THESAURUS ABSCONDITUS: A SEVENTEENTH CENTURY ORGAN IN THE CHURCH OF THE INSTITUTO MONSENHOR AIROSA, BRAGA*

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Historical evidence suggests that the organ in the Instituto Monsenhor Airosa incorporates a much older instrument, which could date from the seventeenth century, and which was augmented and modified when it was installed in the present building. The instrument as it exists today is still in good playing condition and consequently, it is very important in the consideration of Portuguese organography.

It is not possible to investigate the history of the organ in the Church of the Instituto Monsenhor Airosa, in the Portuguese Minho city of Braga, without first giving brief consideration to the history of the Institution and the origins of its buildings.The Order of Conceptionist Nuns was founded by an illustrious Portuguese lady, recently canonized, D. Brites da Silva. She accompanied D. Isabel, daughter of D. João of Portugal and niece of D. João I, to the court of Castile, when the latter was married to D. João II of Castile in 1447. The victim of intrigues and conspiracies, she moved to the Monastery of Domingos O Real, Toledo, and a little later founded the new order, which was approved by Pope Innocent VIII in 1489.[1] The first Portuguese house of this order was established between 1625 and 1629 on the site of the present Instituto Monsenhor Airosa. The later prosperity of the Institution can probably be traced to the vision and eminence of the two priests who were its founders: Dr. Geraldo Gomes, a canon of the Cathedral of Braga, and his brother, Dr. Francisco Gomes.

Following the decrees of extinction and spoliation of convents in 1833--1834, the male Portuguese houses were disbanded immediately. The female communities were allowed to remain in their buildings, although novices could no longer be accepted. Consequently, by 1869, only two nuns remained in the Conceptionist monastery, which at this time was deteriorating, as were virtually all of the monasteries in Portugal. In 1883, the final nun in the monastery died.

She was the Abbess D. Maria Adelaide do Sacramento; following her demise, the building ceased to be a Conceptionist house.[2]

On August 18, 1869, a new institute was founded in Braga with ecclesiastical and civil approval. It was conceived as an institution for girls, especially those in difficult circumstances. It was named initially the Casa d'Abrigo, but in 1874, the title was changed to the Colégio de Regeneração. The name was changed again in 1969, to the Instituto Monsenhor Airosa, as a tribute to the founder and first director, Padre João Pedro Ferreira Airosa, (1836-1931) of Braga.[3]

In 1868 the Portuguese Congregation of the Dominican Sisters of St. Catherine of Sienna was founded. From 1877, this Order has been associated with the administration and operation of the Instituto Monsenhor Airosa. Principally after the death of the last of the Conceptionist nuns, parts of the monastery were progressively restored and adapted to suit the needs of the Colégio de Regeneração, which assumed full and permanent residence in the buildings in December, 1883.

The primitive convent (church, cloister etc.) used by the first generations of Conceptionist nuns was built between 1625 and 1629, but only the cloister and some smaller artifacts survive.[4] It is not known what prompted the replacement of the church, but perhaps it may have been poorly ill situated or considered old-fashioned in the high Baroque or Joanine era which swept Portugal in the early eighteenth century.

The new church built by the Order of the Conception, and now the church of the Instituto Monsenhor Airosa, Braga, was inaugurated in 1728 and still retains the Marian title of the primitive church: Igreja da Conceição.[5] It contains interesting and important examples of Portuguese symbolic liturgical art, including the anonymous and unusual painting on the gospel wall of the chancel, wherein Christ is shown in the womb, which is represented as a host. The small statue of the Trinity in the nave shows God the Father as the Pope, who is speaking. The age of this piece is not known. The style of painting and decoration of the church is typical of the Portuguese Baroque, but it is especially evident in the *talha* (woodcarving) and gilding of the magnificent high altar, which is the work of Jacinto da Silva. The retable dates from 1733 and was undertaken by Pedro Salgado of Landim.[6] The ceiling of the building has been sympathetically restored and repainted in the original tradition and there is very little doubt that this church is one of the finest in Braga.

Throughout the eighteenth century, many members of religious institutions came from noble and wealthy families and although they themselves were poor in obedience to their vows, the monastery or institution as a community was in fact very wealthy because of support received from the families of its members. Most religious orders followed this financial arrangement, known as *media* in

the three levels of poverty. For practical reasons, few monasteries retained the strictest state of poverty or *altissima*, under which, collectively and individually, they possessed virtually nothing.

