suit. The suggestion that any one type of recorder could deliver optimal results across centuries of repertoire looked ridiculous in any case, as more and more specialist knowledge about early music performance practice accumulated. No-one at the world recorder-making summit, whether Dolmetsch (on top for decades) or rivals more recently ascending, could expect to stay there long once the philosophical foundations holding it steady had given way. With 'best' recognized as a category error—best for what?—players stopped chasing the unattainable and looked instead for instruments with distinctive strengths, trying to build versatile collections from which the right recorder(s) for each job taken on could be selected.

Over 20,000 handmade Dolmetsch recorders were sold between 1946 and 1981. Most of them probably still exist. Thousands are probably still in use among amateurs aged 60+. Today's professionals hardly ever play them in public: younger pros may never have played them at all. For those interested in period-instrument performance and in mid twentieth-century British recorder music, Dolmetsches of contemporaneous date will always be the tools of choice. Robert Ehrlich travelled with a Dolmetsch treble for that reason, as Eve O'Kelly established when interviewing him around 1995, but was by then unusual in admitting any wider fondness for them.⁹²

Ehrlich prompts the first of several reflections bringing this article to a close. Dolmetsch recorders are difficult to play well. The modernized models offer little resistance to the breath: they do not have

an attractive sound built in. They will only produce an attractive or otherwise worthwhile sound for players who can imagine one, and who have the technical resources necessary to turn imagined possibilities into audible output. Harlan's self-abnegating ideal ('an instrument whose sound could not be enhanced, no matter how great the art; whose essence could not be altered by any virtuosity')⁹³ could be realized far more economically using instruments made in Germany, available even in pre-war England once Hunt had started to import them.

The further Carl progressed down the path of modernization, the less well suited his instruments became for consort use. For several post-war decades, therefore, the pleasures of consort playing supposedly available to new recruits joining Britain's amateur recorder movement proved strangely elusive. Much of the music published for their benefit sounded as or more effective on pre-war Herwigas, which could 'occasionally be purchased second-hand',⁹⁴ and on other makes and models arriving from Switzerland and Germany as imports picked up.

F.F. Rigby (*Playing the Recorders*, 1958) completely ignored problems of balance and blend in consort playing. Anthony Rowland-Jones tackled them obliquely in *Recorder Technique* (first edition 1959), telling consort specialists to look for recorders with a 'soft, sweet' tone or with a powerful lower register but limited upward range. Good consort instruments preserved the playing character of renaissance originals, apparently.⁹⁵ Rowland-Jones preferred Dolmetsch recorders for solo work, and put that down to what he thought was their Baroque design.

The dichotomy proposed, Renaissance—consort vs Baroque—solo, had no basis in pre-twentieth-century recorder history. Like their predecessors, later seventeenth- and eighteenth-century makers designed recorders to play successfully in consort, supplied matching consort sets when ordered, and as far as is known voiced same-sized instruments the same way whether intending to sell them singly or in a set.

⁹² E. O'Kelly, 'Professional Recorder Players and their Instruments II', in Thomson and Rowland-Jones (1995), pp.178–9.

⁹³ Moeck (1982b), p.63.

⁹⁴ A. Rowland-Jones, *Recorder Technique* (London: Oxford University Press, 1959), p.137.

⁹⁵ Cf. A. Baines, *Woodwind Instruments and their History* (London: Faber & Faber, 1957), p.72: 'sixteenth-century [recorder] design ... gives a fuller, less reedy sound, ideal for consort polyphony, but possibly less interesting in the expressive sonatas, concertos and arias of the eighteenth century'. Rowland-Jones took his consort vs solo cue from Baines, probably.

Dolmetsch made and marketed S⁸SATB recorders fairly closely modelled on eighteenth-century originals for a few years in the early 1930s. Recorders A–F, discussed in this article, are a rare surviving full-consort set of Dolmetsch Baroque copies.⁹⁶ Manfred Ruetz reviewed this or a similar set for the German recorder newsletter *Nachrichtendienst der Beratungsstelle für Blockflötenspiel* in autumn 1933—as a set, significantly, praising its ‘perfect tuning within a consort’ as well as the ‘purity of intonation of every instrument within itself’.⁹⁷ The newly-founded Schola Cantorum in Basel acquired a set in 1933 or 4 and with it, inconveniently, the Dolmetsch-preferred a⁴15 pitch standard.⁹⁸ Until 1937, when Carl took over Festival planning,⁹⁹ or perhaps until Arnold’s death in 1940, recorders played in Haslemere and broadcast from Haslemere were of the A–F, Baroque copy type, built to handle solo and consort roles in an equally convincing way.

Modernization was a necessary phase in the revival, no doubt. Until they could hold their own in modern orchestral company recorders would not have been taken seriously by mainstream musicians. It was not a phase anticipated by Arnold, however. He did not predict the ‘German recorder epidemic’, realize how resourceful rival German makers would turn out to be, or begin to compute the profits achievable through recorder manufacture if planned and managed to that end. Carl did the maths, looked out at the competition, and redesigned accordingly.

Because Carl’s changes happened incrementally over several years in the later 1930s, none on its own seemed to make a massive difference. War concealed their cumulative impact by stopping recorder manufacture for the duration. Business as usual was a reasonable customer assumption when it started again. Carl stressed continuity, promising small improvements true to his father’s spirit (‘always

the living past’) without getting drawn into debate about downsides to improvement, or even admitting that there were any. Pre-war Baroque copies like A–F disappeared from the Dolmetsch catalogue, unmourned because unmissed. ‘Avoid antique instruments’ was John Manifold’s advice to British amateurs in 1948: ‘they were built probably for a flatter pitch than the modern standard one. The same may be said of some of the instruments built by the late Arnold Dolmetsch’.¹⁰⁰

New-wave early musicians in the 1960s and 70s needed modern orthodoxies to challenge: Carl’s recorder modifications—and the readiness of millions of players worldwide to accept them—made the instrument resulting an obvious target. Makers and players re-discovering ‘the Baroque recorder’ and ‘Baroque pitch’ were either unaware that Arnold Dolmetsch had got there 50 years ahead of them, or wilfully ungracious in withholding due acknowledgement. The irony of ‘historically informed’ escape from modern Dolmetsch back to early Dolmetsch was lost on a generation much better informed about their instrument’s distant past than they were about work done to revive its fortunes in the first half of the twentieth century.

