The Working Methods of Guarneri del Gesù and their Influence upon his Stylistic Development

Text and Illustrations by Roger Graham Hargrave

In 1994 the Metropolitan Museum of Art in New York staged an exhibition of works by the Cremonese violin maker Giuseppe Guarneri del Gesù. No equivalent representative collection of del Gesù's instruments has ever been assembled in one place at one time, and the opportunity this exhibition afforded for comparative study was unique. In the past, the examination of Guarneri's instruments has been limited to small numbers, on rare occasions. Even del Gesù's own workshop is unlikely ever to have contained a similar collection of violins spanning his whole career.

Gathering data about del Gesù's life and works has always been something of a haphazard affair. Historically, the greatest difficulty has been a lack of consistency: for any information to be useful, the method of obtaining it and the conditions under which it is obtained need to be the same for every instrument. The long-established use of photography provides a good illustration of the problems involved. In order to create a consistent photographic record, the same camera, lens, film, lighting and set are required for each photograph. At a conservative estimate, it would probably take thirty to fifty years for a group of instruments comparable to those exhibited at the Metropolitan Museum to pas through even the busiest shop. Over such a long period of time it would be impossible to maintain the necessary quality in any photographic archive. Similar restrictions apply to all other methods of recording and storing information. In this study, perhaps for the first time, consistency was the hallmark of the data collected.

Although it has long been recognised that individually, photographs, outlines, descriptions and measurements have their shortcomings, collectively they can be extremely informative. In order to obtain the maximum advantage from the following survey, it is necessary to understand something about how the data was compiled and what the strengths and weaknesses of the various methods are. Because it is impossible to reproduce the three-dimensional character of an instrument in two-dimensional form without compromising the end product, a complete set of technical drawings was never a consideration. Instead, the intention was to reproduce the available information as it was collected, in as pure a form as possible. Particularly in the case of the drawings, certain features were omitted or were deliberately left incomplete.1 Any personal interpretations of these missing details would have been misleading.

All the measurements in this survey were taken

with a caliper. Although caliper measurements are extremely accurate, the method has certain drawbacks when applied to violins. Just as mean averages are not accurate measurements, accurate measurements are not mean averages. The measurements were accurately taken from specific points. It is the points themselves which are subjective. Throughout this analysis, it is possible that even the slightest deviation from these points would have resulted in different readings.

The outlines of the instruments were taken using a specially constructed box which contains a recess for the arching. A non-shrinking transparent plastic drawing foil was taped to the box and the outline was drawn around the instrument from the rib side of the back. The resulting outline is a mirror image of that which is seen when the back is observed in the normal way. This anomaly has been corrected for the book. For technical reasons, no belly outlines were taken.

Because the edges of the instrument are rounded and in almost every case the back plates are slightly twisted, there may be some minor inaccuracies in the outlines, especially in the centre bouts and at the corners. Nevertheless, aberrations caused by the camera lens are probably greater than those present in the outline drawings, especially in the curves of the upper and lower bouts. The outline drawings and the photographs should be carefully checked against the caliper measurements, which in the case of the upper and lower bouts were taken at the widest point. In the centre bouts, the narrowest point was used. The length of the back was measured from the base side of the button to the centre of the lower bout curve. The belly length was taken from the treble side of the neck to the lower saddle. Variations between the caliper measurements and the drawings are usually less than 0.5 mm over the length of the instrument. Where discrepancies occur, the photographs should be carefully consulted, especially in the centre bouts and at the corners; otherwise, the outline should be considered pre-eminent.

Where circumstances allowed, a number of extra belly arching templates were included. These were taken on either side of the fingerboard and whenever the fittings could be removed, the central long arch was also recorded up to the end of the fingerboard. Close examination of the arching templates reveals that the long arches, including those running alongside the fingerboard, do not always match the heights of the corresponding cross-arches. The explanation for this is simple. The plates and the ribs to which they are attached were often warped and twisted and this warping was occasionally quite extreme. Unfortunately, in the time available it proved impossible to establish how much warping had occurred, and in which direction it ran. In most cases, the arching templates were recorded using a highly modified form copier with pins of 0.8 mm. In general, the results obtained are good, but because of the complex nature of the edges, it was not possible to reproduce their profile with suitable accuracy. For this reason the edges have been indicated by a dotted line. Readers will need to refer to the descriptive text, the accompanying photographs and the measurements in order to obtain a more complete picture of the edge profile.