When the new eighteenth century church was in construction, the acceptable fashions of liturgical art were quite different to those of the preceding century. The Jesuit belief that iconography and art could assist religious devotion had a considerable influence in the design and decoration of Baroque churches in Portugal and expensive decorations and intricate church fabric was felt to be justified.

Whatever the reason for the construction of the new church, not all of it was new and at least one important artifact was saved from the older building and incorporated into the new construction. The side door and the external porch on the epistle side of the nave of the new church faces east and opens into a small courtyard. On inspection, it is apparent that this construction, especially the entablature, was not designed for the present location because it is too high and the raking cornice is an awkward fit with the parapets. The pediment contains the remains of a date which the author was recently able to confirm as 1628. This date confirms that the stones and columns are without doubt from the old church. For a reason at which we can only guess, they were preserved and adapted to the new building without major visible alteration. The most important fact is that they are evidence that the new church contained some major artifacts from its predecessor of 1625.

Why were the old stones reused? Perhaps there was an element of sentimentality involved, but keeping in mind alterations being made to many churches in the region, including the construction of the lantern for the nearby Braga Cathedral, it is more likely that at the time, skilled labour to construct a new porch may not have been available, or for some bureaucratic reason, this work was forced to cease. In many cases, these projects were financed by a pious benefactor and premature cessation often can be attributed to their untimely demise. There is some evidence that the death of the Archbishop of Braga, D. Rodrigo Moura Teles in 1728, caused delays in the completion of the project involving the lantern and the two organs in Braga Cathedral, and it could have caused a delay in the completion of the Conceptionist church, the choir and organ, because he was a patron of this project: *mandou fazer o Coro às Freiras do Convento da Conceição dos Pelames por 480$000 and also, deu para auxiliar as obras da nova Igreja deste Convento 480$000.*[7]

The preceding information, coupled with some inconsistencies relating to the organ in the present church, prompts the question as to the presence of an organ in the old church. If such an instrument did exist, was it constructed *circa* 1630 or was it built later, closer to the end of the century? What became of it? Does the organ in the present church represent a new eighteenth century

construction? This question arises because in spite of the external decoration of the façade, which is typical of the era, it lacks horizontal reeds, an essential feature of Portuguese Baroque organs. Why were these omitted? Is it possible that the organ in the new church was constructed around an old organ without horizontal reeds, which was taken from the original church?

These questions are interesting considering that the services of organ builders were much sought after in Portugal in the early eighteenth century, but according to the documents, very few of them were available. Moreover, the evidence suggests that most were foreigners, for example, at the time the nuns would have been considering an organ for their newly completed church, the two organs for Braga Cathedral were under construction. The contractor was Simão Fontanes, a Franciscan from Galicia. Recent information confirms that he was assisted by D. Francisco António Solha (Solla), also from Galicia, who later set up his own enterprise in Guimarães, ultimately building many organs in the region, some of which survive.[8] Repairs to the historic organ in the Church of Santa Cruz, Coimbra and the construction of new organs for Coimbra University Chapel, Viseu Cathedral and the Monastery of the Cistercian nuns at Arouca, were undertaken by Manoel de S. Bento Gomes de Herrera from Valladolid.[9] Johannes Hulenkampf, a builder active in Lisbon and the south of Portugal, was German, as was Miguel Hensberg, who worked in Coimbra; Pascoal Caetano Oldovini was an Italian. If these builders and their works are removed from the Portuguese organ-building scene of the early eighteenth century, virtually no organ-building industry remains. Manuel de Sá Couto of Lagonsinho, the pupil of Frei Varella of Porto, probably represents the first genuine Portuguese builder of the Minho, but he belongs to a later generation.