In the late nineteenth and early twentieth centuries, when Arnold Dolmetsch was making his name and gathering patrons round him, original eighteenth-century instruments could be bought fairly easily and cheaply. Close copies of originals would have been difficult to sell if described as such. Dolmetsch added value by promising to achieve much enhanced performance by minimally intrusive means, preserving the integrity of old designs while somehow transcending their limitations. He shared these progressive-historicist convictions with other leading lights in the Arts and Crafts movement, and with the movement’s more or less committed consumer adherents. (The waiting list for Dolmetsch

⁹⁶ Bruce Haynes distinguished usefully between a work-copy or ‘blind duplicate of an original, “warts and all”’, and a ‘style-copy ... [capturing] a sound and character that is convincing; that is, as we imagine instruments of the time to have sounded, and even more, pleasing to hear’. Style-copies eliminate ‘faults in an original’, yet leave the audience ‘convinced that what they are hearing has a recognizable *cachet* of oldness’. See B. Haynes. *The End of Early Music: A Period Performer’s History of Music for the Twenty-First Century* (Oxford: Oxford University Press, 2007), pp.158–61. In Haynes’s terms, Arnold Dolmetsch made style-copy recorders. He tested them for sound and feel against eighteenth-century originals; preserved a recognizable *cachet* of oldness, and did eliminate what he took to be faults.

⁹⁷ Ehrlich (2021), pp.17–18.

⁹⁸ See A. Smith, *The Curious Story of Low Pitch at the Schola Cantorum Basiliensis* (Basel: Forschungsportal Schola Cantorum Basiliensis, 2020). Available here: <www.forschung.schola-cantorum-basiliensis.ch/de/forschung/ina-lohr-project/smith-lowpitch.html>, accessed 3 January 2022.

⁹⁹ Hunt (1988), p.14.

¹⁰⁰ Manifold (1948), p.5.

recorders reflected their desirability as Arts and Crafts lifestyle accessories.¹⁰¹

Dolmetsch Foundation copywriters drove the point home in words closely paraphrased from William Morris. Arnold had ‘a living message for the art of today’.¹⁰² He had the ‘peculiar turn of genius’ needed to understand early music ‘almost intuitively’; when building instruments ‘he found *in himself* both imagination and skill equal to the demands of creative reconstruction’.¹⁰³ Though years of experiment were conceded, Arnold finally ‘wrested the secret of successful recorder making’ not from originals but from his own subconscious. No ‘mere copy’ ever left his workshop.¹⁰⁴

Carl learned stories like this at his father’s knee. Their blend of truth and donor-orientated hyperbole became more inventively hyperbolic as Carl told and re-told them after Arnold’s death:

The new instruments, after exhaustive research and experiments, had by this time [by the time Arnold’s lost original re-appeared] reached such a degree of perfection that they superseded the old one.¹⁰⁵

The first modern recorder was made in 1919, to be followed by the second and then a third, each better than the last.¹⁰⁶

Since all available Dolmetsch testimony except that of surviving instruments said that the firm’s long pre-war phase of experimentation with Baroque copies had never happened, makers doing much the same in the 1960s and 70s probably did think they were pioneering. It was a forgivable mistake. Carl could have set them straight but was by then, after several decades’ service as its spinner-in-chief, as tightly enmeshed in the web of Dolmetsch recorder legend as Arnold himself. Surviving instruments were widely dispersed, unlikely ever to re-appear in

