Although the earliest dated English virginal is an instrument made in 1638 by Thomas White, stringed keyboard instruments in England can be traced back to their first ever references with the mythical chekker, an instrument first mentioned in 1360. The virginal itself can be traced to the start of the sixteenth century when it first appears in Court records and household Inventories. It should, of course, be pointed out that the term "virginall" was used generically to mean any plucked keyboard instrument, something which has been known, and repeated ad nauseum for many years. In this paper I shall only use the term virginal to refer to the rectangular instrument in its modern form.  
By the time of the first surviving dated instruments it can be seen that the English virginal had developed a standard form. There are, naturally, exceptions to any generalisations, but the early dated English virginals have sombre dark oak cases, decorated on the outside by only iron hinges, locks, hasps and turnbuckles. The interiors, on the other hand, have painted lids and keywell flaps, contrasting red cedar mouldings and gilt pressed papers around the soundwell, keywell and faceboards, and soundboard paintings and gilded roses. The keyboards of these early dated instruments have boxwood naturals and dark accidentals. The standardised decoration of these earliest dated instruments is perhaps less surprising as they are all the work of the same decorator even though they respresent the work of different makers. However, the instruments from slightly later show the same features.  
Two English virginals are unsigned and undated, probably as a result of their original jackrails being missing, and have become known as "Mar" and "AH". The Mar virginal gets its name from its ownership by Marie Stuart, a daughter of Esme Stuart, the favourite cousin of James the Sixth of Scotland. At her marriage she became the Countess of Mar. The Earl and Countess of Mar became the custodians of James the Sixth's children when he moved to England to become King James the First following the death of Queen Elizabeth in 1603. One of these children was Princess Elizabeth, who later became the Queen of Bohemia and, more importantly for us, it was her own marriage which resulted in the publication of Parthenia, the first printed edition of keyboard music in England. The AH instrument gets its name from those initials painted in the lid, probably representing the original owner. I date both of the instruments to the period from around 1570 to 1580. I shall discuss these instruments in more detail shortly, but shall now return to the start of the sixteenth century.  
The earliest details we have which give descriptions of English virginals comes from a series of Inventories compiled at the end of the reign of Henry VIII. The earliest of these dates from 1543. In these Inventories the instruments of his household are described in some detail. A typical entry reads :  
  
"One newe paire of double Virginalles couered with blacke leather with smale roses printed and gilte upon it the lidde lined with grene satten and garnished upon with redde silke Ribonne lozenge wise"  
  
There are earlier dated references to virginals, perhaps the best known of which record payments made to the maker William Lewes in 1530. This list includes :  
  
"paied to Willm lewes for 2 payer of virginalles in one coffer wt 4 stoppes brought to Greenwiche, £3."  
"And for 2 payre of virginalls in one coffer brought to the More other £3."  
"And for a little payre of virginalls brought to the more: 20s."  
  