The provision of a new porch and a fashionable new organ, whether by donation or purchase, whould have been taken into account during the planning of the new church. Are there any documentary references to expenses involving a new organ for the Conceptionist nuns? The documents make no mention of a new organ nor do they record any expenses in relation to such a project at the end of the seventeenth century or the early eighteenth century. However, the *Livro das escripturas das fre[i]ras des o anno de 1629 principio deste convento thé o anno de 1696* and the *Libro de notas que he do tabaliaõ Ignacio Fernandes*, which begins on folio 1r., with the date September 14, 1663, furnish some interesting details about the possibility of a new organ in 1664.[9] In this year, there is an *Instromento de dote de freira*, dated February 5, which states that the Order was promised an organ as part of the dowry of a donzella named Mariana de Távora: *hu (til over u) orgõ e obrigaçaõ de ella ensinar*[10] A declaration in the *Livro das escripturas* makes a parallel affirmation: *comdisaõ e obriguasaõ mais de dar hum orgaõ pera o ditto mosteiro.*[11] However, a year later, in 1665, the documentary references state that the obligation to provide the new organ no

longer existed: *sem serem obriguados a darem ao dito mosteiro o ditto orgaõ...*[13] The Fundo Monástico Conventual refers to Mariana de Távora as a competent teacher and player of the organ: *ter parte de ser organista e tamger orgaõ.*[14] This document states unequivocally that Mariana had taken the religious habit and finished her noviciate before May 30, 1665, in order to make her profession in the monastery (*fazer profisaõ no dito mosteiro*), where she was then living [15], so the release from the original obligation did not occur because she withdrew from monastic life. There is only one explanation: the church already had an organ and the *mesa* or administrative council decided that they did not want another. This opinion is reinforced by the statement that Mariana is referred to as a competent player and teacher of the organ and would thus have required the use of an instrument. If the monastic community did not possess an organ, it is logical that they would have accepted the offer made in 1664. Nonetheless, their refusal is a little difficult to understand because many monasteries possessed more than one organ and the decorative and functional advantages of a second instrument were considerable, especially in an era when repairs could not easily be effected.

It seems safe to conclude that in 1664, there was an organ in the old church, which had been completed a little before 1630. The new organ mentioned in 1664 did not eventuate, suggesting that these dates represent the *post quem* and *ante quem* of the instrument. The new church was completed in 1728 and would have needed a Baroque organ, yet there is no mention in the documents of the provision of such an instrument whether by donation or purchase. There is now a Baroque organ in the church, so where did it come from? Could it be the old organ, or part of it, which, under circumstances similar to those involuing the 1628 door, was preserved from the old church, to be later installed in the new building?

Because the new church was not built on the site of the old church, the latter was not demolished until 1893. A pre-conceived plan to incorporate the old porch in the new church seems unlikely, especially considering that it appears slightly awkward; on inspection, is clearly an adaptation, and as mentioned, it seems to have been used by necessity rather than intention. Consequently, it is not unreasonable to assume that various other items were taken from the old church as required, especially if new ones could not be obtained.

If this hypothesis is correct, the present organ could represent a substantial part of the organ from the old church. If it was built in the latter half of the seventeenth century, it represents a very rare instrument, because the half-century of Spanish domination in Portugal which ended in 1640 was followed by several decades of economic hardship and austerity. It is thought that during this time, organbuilding in Portugal came to a standstill and that the organ built in 1696 by Geraldo Vieira for the Cathedral of Miranda do Douro represents

one of very few instruments built during this era. Even so, it was built at the beginning of the Portuguese Baroque when financial conditions were gradually improving.

Although the documentary references and the various pieces of circumstantial evidence are interesting, they do not confirm the theory that the old organ was incorporated in the present instrument that is presently located in the new church. A technical examination of the instrument may, however, reveal other clues.

If the organ in the old church had been built in the early seventeenth century, it would most likely have followed Renaissance or Mannerist traditions, with a plain wooden case and flat façade. Theoretically, it would have been somewhat similar to, but smaller than the organ in Évora Cathedral, and perhaps not unlike the small gallery organ in the Church of Santa Cruz, Coimbra. If the instrument was remodelled in the eighteenth century, the façade pipes could have been painted and installed in a new structure, thus giving it a Baroque appearance. It is known that until recently the organ had a short lower keyboard, but these were used in Baroque organs built in the eighteenth century, so this fact is not of great significance. Turning to the most important parts of the instrument, the windchest and pipes, we find some surprises.