numbers sufficient to raise questions. So Carl kept his counsel; and the modern revival of Baroque recorders started all over again.

~~~~~

Carl Dolmetsch, his twin daughters Jeanne and Marguerite and son-in-law Brian Blood opened a new workshop in 1978: J&M Dolmetsch. They (re-)acquired Arnold Dolmetsch Ltd’s assets when the latter collapsed in 1981, and again changed name. The company resulting, Dolmetsch Musical Instruments, continued to make and design recorders until 2010. Carl died in 1997. Dolmetsch-branded instruments are produced under licence to this day, by Aafab in the Netherlands.<sup>107</sup>

## APPENDIX ONE

How long was the lost Dolmetsch Bressan gone; and when was Dolmetsch ready to sell recorders of his own?

When was the lost Bressan retrieved? Arnold Dolmetsch’s 1929 publication *Dolmetsch and his Instruments*, part family biography and part sales catalogue, gives the first printed version of the story. ‘One evening, after a concert during the war, while waiting for a train in the darkened Waterloo station, my youngest son, Carl, who was in charge of the bag containing the precious Recorder, put it on the ground. The train came, we got in hurriedly, and when half way to Haslemere we discovered that the bag was missing!’<sup>108</sup> Arnold’s private diary note of the mishap is dated 30 April 1919.<sup>109</sup> Either Arnold forgot to check when writing *Dolmetsch and his Instruments* or—more likely—made a tactful decision to move it back a year. In wartime anti-bombing blackout conditions mistakes like Carl’s were easily made.

<sup>101</sup> For an Arts and Crafts lifestyle case study in which Dolmetsch recorders figure prominently, as does Edgar Hunt, see Chapter 26 (‘Pipes and Viols’) in J. Uglow, *Sybil and Cyril: Cutting Through Time* (London: Faber & Faber, 2021).

<sup>102</sup> Donington (1932), p.5. Cf. Morris (Preface to Robert Steele’s *Medieval Lore* anthology, 1893): ‘the new sense of modern times, the great compensation for the losses of the centuries, is now teaching us worthily, and making us feel that the past is not dead, but is living in us, and will be alive in the future which we are now helping to make’.

<sup>103</sup> Donington (1932), pp.5, 22, 8 (italics added).

<sup>104</sup> Dolmetsch Foundation prospectus, cited above (n.28).

<sup>105</sup> C. Dolmetsch (1945), p.42.

<sup>106</sup> C. Dolmetsch (1987), p.83.

<sup>107</sup> See <<https://www.aafab.nl/overAafab.php?lan=2>>, accessed 2 January 2022.

<sup>108</sup> A. Dolmetsch, *Dolmetsch and his Instruments* (Haslemere: Arnold Dolmetsch, 1929), p.4.

<sup>109</sup> For a photo of the diary entry see A. Mayes, ‘Arnold Dolmetsch: A Lost (and Found) Bressan Recorder and its Replacements’, *The Consort* 76 (June 2020), p.65.

'[T]wo years later, by a rare chance [the lost Bressan] was bought for a few shillings in a London curiosity shop by a friend who gave it back to me'.<sup>110</sup> Two years on from 1918—so in 1920.

Decades later, Carl—probably drawing both on *Dolmetsch and his Instruments* and on Arnold's diary entry—blended their slightly discrepant accounts. He admitted losing the Bressan in 1918. 'A year or so after the first modern [Dolmetsch] recorder had been produced it was returned by my father's friend Geoffrey Rendall ...'.<sup>111</sup> Loss actually in 1919 followed by return about a year later seems likeliest then. Arnold and Carl both point to 1920 as the year of return. Someone uninterested in old instruments found the Bressan in an abandoned bag on Waterloo station concourse, and instead of turning it in to Lost Property sold or pawned it at a nearby junk shop. Rendall, himself an assiduous collector (mainly of clarinets), kept junk shops close to stations he frequented under regular review.

Greta Dolmetsch, Carl's second wife and widow, told Alexandra Williams in a 2001 interview that Arnold got his Bressan back in 1924.<sup>112</sup> This much longer time-lag would have allowed Arnold several more years in which to conduct exhaustive research and experiments, and in the end produce new instruments altogether better than the old one. Yet, as Williams also reveals in her dissertation, Dolmetsch was advertising concerts to include 'a Recorder which even excels in beauty of tone the instrument so unfortunately lost' as early as March 1920.<sup>113</sup> The concerts happened in May 1920. At any point from then on Rendall could have returned the Bressan without depriving Dolmetsch of the stimulus

he needed to make a substitute, or of his chance to tell the world that Bressan had been out-done.

It would not of course have been sensible to sell Dolmetsch recorders until they really did perform as well as claimed. Product development work continued. Arnold made a short list of potential recorder customers at the end of his 1920 diary and on 1 August 1921 noted the completion of (probably) his first batch: 'Recorders Finished'.<sup>114</sup> Concertgoers in March 1922 learned from a note in their programme that 'Mr Dolmetsch ... has further improved his Recorders ... [and] has made new Clavichords with a beauty of tone and range of expression far surpassing his previous achievements'.<sup>115</sup> This—the first known printed reference to Dolmetsch recorders plural—was a decorously-worded advertisement encouraging Dolmetsch supporters to place orders for recorders and clavichords in particular. Presumably these were the instruments that Dolmetsch could produce most efficiently in his recently-refitted workshop, trusting his recently-recruited workshop assistants to keep jobs moving while he was away or busy with other projects.

Edmond X. ('Peter') Kapp, a very early adopter, acquired 'one of the four (numbered) first recorders ever produced in his workshop' as a gift from Dolmetsch in 1922, towards the end of the year.<sup>116</sup> On 11 January 1923 Dolmetsch sold the very first to Ethel Kibblewhite, a prominent society hostess who took lessons with him.<sup>117</sup> Stamped 'ARNOLD / DOLMETSCH / 1', this instrument is now on display in the Horniman Museum next to Dolmetsch's lost-and-found Bressan. The two look remarkably alike.<sup>118</sup>

Miles Tomalin entered the Dolmetsch circle

<sup>110</sup> A. Dolmetsch (1929), p.4.

<sup>111</sup> C. Dolmetsch (1987), p.84.

<sup>112</sup> Williams (2005), p.81. Greta Dolmetsch may have been echoing a remark in A. Dolmetsch (1929), p.4: 'About the year 1924, the Recorders began to attract attention'.

<sup>113</sup> Williams (2005), p.81.

<sup>114</sup> Mayes (2020), p.66.

<sup>115</sup> Williams (2005), p.362.