Particularly troublesome was the establishment of measurements relating to the purfling. The distance of the purfling from the edge was measured with a calibrated lens. For this purpose, a point judged to be relatively unworn was selected on the upper or lower bouts. From the photographs it can be established that this distance often varies widely, even on the same bout. Worn edges usually account for most of these irregularities, but deviations in the tighter corner curves and inconsistencies in the channel widths can also contribute. Sometimes the distance of the purfling from the edge is indicated by two measurements: one represents the greatest distance and the other the smallest. In each instance these measurements were taken from a point on the back where the edge appeared reasonably pure. As can be deduced from the given measurements, the thicknessing of the whites was fairly consistent. The blacks were difficult to measure. This was partly because the individual strips varied slightly in thickness, even on the same instrument, and partly because the channels into which they were set were often unevenly cut. The resulting gaps are filled, either with dirt, some kind of filler or varnish, or occasionally even tiny slivers of wood. Fortunately, the photography is of such a high calibre that these details can generally be discerned. From the photographs, a close examination of the line of the purfling can help the reader estimate how much the original outline has been worn, particularly on the belly.

The diagrams of the sides show the depth or thicknessing of the edges. Occasionally, partial or complete doubling of the edges has diminished the value of these measurements, especially on the bellies. Such technicalities are pointed out in the text or can be discerned from the side photographs. With refer-

ence to the tight upper and lower curves of the centre bouts, the descriptions of the edges are of particular importance. Not only are these curves foreshortened in the photographs, they are also partially hidden by the corners.

Only four of the exhibition instruments have buttons which are completely original: the "Kreisler", the "King Joseph", the "Kochánski" and Paganini's "Cannon". The dimensions for these buttons can be found in the tables and on the diagrams of the sides. In most cases, these original buttons are clearly tapered, the thickest point being furthest away from the purfling and edge.

In spite of some local deviations, the back overhang measurements are fairly reliable. However, the back corners presented something of a problem. The almost vertical cut-off angles of some corners made it extremely difficult to fix a point from which to take the corner overhang measurement. This was finally taken from the rib end to what was judged to be the approximate centre of the cut-off line (Figure 1). Worn corners created extra difficulties in establishing this central position. In a few cases, the wear was so extreme as to render these measurements practically worthless.

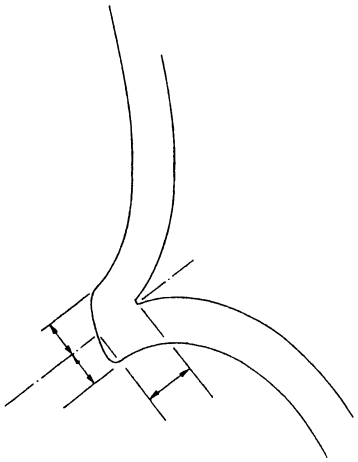

Figure 1. Del Gesù's rib corners usually sit centrally on the plate corners; the overhang measurement was taken from this central position.

Paganini's "Cannon" is the only instrument for which the belly overhang measurements were recorded. Such measurements are normally unreliable, because bellies are removed more frequently than backs and their edges and corners are generally subjected to more wear and tear.

The back, belly and rib thickness measurements were taken with a "Hacklinger" magnetic caliper, which is accurate to within 0.1 mm. This process was carried out with the instruments closed. In some cases, where the fittings were removed, it was possible to take measurements in the area normally covered by the tailpiece. In a few instances extra measurements were also taken around the centre of the back. Unfortunately, no account could be taken of any patches in the plates, nor was it possible to establish whether any instrument had been rethicknessed. The presence of a label caused the caliper to give a slightly fuller reading and this should be taken into consideration. (The "Ysaÿe" has an extra label on the back which is noted in the text.)