Several of the interior pipes show inscriptions, but the characters are for the most part no longer legible except for the use of x to designate a sharp. However, the lowest pipe of the quinzena register, corresponding to the note C, reveals the inscription: *1737 Philipe da Ainea Lx.a.* Nothing is known about this builder from Lisbon. The date presumably refers to the installation of the organ in the new church. However, the delay of nine years from the time of completion of the church to the installation of the organ, and the use of a builder from Lisbon, must be taken into consideration because they suggest that there was a difficulty involving the construction of an organ for the new church. Another inscription is to be found on the wooden partition at the rear of the organ case: *fa? (faz) Manuel João De Souza.* Perhaps this pertains to the construction of some of the interior woodwork.

Considering that the date on the quinzena pipe might refer to the date the organ was installed in the new church, and also the earlier comments concerning the availability of organbuilders, it is possible that the nuns did experience difficulties finding a local organbuilder, hence the choice of Ainea from Lisbon. If the old organ was finally installed in the choir, a new façade in the style of the high Baroque would still have been necessary to preserve the uniformity of the overall Baroque ensemble. Tradesmen suited to the task may not have been easily recruited, for example, the final decoration of the Coimbra University organ was delayed for almost a decade because of such a difficulty.

The normal Portuguese organ has a windchest orientated so that the roller board and trackers are located behind the music desk and the pallets are approximately above the trackers, a little behind the main façade pipes. Access into the windchest can be obtained by removing a section of the façade timber above the console, behind which are located the two covers to the divided chest. The channels, tables and slides are above the level of the windchest and the façade pipes are fed from the front of the channels by conduits. The pipes are usually arranged on the tables so that the lowest pipe of the treble section, c-sharp above middle c, is adjacent to the lowest bass pipe, at the centre of the chest that is, the pipes are arranged in descending order of magnitude from the centre of the chest.

The windchest of the Institute organ does not conform to most of these conventions. The windchest and pallets are at the rear of the windchest because the roller board and trackers are beneath it, connected to the keyboard by a system of trackers and stickers. The treble pipes are arranged on the windchest following Portuguese convention, in descending order from middle c-sharp at the centre of the chest, but the arrangement of the bass pipes is very strange. The photograph shows the central section of the bass pipes, with two groups of pipes each side, conforming to the following order, counting from the lowest note C as 1:

a	f	c#	b	d#	g	b	A	F	D	C	E	G	Bflat	a#	f#	d	c	e	g#	c'
18	14	10	20	12	16	8	6	4	2	1	3	5	7	19	15	11	9	13	17	21

The pipe representing the note a is thus the first original bass pipe at the centre of the chest. The pipe for middle c (21) is correctly positioned as the outermost. Unconventional arrangements of pipes in a somewhat similar manner are not unknown and were usually used in cramped locations so that as many pipes as possible could be fitted into a given area. This could have been the motivation for the present arrangement. However, the theoretical reason for the characteristic Portuguese disposition of pipes (treble c-sharp adjacent to the lowest note of the bass, in the centre of the chest) appears to have been based on a traditional desire for tonal purity and the avoidance of sympathetic vibrations. This required the pipes of adjacent notes be kept apart. The normal arrangement of pipes on the chest, to which the treble section of the Institute organ conforms, was only a compromise because the *ordo* ran from c-sharp to the highest note. The arrangement of the pipes on the bass section of the Institute organ gives much better separation, except for the lowest octave, where it was less important because these notes were less often used. Nonetheless, it is difficult to be sure about the motivation for the arrangement of the bass pipes, which appears not to occur on any other surviving Portuguese organ. However, if the Institute organ is of an early date, the layout of the bass pipes could have been relatively

common in the relevant era. Unfortunately, there are few unrestored instruments available for comparison. The pallets change size regularly according to the pitch of the pipes on the chest.

The main windchest is now a single chamber with one wind entry but it was once divided in the Portuguese tradition, into independent bass and treble sections with a wind supply to each section. The aperture for the old wind trunk into the bass section of the windchest is clearly visible even though the opening has been closed over. It is also possible to see where the partition which divided the chest has been removed. The two covers which allow access to the rear of the chest appear to be original. The windchest used for the pipes for the accidentals which augment the original short lower octave, is installed at the bass end of the main chest.