<sup>116</sup> See Y. Kapp (ed. C. Brinson and B. Lewis), *Time Will Tell: Memoirs* (London: Verso, 2003), p.83. Peter and Yvonne Kapp (née Mayer) married in August 1922. They 'quite often' visited the Dolmetsches in Haslemere during their 'first few months of married life'. Dolmetsch gave Peter a newly-made recorder on one of those visits. For the month as well as year of the Kapps' wedding see M. McFall, 'Obituary: Yvonne Kapp', *The Independent* (30 June 1999); Culture section.

<sup>117</sup> See Mayes (2020), pp.72–3. Ethel Kibblewhite and Diana Poulton the Dolmetsch-trained lutenist and Dowland expert were mother and daughter.

<sup>118</sup> The Horniman Museum bought ARNOLD / DOLMETSCH / 1 at Sotheby's in November 1994. The sale catalogue confirmed provenance, describing it as a gift given to Mrs Kibblewhite '[a]round 1921' (see Mayes, (2020), p.73). Where Dolmetsch's contemporaneous diary entry and the sale catalogue differ in detail, the former is more likely to have facts completely straight.

in 1924.<sup>119</sup> Ex-Tomalin instruments now in the Horniman Museum, London—bought in or after 1924—are numbered 102 and 125. This article's tenor **G**, Dolmetsch #267, was made in 1929. Edgar Hunt's fee for playing in the 1931 Haslemere Festival concert was 'one of the first Dolmetsch soprano recorders (No.429) which Carl presented to me'.<sup>120</sup>

Joining these fairly dependable dots: it looks as though Dolmetsch recorders were produced in low commercial quantity from 1921, at the rate of 30–50 per year. Recorders made between 1919 and 1921 were experimental, sometimes used in concerts but rarely if ever intended for sale. Output increased in the late 1920s, as a definite 'recorder department' under Carl's direction took shape. It increased again after 1930, when the Dolmetsch workshop relocated to new premises and had space to take on more new staff. From 1930 through to 1939 recorders seem to have been made at the rate of 80–100 per year, reaching serial number 1200 by 1940 (this article's Dolmetsch recorder **M**, #1205, has the date 1940 neatly etched between turned rings on its head joint).

My pre-WWII production estimates are broadly compatible with the Dolmetsch organization's. Brian Blood compiled a table connecting Dolmetsch recorder serial numbers with likely dates of manufacture.<sup>121</sup> This table is widely cited, by museum curators among others (to date instruments in their collections). Though my reading of available evidence moves the start of commercial production from 1919 to 1921, this has minimal practical effect when Blood's  $\pm 2$  year confidence interval is taken into account. Date estimates attached to particular recorders in this article suggest, for each of them, an age 1–2 years younger than unadjusted read-across from Blood's table would indicate.

## APPENDIX TWO

### Dolmetsch fingering

Between 1901 and 1911 Arnold Dolmetsch made a number of Atlantic crossings. He took a family trio on tour to the USA in 1901–3, returned for a second tour in 1904 and this time stayed far longer than expected, accepting a job with the Boston piano-

making firm Chickering and Sons and settling with his family in Cambridge, MA. Chickering's wanted Dolmetsch to set up and run their new early instruments department.

He did fit in several short return trips to Europe during this mainly American decade, to keep on top of business in England and on the last occasion to look for other work. Chickering's were restructuring: they decided not to renew his contract when it expired, and gave him a year's notice of impending unemployment.

Dolmetsch bought his Bressan treble recorder while back in London on one of these short trips—at Sotheby's sale of instruments belonging to the late T.W. Taphouse, held on 7 June 1905. (Taphouse died in January 1905. He was a prominent Oxford-based dealer and collector, whom Dolmetsch had known well.)

According to family legend, Dolmetsch taught himself to play the Bressan en route back to America at the beginning of July 1905. He learned the fingering from a specific tutor book: *The Compleat Flute-Master Or The Whole Art of Playing on ye Rechorde* (London: J. Hare and J. Walsh, n.d. [1695]), somehow obtained ahead of the two-day Taphouse library sale held on 3 and 4 July 1905, either from Taphouse's executors or from the auctioneer.

Dolmetsch embarked for New York on 1 July 1905. He would not have been able to attend the library sale in person. In Sotheby's *Catalogue of the Valuable and Interesting Musical Library of the Late T.W. Taphouse, Esq. M.A., The Compleat Flute-Master* (item 301) is described as 'scarce'.<sup>122</sup> It was known to collectors and likely to fetch a good price. (Christopher Welch had discussed it in his 1898 lecture to the Musical Association, 'Literature Relating to the Recorder'. The published version of that lecture included a facsimile of *The Compleat Flute-Master's* title page, taken from Taphouse's copy.)<sup>123</sup> Sotheby's were willing to bid on behalf of 'Gentlemen who cannot attend the Sale' but they did not offer absentees an opportunity to buy pre-emptively.

Brian Blood cleared this long-standing problem up fully and very elegantly in a 2015 article in the *Dolmetsch Foundation Bulletin*, with reference

<sup>119</sup> See M. Dolmetsch (1957), p.141.

<sup>120</sup> Hunt (1988), p.12.

<sup>121</sup> Available at <<https://www.dolmetsch.com/handmaderecorders.htm>>.

<sup>122</sup> *Catalogue of the Valuable and Interesting Musical Library ... of the Late T.W. Taphouse, Esq. M.A.* (London: Sotheby, Wilkinson and Hodge, 1905), p.30.

<sup>123</sup> C. Welch, 'Literature Relating to the Recorder', *Proceedings of the Musical Association* 24 (1897–8), pp.190–91.

to Sotheby's auction records and to Dolmetsch's diary.<sup>124</sup> Dolmetsch sent his friend Beatrice Horne along to the library sale. Horne secured *The Compleat Flute-Master*, paid for it and kept it safe for Dolmetsch to collect on his next visit to England—five years later as things turned out. In September 1910 Dolmetsch left his family in Cambridge for a few weeks, sailed to Liverpool, headed next to London to rendezvous with Horne and other friends, then to Paris to progress negotiations with the French piano manufacturers Pleyel and Gaveau (Gaveau took him on to manage their early keyboard department); then sailed back to America to spend a final few months playing concerts and packing up. On that last-but-one crossing, from France to the USA (15–23 November 1910), he probably did have both the Bressan and *The Compleat Flute-Master* with him, and he would have had time for historically-informed recorder practice. As often, perhaps as usual, a Dolmetsch legend turns out to be substantively true though errant in detail.