Whenever a central pin was present and visible, its position is recorded, as is the plate thickness at the pin position. Further information about this pin can be found in the text relating to individual instruments and in the section regarding del Gesù's arching and thicknessing methods (p. 147-8). On many instruments, the central pin can be seen on the photographs emerging as a tiny dot in the central region of the back.

The rib thicknesses were taken in the central area of each bout. They are shown on the side diagrams. Although these dimensions are precise they may not present an entirely reliable picture. The centre bout ribs of several of del Gesù's violins have been thinned to 0.5 mm or even 0.3 mm where they come into contact with the corner blocks (see p. 134). Because of the presence of the blocks, it was impossible to examine the rib thicknessing in this area. Del Gesù finished the inside surface of the ribs with a coarse-toothed plane iron, creating irregularities which may also have affected the reading. The rib height measurements can take no account of any lowering or raising of the ribs which may have taken place, nor do they show where the ribs have been distorted by pressure from the chinrest, as is the case with the "Kochánski".

The soundhole measurements were taken with a caliper. Centuries of careless soundpost setting, wing crack repairs, arching distortions and rare alteration of the soundhole nicks all need to be considered when consulting these measurements. To obtain the most accurate picture, the photographs, the measurements, and the descriptions should be used in combination. The soundhole measurements do not necessarily correspond with the dimensions of the soundholes as they appear on the photographs: this is because the camera angle has caused the sound-

hole bodies to appear slightly narrower. For technical reasons, no facsimiles of the soundholes have been included.

The outline drawings of the heads may require some explanation. The drawings represent the treble side. With a few exceptions, wear to the heads, especially in the area stretching from below the A peg to the top of the scroll, has resulted in outlines which are slightly smaller than they would have been originally. In some instances this area was so worn that no discernible outline exists. Quite apart from general wear to the head, around the scroll del Gesù often undercut the turns. This and his propensity to leave tool marks created problems when positioning the measuring calipers. Some consistency was achieved by taking the measurements as close to the outer edge as possible, while remaining inside the chamfer and any worn surfaces (Figure 2). On the head diagrams (Figure 3) measurement A is the narrowest point of the scroll. Measurement B marks the width of the back of the scroll, level with the throat. C and D mark the widths at the top and underside of the scroll turns, level with the centre of the eye. Measurement E is only recorded in the case of Paganini's "Cannon"; in every other case a new neck has been grafted into the head.

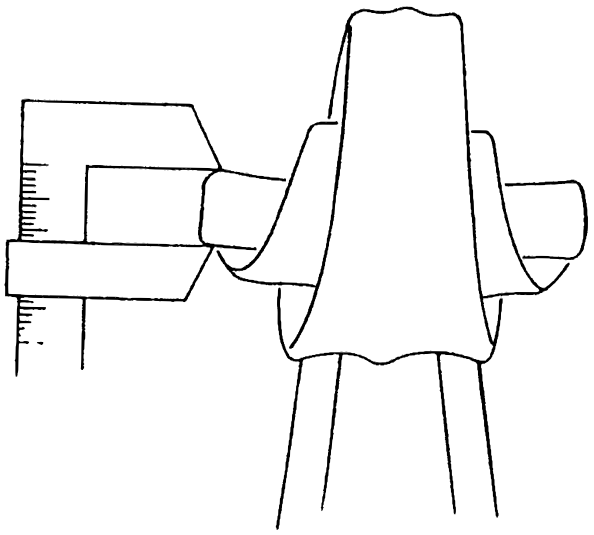

Figure 2. Positioning of the calipers as they were applied to the turns of the scroll, inside the area of the chamfer and ware, but outside the undercutting, or overcutting.

The head portraits demonstrate explicitly the problem of photographic distortion. If the side views of the scroll are projected across to the front and back views, it can be seen that the turns do not always correspond. Anyone wishing to reconstruct the head must take all of the above factors into account and attempt to overcome any discrepancies by combining and comparing all the available information.