treble registers

flautado de 12 aberto (8')
flautado de 12 tapado (a metal chimney flute)
oitava (4')
dozena (4')
flauta (a 4' chimney flute)
quinzena (2')
dezenovena (15,19)
clarão II (15,19,22)

bass registers

aberto 8' (metal façade pipes, some false, with use of some stopped wooden pipes behind the façade. From B the pipes are mounted internally on the tables.)
tapado (stopped wooden pipes)
oitava (some wooden pipes, lowest metal pipe appears to be G)
dozena (4')
corneta real (no pipes) the slide connected to the treble *dezanovena* and *clarão*
flauta (4' metal pipes, capped)
quinzena (4')
clarão IV (19,22,26,29)

The present nomenclatures of the registers are confusing and give only an indication as to their quality and pitch. The bass corneta, clarão and dezenovena knobs and slides are interconnected and neither the treble nor the bass clarão and dezenova registers are available separately. Furthermore, the three bass knobs and slides are connected to the composition pedal, to which is connected also the treble dezenovena and clarão. These registers appear to have been

connected because the levers and linkages for the bass slides had to be removed to make space for the pipes needed to augment the short lower octave, originally 8 notes, from C-B with B-flat, to the normal chromatic octave. To achieve this modification, a small windchest was constructed to accommodate 4 extra pipes of the bass registers. This windchest was positioned adjacent to the bass section of the main windchest and the slides were connected to those of the main windchest. A small auxiliary roller board was added, but it was positioned under the main windchest as a practical necessity. The rollers were extended through the side of the original case to operate the pallets of the auxiliary chest. The present keyboard, which is a modified piano keyboard, extends from C-d'''. The keys themselves are not physically attached to the trackers and stickers which extend from the rollers under the windchest, to the levers beneath the keyboard, so that the pitch of a given note can be changed by repositioning the keyboard, by lifting it slightly and sliding it sideways. The device is merely a means of achieving mechanical transposition, whereby the standard, indicated on the keyslip as la, can be moved a semitone downwards or a tone upwards. However, the original pitch of the organ must be that which occurs when the keyboard is in the lowest position. There is no doubt that this device and the supplementary pipework, was installed by José and Joaquim Rodrigues of Gondizalves, Braga, *circa 1950*. This father and son enterprise installed a similar keyboard on the organ built by Manoel de Sá Couto for the church of St.Victor, Braga, *circa* 1979. Fortunately, they did not interfere with the original pipework. It is possible that the present windchest of the Institute organ could date from this era. The connection of the registers was an unwise move on the part of the builder because it decreased the flexibility of the instrument. The old keyboard, whatever its condition, would have been preferable to the modern replacement because it was original. The channels, iron linkages, slides and tables appear to be very old, as does the woodwork and the nails in the doors at the rear of the instrument.

Turning to an investigation of other technical matters, the organ lacks horizontal reeds with long resonators, which are normally placed around the base of the façade, or reeds with short resonators located above the console. Both attributes are an integral part of Portuguese Baroque organ design. If these reeds had been installed, they would have been fed by conduits from the front of the windchest. There is no conclusive evidence of any conduits, except those to the façade flues, but if the windchest is from the seventeenth century, horizontal reeds would not have been a part of the design. If the organ had been provided with a trombeta register mounted internally, the pipes would have been placed at the rear of the case, the traditional Portuguese arrangement of ranks on the tables, from the front to the rear, being flutes, mixtures and reeds. The treble corneta real is actually a 3 rank mixture and presently occupies the rear slides 8 and 9 of the windchest. Slide 8 was designed to accommodate 2 ranks of pipes, that is, two pipes each note. Slide 9 was a normal slide with one pipe per note.

The use of 2 slides for a single register with multiple pipes, e.g., a cheio, or corneta real, is often found on rebuilt or restored organs, but is less commonly encountered on instruments in original condition. The treble dezenovena, because of the pipe dimensions, has a strong flute-like character and a composition of 15, 19, which is unusual. The fact that there is no third in the treble clarão is also noteworthy. The Portuguese preferences concerning the tierce in the seventeenth century are not known, but it is suspected that changes were made to the Évora Cathedral organ *circa* 1800 because this register had become fashionable. The Évora organ before this time did not have a tierce-based mixture. Alternatively, the change could have been made to the Évora mixtures to strengthen the tone of the reeds, which were added at the same time.[16] The bass mixture of the Institute organ is composed of octaves and fifths and lacks the tierce.