~~~~~

Fingering charts in *The Compleat Flute-Master*, as in most other English recorder tutors of its comparatively early date, give normal baroque fingerings for b^1 , $b^{1\frac{1}{2}}$ and $b^{2\frac{1}{2}}$, but the 'Dolmetsch' substitute for normal half-holed Baroque b^2 . This made the charts easier to engrave and print legibly, and accompanying instructions easier to write. It also set a cruel intonation trap for beginners. When Dolmetsch fell in—as he surely did (and just as surely found the higher octave half-hole route out)—he must have wondered whether to blame the *Flute-Master* for bad advice or Bressan for faulty tuning. Turning to recorder design himself a decade later, Dolmetsch could explore both possibilities experimentally. The system on which he settled is *Flute-Master* fingering essentially, modified in the bottom octave so that *Flute-Master* b^1 (sharp in relation to *Flute-Master* b^2) is slightly flattened and *Flute-Master* $b^{1\frac{1}{2}}$ (flat in relation to *Flute-Master* $b^{2\frac{1}{2}}$) is slightly sharpened. These adjustments deliver in-tune b^1 , b^2 , and $b^{1\frac{1}{2}}$ / $b^{2\frac{1}{2}}$ octaves without the need to half-hole either for b^2 , or for $b^{2\frac{1}{2}}$.

Carl Dolmetsch described Arnold's voyage of recorder discovery nearly 80 years after it happened, in

a short essay written to mark the fiftieth anniversary of the founding of the Society of Recorder Players (1987):

... my father learnt to play his Bressan recorder ... adhering religiously to the authentic fingerings given in the tutor [*The Compleat Flute-Master*] and having no inkling whatsoever that he was detonating a revolution ...¹²⁵

Carl, born in 1911, was telling the story second hand and obviously embroidering it. Arnold had in fact to make a choice. Faith and duty collided in mid-Atlantic: he could not adhere religiously to *Flute-Master* fingerings and still achieve an acceptable musical result. Yet the faith never left him: that, combined with gratitude to fate for sending the *Flute-Master* his way, may well explain his persistence with fingering experiments while trying to perfect his Bressan reproductions later on, and the pride he took in Dolmetsch/English fingering derived from the *Flute-Master's* once he had arrived at it.