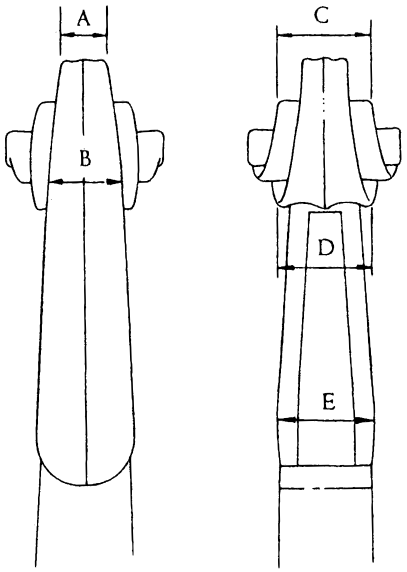

Figure 3. Head measurements.

The Amati Method

It is generally accepted that the Amati family created and developed the designs and constructional methods which classical Cremonese makers followed for more than two centuries. Andrea Amati and his two sons, Antonio and Girolamo I, were the first and second of four generations of Amati luthiers, spanning Cremona's entire period of classical violin making. Nicolò Amati, the son of Girolamo I, was perhaps the greatest maker of the family and from an early age, Andrea Guarneri, the first of the Guarneri family of violin makers, is recorded as living and working in his house. Andrea was the father of Giuseppe Guarneri, known today as Giuseppe Filius Andreæ, who was in turn the father of Bartolomeo Giuseppe, called Giuseppe Guarneri del Gesù.

Effectively an unbroken line of instruction existed between the Amatis and Guarneri del Gesù. From a careful examination of their instruments, there can be little doubt that the method and techniques employed by the Guarneri family were essentially those of the first Amatis. In this they were not alone: within the city of Cremona (and even beyond), successive

generations of makers gradually extended and refined the early Amati designs until, in the first half of the eighteenth century, their influence was barely recognisable. Nevertheless, concealed beneath a veneer of stylistic detail, the Amati designs flourished and their basic rules of construction remained largely unchallenged and unchanged. Although chronologically and stylistically the early Amatis and Guarneri del Gesù represent extreme ends of the Cremonese spectrum and almost two hundred years separated their works, the key to understanding del Gesù's instruments lies in understanding the essence of the Amati system. Fortunately, because the Amati method was universal in Cremona, clues to del Gesù's method can be found on all Cremonese violins.

It may be that a far greater affinity between the method of the Amatis and that of Guarneri del Gesù would become apparent, were it possible to examine their instruments in original, "baroque"2 condition. Unfortunately no full-sized violin by either maker has survived unmodified. Some instruments, such as del Gesù's "Cannon" and "Alard", are of value in this context, as are the pochettes of 1735 and 1740, but the evidence they provide is incomplete.3

Apart from the instruments themselves, the only substantial information about baroque violin making which has survived to the present day is contained in the enormous collection of tools, drawings, moulds and templates housed in the Museo Stradivariano in Cremona.4 Among these relics are complete sets of working drawings, templates and moulds made by Stradivari for the construction of both tenor and contralto violas (Figure 4).These would have enabled him to mark out an entire instrument using no more than a pair of dividers, a straight edge and a marking tool. It is probable that similar drawings and templates existed for each type of instrument made in the Stradivari workshop, but sadly no other complete set has survived. The majority of the artefacts in the Museo Stradivariano can be traced back to Antonio Stradivari himself, and as a result we know more about his working methods than we do about any other his-