The organ is in the correct position in a church used by a female convent, because it is placed slightly forward of and below the screen in front of the high choir. Assuming that the console was always in the balcony, the normal access to it would have been through the choir and down a few steps in line with the rear stalls, and then into the organ gallery. This plan was the most favoured and was adopted in many churches in the region. It was also used in Évora Cathedral and was still popular in the eighteenth century, at Santo Tirso, St.Victor, Braga and the Church of the Third Order at Ponte de Lima, etc. . The method of access and the slightly lower level of the floor of the gallery was retained, regardless of which side of the church the gallery was built.

Access to the console of the Institute organ is now by means of a small and not very convenient entry from behind the instrument or through a small door directly into the gallery, in which space is very limited. At least in the twentieth century, the only normal access to the organ gallery was as it is now: through the high choir. The other access from behind the instrument, before 1945-1946 was normally used only by the person operating the bellows, who since 1883, would have been one of the Institute girls. It is known that prior to 1945 the two bellows were located behind the organ on the first floor, which was as a result known as *os foles*, but their primitive location is not known. The console was in the gallery at this time.

These matters demand further investigation in an attempt to describe the original organ and the changes which may have been made to it. In 1945 many alterations were made to the building adjacent to the wall of the church and the area behind the organ, such that three floors now replace two floors of the old building. The original floor at the rear of the organ would have been lower, approximately level with the floor of the organ gallery, but now it is almost level with the windchest, and as an access from behind the instrument, it is difficult to negotiate. Originally, it would have been most used by the operator of the bellows and it would have been much easier to negotiate when the level of the floor behind

the organ was lower, as it was prior to 1945. There is no evidence of a conventional access to the organ gallery through the stalls of the high choir. However, there exists a small gallery opposite the organ, on the epistle side of the church, which serves no apparent purpose, but which is slightly below the level of the choir, to which it is connected by a few steps, according to the usual plan used to permit access from the high choir into the organ gallery. This information suggests that in the eighteenth century, access to the organ by the normal means may not have been necessary because the console was not in the gallery, but was at the rear of the instrument. This was not an unusual configuration at the time and exemples still exist at Santa Cruz in Coimbra and the Seminary Church at Coimbra. The most significant usage is in the Cathedral of Miranda do Douro, because this instrument is probably closest in design and date of construction to the Institute organ. Unfortunately, it has not been possible to ascertain unequivocally if and when the console of the Institute organ was repositioned.

If it was necessary to move the console of the organ from the rear of the instrument to its present position beneath the façade, what would this work have entailed? Presumably, the original channels and pipes would have been set out in the traditional manner, with flues nearest the façade, with the mixtures at the back of the case. These pipes could have remained in their original position regardless of where the console was placed. Apart from the changes to the lower part of the façade and case to accommodate the keyboard, the only other work would have involved the rollers and trackers. This is where the hypothesis begins, because it is not known if the original chest was at the back of the instrument, or if it was beneath the façade. On a small organ with short channels, the point of entry of wind into the channels would not have been greatly significant and the chest and roller board could originally have been at the rear of channels. The unusual arrangement of the bass pipes could have been adopted by the original builder because the instrument had a console at the rear of the case. The windchest therefore may not have required to be repositioned, although procedures involving repositioning of the console and reorientation of the windchest are not unknown in Portugal. Most were associated with modernization projects, such as the disastrous installation of a quasi-brustwerk on the organ of Santa Marinha da Costa, Guimarães by António Luis Gomes José of Renduffe.[17]

It has been mentioned that although the organ is decorated in the high Baroque tradition, it lacks horizontal pipes and in fact, has no reeds of any type. The Renaissance organ of Évora Cathedral did not originally have any mounted reeds, nor did the organ built in 1696 for the Cathedral of Miranda do Douro or the organ in the Church of the Salvador, Braga. Both the latter organs are played from behind the case. The Institute organ is not unique because it does not have en chamade reeds but absence of an internal reed is somewhat more unusual. If, however, the present instrument incorporates a substantial portion of a much older organ, perhaps dating from the mid-seventeenth century, then, as mentioned, the absence of a reed register is not in the least unusual. Reeds

were less significant in seventeenth century organ designs, because their visual impact was less important than that of the instruments built during the Portuguese Baroque. Also, reed tone was less frequently required in seventeenth century repertoire than in the *Batalhas* and similar compositions of the eighteenth century, which require both trumpets and nightingale registers to be effective. Much the same can be said of the mixture registers.