Whether Dolmetsch would have bothered to run all those experiments without the *Flute-Master's* unwitting steer is an interesting question. Even more interesting is the great counterfactual of recorder revival history: what if Dolmetsch had learned 'authentic fingerings' from Hotteterre instead? Then he could have played his Bressan perfectly in tune from the start.

~~~~~

'TABLATURE and TUNES / for the / treble RECORDER in f / Arnold Dolmetsch, Haslemere Jan. 1929'—the first printed iteration of this long-running Dolmetsch publication—contains a fingering chart giving now-familiar Dolmetsch fingerings for every note in the recorder's compass up to top  $g^3$ , except top  $f^3\#$ . The first tune in the booklet, 'Les Bouffons', is printed both in normal staff notation and in tablature form. A column of tablature under each note shows the player which holes to cover and which to open in order to produce it. Right-hand finger three has to be lifted for  $a^1$ , 'may be lifted when convenient without altering the sound ... [o]n all notes from [ $c^2$ ] to [ $g^2$ ]', but 'helps to hold the Recorder' if left in place. Dolmetsch does leave it in place for every note

<sup>124</sup> B. Blood, 'Filling in Some Gaps', *Dolmetsch Foundation Bulletin* New Series 28 (Autumn 2015), pp.8–11. This appendix draws heavily on Brian Blood's article. Information not supplied by Blood comes from Campbell (1975), unless credited to some other source. Where Blood corrects Campbell, I follow Blood.

<sup>125</sup> C. Dolmetsch (1987), p.83.

except a<sup>1</sup>. ‘Les Bouffons’ is an example from which players were intended to generalize. (See Figure 10 for facsimiles.)

Fingering charts in *The Compleat Flute-Master* and practically every other eighteenth-century English tutor book keep right-hand finger three down as much as possible in the lower octave. Hotteterre’s fingering chart in *Principes* does the same. Arnold Dolmetsch favoured this technique, evidently; tried to explain it to beginners in a permissive way (so that people who found simpler fingerings more convenient could use them), but may in the end have added to their confusion by offering too much choice. Since versions of *Tablature and Tunes* printed after WWII were aimed overwhelmingly at schoolchildren they put safety first, omitting to mention discretionary uses of right-hand finger three and further distancing official Dolmetsch fingering from its eighteenth-century antecedents.

On original Bressan trebles and good modern copies, the tone (though not the tuning) of notes between c<sup>2</sup> and g<sup>2</sup> changes perceptibly when right-hand finger three is left down: notes sound firmer and reedier. Jan Bouterse thinks that eighteenth-century makers and players exploited this phenomenon deliberately.<sup>126</sup> Present-day players wanting to get the best out of early Dolmetsch recorders should experiment with all fingering possibilities allowed in the 1929 edition of *Tablature and Tunes*, in case there are useful tonal differences between alternatives.

### APPENDIX THREE

A sweep for evidence concerning Oskar Dawson

Edgar Hunt bought his first treble recorder from Oskar Dawson in 1929, choosing Dawson (as he later said) because Dolmetsch had too long a waiting list.<sup>127</sup> Dawson, a former Dolmetsch workshop employee, had left to set up on his own, making recorders and

clavichords. Hunt went on to collect a whole set of Dawson instruments. He ordered a Bärenreiter-branded, Harlan-fingered treble from Germany to test against his Dawson;<sup>128</sup> and in 1930 or 1931 several original eighteenth-century instruments came his way, first on loan from a family friend then as outright gifts.<sup>129</sup>

The best of these originals, a Bressan treble now in the Bate Collection, University of Oxford, in Hunt’s opinion set ‘the direction in which makers of soloists’ instruments should aim ... none of the modern recorders I have tried come up to the Bressan treble for tone-quality and ease of tone production, with its full and firm low notes ... The narrow channel of the old Bressan provides something to blow against – support for the breath column – so that the technique of playing it is closer to the technique of the flute, oboe and clarinet.’<sup>130</sup> Hunt lent his Bressan to Frans Brüggen, for the *17 Blockflöten* project, and later to David Munrow so that Munrow too could make recordings prominently featuring it.<sup>131</sup>

Hunt never claimed that his Bressan was as powerful an instrument of fate as its Dolmetsch-owned counterpart, but it was the source of authority to which he referred when making recorder design decisions and it did tip the balance in favour of Dawson when Hunt tried playing a straightforward Handel sonata on his Bressan, Dawson and Bärenreiter trebles in turn. Tuning was not a problem on the Bressan or the Dawson (Dawson’s Dolmetsch fingering was Bressan-derived, and just as reliable); but ‘the Bärenreiter instrument was useless ... as all its B naturals were much too sharp’.<sup>132</sup>

In much later conversation with Alexandra Williams, Hunt told her that the German Herwig-Rex instruments produced at his instigation had outside measurements ‘based mainly upon [those] of his Bressan treble’.<sup>133</sup> According to Hunt, the first Schott plastic descant’s ‘outward design was partially based on the Bressan’.<sup>134</sup>

<sup>126</sup> See J. Bouterse, ‘Bressan Recorders: Pitch and Sound; and Some Tips to Make a Copy’, *FoMRHI Quarterly* 116 (August 2010), p.23 (Communication no. 1910: section headed ‘A few remarks about historical and modern baroque fingering’).

<sup>127</sup> Williams (2005), p.97.

<sup>128</sup> Hunt (1962), p.134.

<sup>129</sup> E. Hunt, ‘The Recorder and its Music’, *Proceedings of the Royal Musical Association* 75 (1948–49), p.49; Hunt (1962), pp.134–5. 1930 in the earlier source, 1931 in the latter.

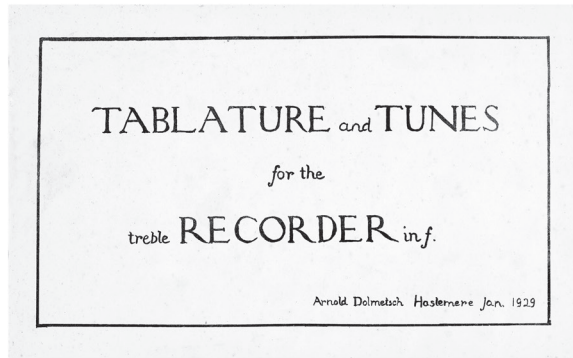
<sup>130</sup> Hunt (1962), pp.159–60.

<sup>131</sup> LPs resulting were *The Amorous Flute* (1974) and *The Art of the Recorder* (1975).

<sup>132</sup> Hunt (1962), p.135.

<sup>133</sup> Williams (2005), p.139.

<sup>134</sup> Williams (2005), p.144.



Recorders are made in four principal sizes: Descant, in C; Treble in F, one fifth below the descant; Tenor, in C, one octave below the descant, and Bass, in F, one octave below the Treble.

The fingerings of the Descant, Treble, and Tenor are the same; the pitch only differs; but the Bass requires a special *\*\*\*~\*\*\** Tablature.

The two lowest notes of all Recorders require little wind. All the notes will sound perfectly clear and in tune, if proper care is used in blowing.

The instrument should be wiped inside after playing, using a soft rag at the end of a stick. They should be oiled occasionally, when dry, with almond or olive oil.

The thin wedge in the mouth, where the tone is produced, is very delicate and must not be touched with anything *as hard*.

The separate sections should be put together carefully and gently. Should the joints become stiff, the cork may be rubbed with fine glass paper and greased with lanoline or vaseline.

1

### Tablature for the Recorder

Left Hand: Thumb, 1<sup>st</sup> Fing., 2<sup>d</sup> Fing., 3<sup>d</sup> Fing.

Right Hand: 1<sup>st</sup> Fing., 2<sup>d</sup> Fing., 3<sup>d</sup> Fing., 4<sup>th</sup> Fing.

- Hole half covered by the Finger
- Hole half covered by pressing in the end of the Thumb

2

Do not try to learn all the fingerings until you can play the first tune which is given in Tablature. Then find the *as* fingering of new notes as required.

On all notes from C to G (page 1) the Right Hand Third Finger may be lifted when convenient without altering the Sound.

3

Les Bouffons.

4

Note how the 3<sup>d</sup> Finger of the Right Hand helps to hold the Recorder, but be sure to lift it when playing the *As*.

Figure 10. Arnold Dolmetsch: *Tablature and Tunes for the Treble Recorder in F* (1929). Front cover; preamble (recorder sizes; blowing, care and assembly advice); fingering chart; 'Les Bouffons' in staff and tablature notation, with fingering instructions. 'Dolmetsch fingering' as early customers encountered it.