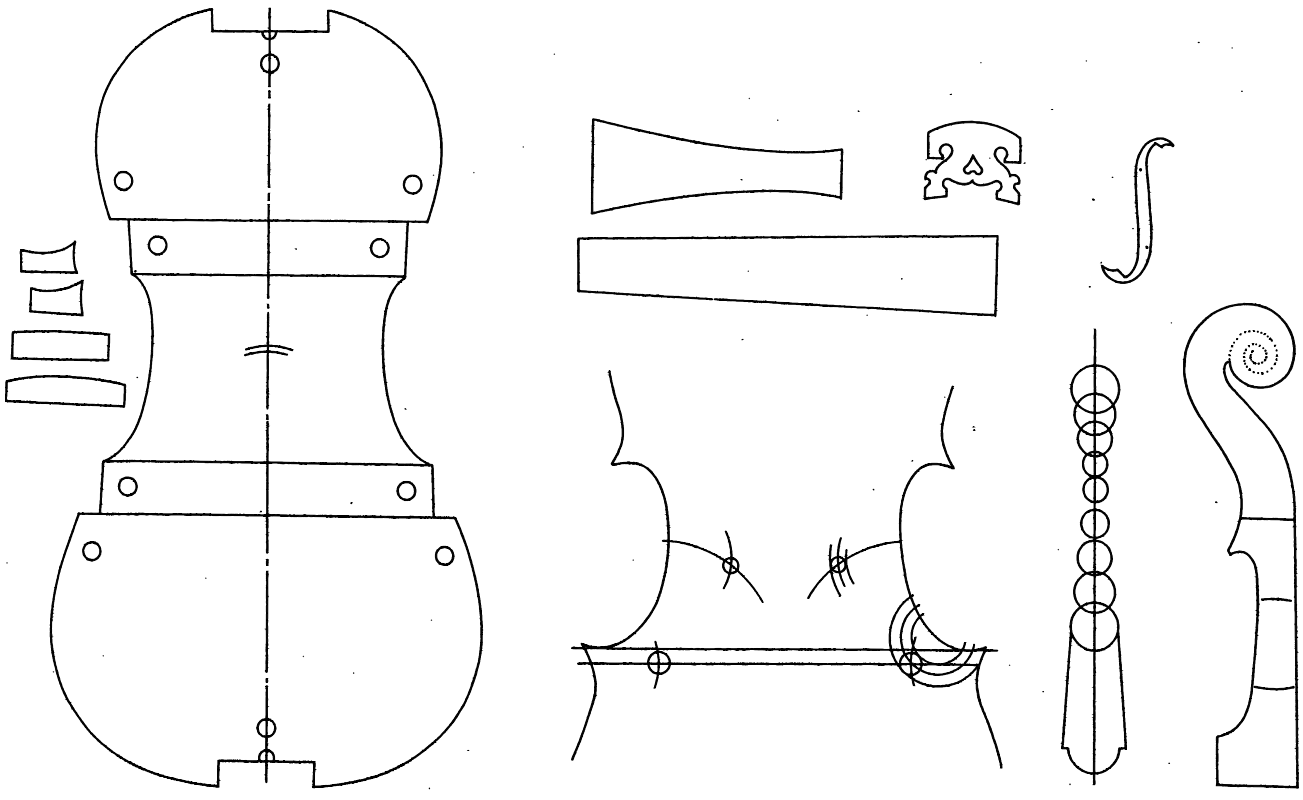

Figure 4. Reproduction of the surviving drawings, templates and mould for a Stradivari contralto viola.

torical maker.5 Stradivari's own reliance on the Amati tradition makes this information helpful, and with some circumspection it can be applied to the analysis of del Gesù's violins.

The Stylistic Development

While the Amati system, with its use of an inside mould, was fundamental to del Gesù's method, stylistically he owed much to his teacher, who was almost certainly his father, Giuseppe Filius Andreæ. He would have provided del Gesù with the essential grounding in the classical tradition of Cremonese lutherie. From these beginnings, del Gesù's work evolved dramatically in style and effect during his comparatively short working life, earning him a reputation as an artist and innovator in his own right.

Giuseppe Filius Andreæ was in some ways as idiosyncratic a maker as his son. In his early work, dating from around 1690, he was strictly bound by Amati principles. After about 1710 a gradual appreciation of Stradivari's ideas is accompanied by a looser technique, derived at least in part from a freer and more spontaneous use of the mould. The general form of the outline shows frequent deviations of line from instrument to instrument, and considerable asymmetry between front and back. Like most of his contemporaries, del Gesù's father seems to have continued the Amati practice of making both a large and a small model (the difference being mainly one of breadth rather than length).