An inspection of the pipes reveals that their tops have been much damaged. The tuning slots at the rear of the large façade pipes have also been lengthened in an untidy manner. Overall, the speaking length of the pipes seems to have been decreased by 10-15%. A ratio of 9.8 would give a rise in pitch of a tone, so it is possible that at some time an attempt was made to raise the pitch of the organ by a tone by shortening all the pipes.[18] This work could be contemporaneous with the installation of the moveable keyboard. However, when the speaking length of the pipes was shortened, the scale (ratio of length to circumference or diameter) would also have been changed because the diameter of the pipes was effectively increased. Thus, whilst the pitch of any pipe so altered would rise by approximately a tone, the character of the sound would have become more full, with a loss of harmonic and an accentuation of flute tone. The treble pipes especially would have lost much of their original brightness. Although the area around the hole in the foot of many of the pipes seems to have been been coned inwards, there is no evidence that any of the pipes have been repositioned.

The treble flautado tapado and flauta tapado have ears. The bass dozena, quinzena and the lowest rank of the clarão have grooved languids, the most usual number of indentations being 13. Both procedures are still used to maintain the direction of the flow of air across the languid and maintain a stable environment, ultimately promoting good pipe speech, especially at high wind pressures and flow rates on pipes of the lower pitches, but neither are traditional Portuguese organbuilding customs.

What conclusions can be drawn from the information which is available? Certainly, many parts of the organ pertain to alterations made to the instrument in the eighteenth century and later. However, the specifications of the instrument, especially the absence of the all-important Baroque reeds and the design of the channels and pipes suggest that they might predate the era of the new church. Absence of references to a new organ in the documents is not unequivocal proof that a new instrument was not installed, but a combination of all the evidence favours the theory that for some reason, the old organ was adapted to the requirements of the new church. The date of construction of the organ in the old church appears to predate the era of Mariana de Távora and in fact it is possible that it was built shortly after the old church was completed. Theoretically, it could have been built as early as 1630. If the hypothesis that the present organ contains a substantial part of the old instrument is correct, then it becomes an instrument of great importance because of its date (between 1630 and 1664) and the fact that it is still in playable condition.

REPRESENTATIVE PIPE DIMENSIONS (IN INCHES)

treble

	l	d	t	f	h	m	c
flautado aberto (c#')	22.25	1.725-1.750	.024	8.31	.265	.168 x .4	
flatado tapado (c#')	11.0625	1.472-1.5	?	8.375	.270	.478 x .991	1 x .260
oitava (c#')	8.313	1.036-1.063	.027	8.313	.238-.258	.225 x .678	
dozena (c#')	7.125	.769-.791	.023	8.313	.177	.179 x .517	
dezenovena II (c#')	4.625	.915-.951	.020	8.375	.195	.177 x .624	
	3.1875	.600-.655	.011	8.625	.178-.200	.172 x .476	
flauta tapado (c#')	5.875	.900-1.005	?	8.375	.230	.327 x .676	1.375 x .274
quinzena (c#')	5.25	.590-.600	.018	8.25	.180	.117 x .440	
clarão III (c#')	5.313	.617	.015	8.25	.192	.143 x .494	
	3.5	.472-.489	.013	8.313	.213	.472 x .489	
	2.750	.405	.015-.018	8.313	.200	.405	

bass

	l	d	t	f	h	m
flautado aberto	not accessible (metal façade pipes, interior wood)					
flautado tapado (B*)	25.875	2.002-2.357	.281	1.945	.414	.735 x 1.750
oitava real (tenor g*)	30.5	2.138-2.168	.028	8.063	.269	.423 x 1.480
dozena (C)	22.5	2.235-2.276	.026	8.313	.322	.498 x 1.585
flauta (C)	21.375	2.664-2.715	.032	8.063	.410	.727 x 1.838
quinzena (C)	22.625	1.330	.022	8.313	.350	.408 x 1.227
clarão (C)	15.75	1.306-1.355	.021	8.25	.210	.305 x .878
	11.563	1.023 x 1.110	.022	8.375	.240	.717 x .235
	7.625	.794 x .808	.020	8.063	.244	.205 x .579
	5.563	.669	.019	8.5	.200	.166 x .484

* = inaccessible wooden pipes below these notes

l = speaking length
d = diameter
t = thickness
f = length of foot
h = hole in foot
m = dimensions of mouth
c = dimensions of chimney

NOTES AND REFERENCES

* *The author sincerely acknowledges the advice and assistance of the Rev. Dr. António da Costa Lopes, the generosity of the Mother Superior and the religious community of the Institute, and the cooperation of the staff and students.*

[1] FORTUNATO DE ALMEIDA, *História da Igreja em Portugal*, 4 vols, Porto, 1967, vol.1, 333.