All Schott's British-made recorders were re-designed to look much more like Hunt's Bressan around 1970, as mass-market competition both with Dolmetsch and with Japanese manufacturers intensified (the new Dolmetsch ABS plastic descant-treble-tenor range had just launched). But Schott bowed to the inevitable, stopped production in Britain and started importing Schott-branded ABS instruments from Japan instead. Hunt allowed and may actively have encouraged Schott's Japanese supplier Zen-On to copy his Bressan in ABS plastic. Friedrich Von Huene's involvement as Bressan design consultant to Zen-On lent the project additional prestige, and enabled Hunt to review the end result from a more or less objective third party perspective:

Most importantly, designer and maker have managed to reproduce very closely the feel to the player of intensity of tone from firm blowing through the narrow, curved windway—a feature which marked the original instrument and focussed its tone to give it its characteristic reediness and firm low notes.<sup>135</sup>

Hunt's publicly-expressed recorder desiderata stayed remarkably consistent, and they all traced back to happy experience playing his Bressan. He liked instruments with narrow windways, a reedy tone and strong low notes. Dawson treble #87 meets these specifications, as will be seen; and may have been deliberately designed to do so.

Little is known about Dawson or his recorders. Alexandra Williams drew attention to a Langwill *Index* entry suggesting that Dawson was '[b]elieved to have made the first recorders for Dolmetsch' and citing Geoffrey Rendall as the source of this information.<sup>136</sup> Dawson was in the right place at the right time. Rendall, who knew Dolmetsch and was very well connected in the woodwind collecting world, has expert witness status in a case such as this.

Douglas MacMillan's 2020 article 'Recorders by Oskar Dawson' pulled together all available biographical information about Dawson (not a lot, MacMillan conceded), and included a census of Dawson instruments surviving in public collections.<sup>137</sup> A Dawson relative had, when



Figure 11. Dolmetsch treble recorder H (left) alongside Oskar Dawson treble #87. Pitch a1439 in both cases.

<sup>135</sup> E. Hunt, 'Recorders Based on Eighteenth-Century Models', *Recorder & Music* 5/10 (June 1977), pp.338–39. Quoted from Burgess (2015), p.159.

<sup>136</sup> L.G. Langwill, *An Index of Musical Wind-Instrument Makers*, third edition (Edinburgh: Lyndesay G. Langwill, 1972), p.33. Dawson's prior experience with Dolmetsch, before setting up on his own c1930, is noted more equivocally in W. Waterhouse (ed.), *The New Langwill Index: A Dictionary of Musical Wind-Instrument Makers and Inventors* (London: Tony Bingham, 1993), p.82: 'Worked earlier as recorder maker for DOLMETSCH'.

<sup>137</sup> D. MacMillan, 'Recorders by Oskar Dawson', *The Galpin Society Journal*, 73 (2020), pp.60–64.



MacMillan published, recently given ten Dawson recorders to the Royal College of Music in London—none in playing condition (though potentially restorable), some of notably experimental design. Experimental instruments may well have stayed in the family while those built to fulfil regular orders were shipped out to customers.

Dawson treble #87 (Figures 11 and 12) came to light too late for mention in MacMillan's census. It has design traits in common with a tenor (#57) and with two trebles (#8, #86) that MacMillan was able to examine: a single foot-joint finger hole where double holes might have been expected (there are double holes for right-hand finger three), drilled so close to the end wall of the foot joint socket that it breaks through into the socket. Similar foot-joint finger holes are found on some early Dolmetsch instruments.<sup>138</sup> They open into the bore of the recorder just where its centre and foot-joint sections meet, and must have been drilled that way deliberately.<sup>139</sup>

A theory worth floating here, though no directly relevant documentary evidence supports it, is that Hunt and Dawson were for a while collaborating on a new, non-Dolmetsch type of treble, scaled to a'439 but preserving as much of the sound and feel of Hunt's Bressan original as Dawson could find ways to retain. Hunt and Dawson met for the first time in person during the 1930 Haslemere Festival: they had dealt by post till then.<sup>140</sup> Hunt's 1931 Festival appearance—playing baroque flute, not recorder—was well reviewed but not repeated. Back in Haslemere for 1932's Festival fortnight, Hunt '[i]n fact ... spent much of the time with Oskar Dawson ... and E. van der Straeten who was reporting the concerts for *The Strad* ... and who taught [Hunt] the viola da gamba'.<sup>141</sup> Hunt spent much of the time with Dawson perhaps because the pair had business to discuss.

#87 is thin walled, very light in the hand and very tightly voiced (Figure 12). Tight voicing invites fairly gentle breath pressure. All Hunt's Dawson instruments had a sweet sound, he later recalled,



Figure 12. *Windway closeup: Dawson treble #87.*

'but they weren't very powerful'.<sup>142</sup> Yet #87's lowest notes respond well to more forceful blowing thanks to its near-cylindrical foot joint bore. Notes across the range start with an attractive chiff when gently tongued at low breath pressure and in slow succession. Higher pressure and higher attempted tonguing speeds turn the chiff into musically distracting splutter. #87's windway roof and windway floor (= block top surface) are not chamfered at the windway exit end. Rather unstable harmonics result: changes in breath pressure well within the range of normal can make notes jump about between harmonics regardless of thumb position.<sup>143</sup> #87 is, from the player's point of view, a characterful but temperamental instrument, an interesting alternative to Dolmetsches of contemporaneous date but not nearly so well behaved.

Dawson was a skilled craftsman, expert in every aspect of recorder making except voicing: this is the not-so-surprising verdict at which present-day players inspecting #87 and trying it out are likely to arrive. Evidence does suggest that Arnold Dolmetsch kept

<sup>138</sup> For instance: Horniman Museum Dolmetsch trebles 2015.124 and 2015.125; this article's Dolmetsch tenor **G** and treble **H**; Dawson #87; plus the Dawson instruments discussed in MacMillan (2020).

<sup>139</sup> It would have been difficult to drill a closely spaced pair of small-diameter holes both breaking cleanly and independently through the end wall of the foot-joint socket. Hence Dawson's pragmatic decision to provide double holes only on the centre joint, for right-hand finger three.

<sup>140</sup> Williams (2005), p.98.

<sup>141</sup> E. Hunt, review of Campbell (1975) in *The Galpin Society Journal* 29 (1976), p.133.

<sup>142</sup> Williams (2005), p.97

<sup>143</sup> On windway exit chamfers and other aspects of recorder voicing, see T. Prescott, 'The Recorder Windway Demystified', *The American Recorder* 57/2 (Summer 2016), pp.9–15.

recorder voicing ‘in his own hands’ until Rudolph and Carl, in particular, were old enough to be taught how to do it.<sup>144</sup>

#87’s joint proportions and bore dimensions—foot joint bore excepted—fairly closely match those of Dolmetsch **H** (Figure 11). #87 has a much shorter beak than **H**, but below the blockline they are roughly the same length. Dawson left Dolmetsch before mid-1930s modernization and re-scaling produced trebles of the **KMN** type, and if he did take sets of Dolmetsch measurements with him these would have derived from earlier (pre-1930s) workshop plans.

Two Dolmetsch treble recorders are preserved in the Musical Instrument Collection at the University of Edinburgh (Geoffrey Rendall Collection, MIMEd 0259 and MIMEd 0260). Neither is stamped Dolmetsch. MIMEd 0260, is ‘possibly one of Arnold Dolmetsch’s prototype recorders built at low pitch’ (a<sup>1</sup>425 apparently, well sharp of the a<sup>1</sup>415 at which Dolmetsch low pitch eventually settled). ‘[C]rudely made ... ‘coarse tone[d], but fairly well tuned’, it would have been an adequate Bressan substitute in lecture-demonstration contexts but nowhere near good enough to copy in quantity and offer for sale.<sup>145</sup> When Rendall returned the original Bressan, Arnold ‘showed his appreciation ... by giving him the first Dolmetsch recorder—an historic instrument’.<sup>146</sup> In Edgar Hunt’s 1998 re-telling of the lost Bressan story, Arnold ‘set about making a replacement ... Probably the one at Edinburgh’ so that lecture-demonstrations featuring a recorder could continue.<sup>147</sup> For this modest purpose full Bressan functionality was neither here nor there.