Increasingly unproductive during the latter years of his career, Giuseppe Filius Andreæ appears to have withdrawn almost entirely from violin making some years before his death in 1740. His late work is difficult to date accurately due to the rarity of authentic labels but, as far as can be judged, it seems to have undergone several changes after 1715 (the year of his financial crisis) which are generally attributed to the assistance of his youngest son. These changes include a slightly bolder form to the edgework and soundholes, and a more delicate finish to the heads. Pietro, the eldest son of Giuseppe Filius Andreæ, may have been active in the Guarneri workshop until 1717, but by the end of that year he had left Cremona to establish himself in Venice. significantly, the slight but clearly discernible differences in style which occasionally appear in the late works of the elder Giuseppe remain consistently observable in the early examples of del Gesù's independent work.

Most important among the innovations for which del Gesù was probably responsible was in the treatment of the arching. The work of the elder Giuseppe is quickly recognisable in the slightly pinched form of the central area of front and back, with a comparatively wide channel cut around the edge that is clearly derived from the ideas of Nicolò Amati. It is remarkable how early in his career del Gesù rejected this type of arching and, albeit in his own distinctive style, adopted the lower, flatter modelling of Antonio Stradivari. Evidently the young violin maker was well aware that the Guarneris' leading competitor had established his technical superiority largely as a result of his fresh ideas on arching.

There are only a few reliable markers by which to date the contribution of the younger Giuseppe to the Guarneri workshop production. The near absence of original labels in the instruments of this period poses an almost insurmountable obstacle. None of the putative early works of del Gesù bears an original label, and the instruments considered to be jointly attributable to father and son bear only the label of the father, if any. However, a group of the elder Giuseppe's violins, one with a rare Giuseppe filius Andreæ label of 1719, have a particularly distinctive outline. The middle bouts are comparable with the small pattern, but the upper and lower bouts retain the full width of the larger model, and the upper corners project widely outward. (This style was also preferred by Carlo Bergonzi for his instruments.) The archings spring full from the edges, with no inward scoop past the line of the purfling, to arrive quickly at a relatively low summit. The edges themselves are stronger than before, the line of the purfling set a little further in, and the soundholes are wider apart and cut more boldly. The soundhole wings are broader, in imitation of the style of Stradivari. Some or all of these changes may have been initiated by the younger Giuseppe.

By 1722 del Gesù had left his father's workshop, bringing to an end their first and perhaps closest period of collaboration. As a result of his departure, production in the family business slumped, never to recover. Del Gesù himself seems to have produced few instruments in this the first stage of his independent career (which began as early as 1721), but those ascribed to him share several distinctive features. It is clear, for example, that he abandoned the narrow-waisted outline. The "Dancla" can be taken as representative of his model during this transitional period. The outline is slightly extended in the upper bouts, yet is not incompatible with some earlier violins of Giuseppe filius Andreæ. Del Gesù's working of the

scroll is quite different from that of his father. Although the "Dancla" has only an imitation label, dated 1726, this was generally agreed to be an appropriate attribution until dendrochronological analysis established that 1726 was the earliest possible date for the violin's construction, and that it was more likely to have been made a year or two later (see p. 161).

Unfortunately, little is known of del Gesù's whereabouts or activities between 1722 and 1728, when he took up the lease of the Osteria dei Mori. Moreover, there is no recorded label dated prior to 1727 bearing his name. The evidence of labels, where they do survive, is perhaps the most crucial. For example, while del Gesù is not usually credited with having made any cellos, two such instruments exist bearing very late examples of his father's label. The first is dated 1729, and is for the most part fairly typical of Giuseppe filius Andreæ. The back is certainly comparable with others he had made previously. It is scooped in deeply from the edges, extremely high and stiffly sculpted to the usual pinched apex. In contrast the front is low, with flat curves springing directly from the purfling. It is entirely different in concept to that of the poplar wood back.