[2] A. DA COSTA LOPES, *As Dominicanas Portuguesas no Instituto Monsenhor Airosa*, Braga, 1978, 9.

[3] ALMEIDA, *op.cit.*, vol.2, 188.

[4] COSTA LOPES, *op.cit.*, 10.

[5] FR. A. DO ROSÁRIO, 'Primeiro convento conceicionista em Portugal Braga (século XVII)', in *La Ordem Concepcionista*, Actas del I Congreso Internacional, León, 1990, vol.1, 281.

[6] *Tesouros Artísticos de Portugal*, ed. J.A. FERREIRA DE ALMEIDA et al., third ed. Porto, 1988, 149. Details of the various crafstmen who worked in the area are given by ROBERT C. SMITH in Fr. Cipriano da Cruz, Escultor de Tibães, Barcelos, 1978, Marceliano de Araujo, Porto, 1970, Cadeiras Portugueses, Lisbon, 1968 and A Talha em Portugal, Lisbon, 1962.

[7] J. A. FERREIRA, *Fastos da Igreja Primacial de Braga*, vols I-IV, Braga, 1932-34, vol.III, 266. Cf the reference given by A. L. DE CARVALHO, *Os Mestres de Guimarães*, 5 vols, Barcelos, 1944, vol.5, 83 (trans.): *The organ in the church is out of tune and some of the flautas do not speak. Also, the bellows are torn. At present there is in the village a stranger who is expert in the repair and tuning of organs. Because few men possessing these skills visit this part of the realm, it was agreed by all that the organ should be repaired and tuned.*

[8] W. D. JORDAN, 'Dom Francisco António Solha, Organeiro de Guimarães', *Boletim de Trabalhos Históricos*, vol.XXXV, 1984, 3-23.

[9] W. D. JORDAN, 'Manoel de S. Bento Gomes de Herrera and the Portuguese Organ', *The Organ Yearbook*, 1991, vol. XXII, 5-67.

[10] Arquivo Distrital de Braga, Fundo Monástico Conventual, F.72: *Livro das escripuras das fre[i]ras des o anno de 1629 principio deste Convento thé o anno de 1696* and *Libro de notas que he do tabaliaõ Ignacio Fernandes*, n.º 38.

[12] *Libro de notas*, fol. 120r.

[12] *Livro das escripturas*, fol. 266v, lines 16-17.

[13] *Ibid*, fol. 267r, lines 22-23.

[14] *Ibid*, fol. 266v, lines 14 - 15. She is not mentioned in the study of Bracarense musicians and organists by P. MANUEL VALENÇA, *A Arte Organística em Braga nos Séculos XVI-XIX*, Braga, 1984, 16-26, perhaps because, as a member of a religious order she was not known outside her institution. However, we know that she was not the only organist in her family because her brother Constantino de Távora, a priest mentioned both in the *Libro de notas*, fol. 119v., and in the *Livro das escripturas*, fol. 266v., had been organist of the Igreja da Misericórdia, Braga. (LUÍS DA SILVA PEREIRA, "A Igreja da Misericórdia / Órgãos, organistas e organeiros", *Diário do Minho*, January 8, 1993, 4).

[15] *Livro das escripturas*, fol. 267r, line 10.

[16] Cf. changes made *circa* 1760 to the Evora Cathedral organ, described by M. A. VENTE and D. A. FLENTROP, 'The Renaissance Organ of Evora Cathedral', *Organ Yearbook*, vol.1, 1970, 19, and *ISO Information Bulletin*, n.º 12, April 1974, 845-856.

[17] W. D. JORDAN, *Órgãos Portugueses*, dissertation, University of New England, Australia, 2 vols, 1979, vol.1, 101.

[18] CF. VENTE AND FLENTROP, op. cit., 19.