Carl Dolmetsch, in a 1994 conversation with Margaret Birley at the Horniman Museum, suggested that Arnold’s ‘token of gratitude’ to Rendall was in fact a different instrument now in the Rendall Collection, accession number 0259. ‘Carl Dolmetsch stated that this instrument [0259] was the first of Arnold Dolmetsch’s treble recorders to be built at A<sub>4</sub> [a<sup>1</sup>] = 439 Hz’, in or around 1928.<sup>148</sup> It was not, if so, ‘the first perfect product of Arnold’s

creative [recorder-making] art’; as it should have been for a perfect fit with Mabel Dolmetsch’s 1957 account of the same exchange.<sup>149</sup> Inconsistent family testimony is to be expected given the passage of time. But motives for revisionism may be suspected too. Edinburgh 0260 could by no stretch of the imagination be considered an improvement on the lost Bressan. It was an obvious stopgap, retired from service as soon as Arnold got his real Bressan back; possibly gifted to Rendall because Arnold had no further use for it.

The Horniman Museum’s Dolmetsch tenor 2015.126 (ex-Tomalin) and Dawson #87 are turned in a strikingly similar way. Dawson #87’s stepped rings have counterparts though not exact equivalents on several other early Dolmetsch recorders in the Horniman, and on Edinburgh 0260. 0260 and Dawson #87 both have outer ramp walls that slightly converge with increasing distance from the edge. Horniman 2015.126’s outer ramp walls very markedly converge. It would not have upset Arnold in the least to find skilled employees’ stylistic fingerprints on instruments they had helped to make or mainly made. If more pre-1929 Dolmetsch recorders could be rounded up for comparison with more of Dawson’s then forensic evidence too flimsy to interpret confidently at the moment would very likely start to crystallize.

In summary, Dawson joined the Dolmetsch workshop just as it was gearing up to increase production of recorders and clavichords using newly-purchased machinery. He left Dolmetsch in the late 1920s and for the next decade or so ran a workshop of his own, making recorders and clavichords. Edgar Hunt took him seriously as a maker of both types of instrument, buying and playing a full set of Dawson recorders before switching to Dolmetsch. Some early Dolmetsch recorders have decorative turnings executed in a style that Dawson was later able to imitate, and may have originated. Some early Dolmetsch recorders and some Dawsons have foot-joint finger holes that break through the end wall of

<sup>144</sup> See M. Bennett, ‘Robert Goble’: a biographical appreciation retrieved from the website of Robert Goble and Son harpsichord makers: <[http://www.gobleharpsichords.co.uk/Robert\\_Goble\\_Biog.pdf](http://www.gobleharpsichords.co.uk/Robert_Goble_Biog.pdf)>, accessed 6 May 2022. Previously published in *The Thursley Chronicle*, 1991.

<sup>145</sup> For a photo, description and other information see <[https://collections.ed.ac.uk/mimed/record/17463?highlight=\\*:](https://collections.ed.ac.uk/mimed/record/17463?highlight=*:)>

<sup>146</sup> Hunt (1962), p.132.

<sup>147</sup> Hunt (1998), p.11.

<sup>148</sup> Mayes (2020), p.70. For a photo, description and other information about this recorder see <<https://collections.ed.ac.uk/stceciliast/record/113704>>.

<sup>149</sup> M. Dolmetsch (1957), p.132.

the foot-joint socket, opening into the socket on one side. F.G. Rendall, in personal communication with Lyndesay Langwill, shared his belief that Dawson made the first recorders for Dolmetsch. Rendall knew Dolmetsch well, may have known Dawson, and may have seen for himself who did what on visits to the Dolmetsch workshop—visits especially revealing to Rendall, if they were allowed, since he had a hobby interest in carpentry and owned his own lathe.<sup>150</sup>

Dolmetsch recorders made from the late 1920s on are turned in a different style, blow more freely, and would in direct comparison with older ones (the first 200 or so) probably be found to play better. Direct comparison is not at present possible, because low-numbered museum instruments like those in the Horniman are not in safe playing condition. Improved voicing, moves toward design standardization at a<sup>1</sup>415 then modernization and re-standardization at a<sup>1</sup>439 are all developments for which Carl Dolmetsch can be credited, happening as Carl grew into his workshop manager's role and learned to apply his playing experience—more and more of that as time passed—to the job of making recorders.<sup>151</sup>

Dawson, Carl's senior by 20 years, struck out on his own in the late 1920s, perhaps to avoid the daily indignity of working to orders issued by a teenager. He did so without apparent acrimony, accepting that Arnold Dolmetsch ran a family firm and that he, like Bressan, had been superseded. (Oskar Dawson Jr played cello in the 1939 Haslemere Festival's second concert, a booking that would not have been offered or accepted had the Dawsons and Dolmetsches been at loggerheads.)<sup>152</sup>

Family firms usually do trade under the family name. Even if it could be proved that Oskar Sr made many of the early Dolmetsch recorders, that would not in any way diminish Arnold's achievement as the artist-entrepreneur driving demand for them.

Evidence reviewed in this appendix falls far short of proof; but there is I think enough of it, pointing to the same conclusion from different directions, to turn Rendall's hint into a strong likelihood.

#### ACKNOWLEDGEMENTS

This project has been simmering away for decades. Two friends in at the beginning made it to the end: Brian Blood and John Willman, to both of whom I am indebted for all manner of advice and practical support.

Though debts to other authors are acknowledged in footnotes I want to underline some of them here. My work builds on foundations laid by Alexandra Williams, Peter Thalheimer, Andrew Mayes, Douglas MacMillan, David Lasocki, Nicholas Lander, Richard Griscom and Robert Ehrlich.

Margaret Birley, Mimi Waitzman and Gavin Dixon at the Horniman Museum allowed me to examine instruments in their collection and were beyond hospitable when I visited. Tom Beets, Anthony Calvert (running the Early Music Shop's Used Instrument Agency), Julie Dean (Recorder Shop London), Michael Pendred and Ronald Pelzel sourced and sold me the Dolmetsch recorders needed for hands-on research.

All photos illustrating this article were taken by Ian Brearey, the Royal Academy of Music's Digitisation Officer. I am grateful to him, and to the Academy's Dean of Students Elizabeth Kenny for putting us in touch.

Tom Beets and Joris Van Goethem, finally—the Flanders Recorder Duo. Claims about the playing quality of old Dolmetsch instruments made by an academic with no standing in the professional performing world would not be believed without audible evidence to back them up. FR2's forthcoming CD will plug that credibility gap completely.

<sup>150</sup> P. Bate, 'F.G.R. 1890–1953' [obituary of F. Geoffrey Rendall], *The Galpin Society Journal* 6 (1953), p.7

<sup>151</sup> Arnold Dolmetsch gave Carl public credit for making recorders 'which surpass, in beauty of tone, purity of intonation and evenness of scale any other I have ever seen, old or new'. He had commercial as well as proud-parental reasons to compliment his son's achievements but may nevertheless have meant it. (See A. Dolmetsch, (1929), p.4. At that date all the recorders admired by Arnold for beauty of tone would have been pre-modernization models.)

<sup>152</sup> 1939 Haslemere Festival programme book (author's collection).

ANDREW PINNOCK  
Boring for Britain: the Design, Development and Mass Deployment  
of Dolmetsch Recorders, 1920–1980



Figure 2. *Dolmetsch bass recorder #603. Pitch  $a^1415$ . Coded F in this article.*



Figure 5. Dolmetsch descant recorder **B** (left) alongside Dolmetsch descant **I**, #1040 (centre) and Dolmetsch descant **L**, #1193 (right). Pitches  $a^1415$  (**B**) and  $a^1439$  (**I** and **L**).



Figure 8. Four Dolmetsch trebles. *H*, *K* (#1131), *M* (#1205), *N* (#1307). Pitches  $a^1439$  (*H*, *K*, *M*) and  $a^1440$  (*N*).