The Cremonese method of construction required the back arching and thicknessing to be virtually completed and for the back to be mounted upon the head/neck/rib structure before any work on the belly commenced. It is therefore conceivable that Giuseppe filius Andreæ could have completed the head, neck, ribs and back of a cello which was finished by the addition of a belly by del Gesù, with soundholes typical of his work during this period. (Even the belly outline could have been finalised by the elder Giuseppe without affecting the eventual arching shape or the cut of the soundholes.) The various characters of the archings would not have been altered in any significant way, even if the purfling of the front and back were completed at different stages. The label was inserted before the belly was fixed, and possibly before work on the belly had even begun. The 1729 cello, with its mixture of styles, plain poplar back and beech ribs and scroll, provides a key for the dating of several extant violins which have the appearance of hastily finished work, made from rather poor and mismatched materials.

1731 is the date of the last label of the elder Giuseppe, and the earliest surviving example of del Gesù's own IHS label. The former appears in a second cello, which seems to be entirely the work of del Gesù, with his characteristic archings evident on both plates. The scroll of the cello is also of different workmanship, matching those of del Gesù's early violins, in particular the "Kreisler". The proportions are quite different from any previously known work by the elder Giuseppe: the centre bouts are shorter than usual, and this alone indicates the use of a different mould. Despite the claim on the label, the whole marks a complete break from the earlier style of Giuseppe filius Andreæ, who was a fairly proliWc maker of celli. It is perhaps surprising that having gone to the effort of acquiring another mould, as far as we know, del Gesù never made use of it again. The change of design may indicate that although he was willing to fulfil a commission for his father, who was probably by this time too frail to undertake the physical effort of building a cello, he was nevertheless working independently of him.

Del Gesù's own label of 1731, bearing the IHS insignia, is found in the "Baltic" violin. Made in the same year as his move to the casa di San Bernardo, this instrument represents a change in conception: its more precise craftsmanship and delicate design establishes the style of del Gesù's work for the next eight or nine years. During this period he seems to have worked with considerable energy and consistency. A large number of instruments have survived, suggesting a high rate of production for a craftsman apparently working alone. Alone, that is, apart from his father, who was evidently given sole responsibility for making the scrolls (see p. 138). Delicacy of form certainly appealed to him at this time, and he even produced a charming pochette, the wonderfully preserved "Chardon" of 1735. This has a shield-shaped final rather than a scroll, a feature difficult to attribute to father or son. Dating and identification of instruments from the 1730s is less problematic as a greater proportion of them carry authentic labels. After 1736 del Gesù's industry appears to have declined, and he seems not to have made more than ten instruments in any one year.6

By 1740, dramatic changes were beginning to take place and during the last four years of his life del Gesù clearly rejected many of the certainties and restrictions of his former approach. He seems to have been experimenting constantly: closely related instruments occur in groups of two or three, followed by a violent swing away to the next idea, which is pursued again for two or three attempts. The "Vieuxtemps" of 1741 appears to stand alone, and bears little comparison with the "Wilton" and the "Alard", which share many characteristics. Again from 1742,

but very different in conception, come the “Dushkin” and the violin of Dr Sloan, which are closely linked with the “Sauret” and the “Hladik” (or “Canary Bird”) of the following year. These in turn are quite different in character from the “Cannon” and “Carrodus” of 1743. The “Doyen”, “Ole Bull” and “De Beriot” of 1744 represent yet another leap in style, and again their appearance is quite distinct from the “Lord Coke” and the “Leduc”.

The quantity and comparative diversity of the instruments attributed to the final year of del Gesù’s life is striking. Besides those mentioned above, the “Hennel”, the “Gregoritsch” and the “Prince of Orange” are also attributed to 1744. In fact, only the “Ole Bull” and the “Prince of Orange” have labels of undoubted authenticity, but we may be reasonably confident about the dating of the others. If the “Leduc” (with its apparently posthumous label of 1745) is included in the list, the total reaches eight very individual violins. The Hills estimate that from a working life of less than two dozen years, del Gesù produced between 150 and 200 instruments. The fact that his productivity appears to have varied unpredictably from year to year may have a number of explanations, including perhaps a poor rate of survival. The only certainty is that until the end, del Gesù's imagination and creativity never left him, and it might be argued that his final year was also his most glorious.