The first of these entries has caused considerable comment over the years. The entry has variously been described as a double-manual harpsichord with four registers or two entirely separate instruments in a single outer case. I shall only briefly discuss these instruments to say that the last entry probably refers to a small rectangular virginal. The second instrument also has the magical "2 pairs of virginals", and the same price, but does not indicate the number of registers. We can assume there were not four, since that would have been mentioned as in the first entry. The instruments in the payment entry can never be positively identified, but I shall point out that a Ruckers "transposing" double-manual harpsichord can be described in exactly the terms of the first entry. It is two separate instruments in one case and has four stops or registers. There were two major different pitch levels in England during the sixteenth and (most of) the seventeenth century, now referred to as "quire" pitch, which is about one-and-a-half semitones above modern pitch, and "organ" pitch, which is a perfect fourth above quire pitch. It is, at the least, not impossible that the Lewes instruments were very early transposing harpsichords which precede the surviving Flemish instruments.  
It is perhaps important to give a little discussion on pitch and nomenclature as used in sixteenth- and seventeenth-century England. The Inventories of Henry the Eighth mention both "single" and "double" virginals. The usual compass of a virginal in the early- and mid-sixteenth century probably mirrored that of the organ, having a compass descending chromatically to C in the bass, possibly with the C# tuned to AA, and ascending to a2 in the treble, perhaps without the top g#. As just mentioned, there were two major pitch levels in England during this time - quire pitch and organ pitch. This was almost certainly the result of attempts to save money when building organs during the period. Although solo organ music - for example that of John Redford - requires a compass down to C as early as the 1520s and 1530s, voice parts didn’t descend below F. The organs were built so that the sung bass F of the quire was playable by the lowest C key of the organ. The only drawback - if indeed it should be considered as such - is that the organist was forced to transpose when accompanying the choir. The resulting sounding F is below the medieval Gamut, and English instruments having their lowest note at this pitch, or up to an octave lower, were considered to be at "double" pitch - hence the term "double virginals" in England means at instrument within that pitch range. A virginal in which the low C key produced a sounding pitch within the gamut - that is G or higher - is considered to be a "single virginal". It is not possible to differentiate between instruments at organ pitch or a full octave above quire pitch with the nomenclature that was used at the time. Nor for that matter, is it possible to differentiate between instruments built at closer pitch levels as shall be discussed later.  
The instruments listed in the Inventories of Henry VIII probably represent the typical instruments found in aristocratic houses in the first half of the sixteenth century. As they are only described visually it is often difficult to determine a country of origin of many instruments. A pair of instruments are described as having cypress cases. Despite cypress being used as the soundboard wood of the 1622 Hasard harpsichord at Knole, and being mentioned as a potential soundboard wood in the Talbot Manuscript, written in England c. 1690, it is most likely that these instruments are Italian in origin.  
More common, and of more interest, are the numbers of instruments which are listed as having their cases "vernisshed yellow". For the case to be varnished yellow, the wood must be of a light colour. Cypress can be ruled out as it is mentioned elsewhere in the Inventories, leaving the most likely wood to be maple. Maple is a commonly-found wood in two different keyboard-instrument making traditions in the first half of the sixteenth century, used in both Naples and Flanders. It should be pointed out that there was a strong political relationship between Naples and Flanders at this time. From the early decades of the sixteenth century Charles the Fifth ruled huge areas of Europe including Spain, the Burgundian Empire includingd Flanders as we know it, and parts of southern Italy including Naples. That there were two separate, but similar, traditions of instrument making should not come as a surprise.  
This subject has been discussed in some detail in an issue of the Early Keyboard Journal in an article I wrote titled "The Spanish Influence on the English Virginal", so there is little point in expanding too much on this subject here. Suffice to say that I have pointed out in that article that there was a strong Spanish/English connection at the very beginning of the sixteenth century with Catherine of Aragon who came to England in 1501 to marry Arthur, the Prince of Wales, and following his death shortly afterwards remained in England with her retinue, eventually becoming the first wife of Henry the Eighth in 1509. The article makes the case for a wholly Spanish influence a little more strongly than I would make now. Up until the middle of the sixteenth century about 80% of England’s exports went to Antwerp. This figure is somewhat misleading as a simple statistic, since the vast majority of this was the export of wool, but it does point to clear trade between the two places. Further, John Koster has recently informed me that there is a record of an Antwerp-made instrument by Ioes Karest being exported to England. No doubt other instruments were also exported from Antwerp to England, and records of them will be found in due course. As a result of this I would not wish to guess the likely origin of the maple-cased instruments mentioned in the Inventories, other than to say that Naples, Spain or Flanders are all possible, and perhaps instruments originated in all three places. Of course, as shown by the references to English-made instruments by William Lewes, it is possible, even likely that the majority of the instruments used in England in the middle of the sixteenth century were, in fact, made in England. As we move into the second half of the sixteenth century it becomes clear that there were more makers working in England, even if, as shall be shown, these makers were not necessarily English-born.  
Before getting there we must take a detour to a painting which has been dated to the 1560s, and which shows a group of four children, one of which is playing a keyboard instrument. This painting is by an artist with the rather snappy name of the "Master of the Countess of Warwick". This painting was exhibited at a British Antique Dealers Association exhibition in Grosvenor House, London in 1989. Neither Maria Boxall, who made me aware of this painting, nor I have managed to trace the owner. The keyboard appears to be of boxwood, and there are gilt papers at the back of the nameboard, decoration which is found as standard on the surviving English virginals.  
At some time soon after this picture was painted the first surviving English virginal was made. This instrument is the AH virginal mentioned previously. This instrument retains much of its original decoration, but has lost much of its constructional integrity. The instrument itself is 1499 mm long, 485 mm wide, and 190 mm deep, or, more understandably, 4 foot 11 inches long, 19 inches wide, and seven and a half inches high, not including the lid.  
All of the original casework is oak. The instrument retains its lid in original coffered form, and is the only surviving English virginal in which the keywell flap only spanned the width of the keywell itself. The decoration on the keywell flap echoes that of the lid, consisting of Latin mottos surrounded by arabesques. The lid has six small diamond panels, each containing a painting of a bird or flower. The original gilt embossed papers can be seen around the keywell, the left and right case ends, and on the bass jackrail support. The soundboard is decorated with sparsely applied birds and flowers, and with arabesques in some of the corners. There is a single rose, situated behind the keyboard to the front of the register. The present rose is unoriginal, consisting of a crudely cut basic wooden geometric pattern backed by a type of coarse fabric.  
Unfortunately, the instrument has undergone a particularly drastic restoration which was clearly never intended to be anything more than visual. The spine, both bridges, soundboard register, wrestplank capping pieces, and the jackrail are all replacements, probably dating from the early twentieth century. Other internal elements may also be new, although the instrument’s design and method of construction make it difficult to confirm this.  
These replacements have generally been carried out very competently in terms of workmanship, but clearly appear to be the work of a cabinet maker or joiner rather than a knowledgeable instrument maker. The original spine would almost certainly have been dovetailed to the case ends, but is now butt-jointed. The baseboard has not been altered at all, as can be determined by original nails still protruding from the rear, so the inside edge of the present spine must be in essentially the same position as the original spine. The present spine is of oak, and is considerably thinner than original examples. The original case width can be estimated to have been approximately 489 mm.  
The present bridges follow the shape of the original bridges fairly exactly. The new bridges are of poplar, with a flat top, rather than the beveled top as found on other instruments. Although the width must be extremely close to the original, the height appears rather extreme, suggesting that the original bridges were missing when the instrument was restored, although their positions could be clearly determined from the fresh marks on the soundboard. Likewise, the wrestplank capping pieces follow the original positions, but are about twice as deep as they would likely have been originally.  
The one replaced part which shows the poor knowledge of the restorer is the soundboard register. Like all of the signed virginals, it is glued to the top of the soundboard, but is of wood rather than leather. The slots are much wider than ever could have been used to align the jacks securely, and rather extraordinarily, number only 48 instead of the required 50. Although the instrument currently has strings on it, it is clear that they are merely there for visual effect and the instrument could never have worked in its present setup.  
The keyboard has a 4 octave C - c3 compass, and an examination of the lower guide shows that the lowest note had an extra jack and string. This last feature is also found in the Mar virginal, and in most of the early signed English virginals. Having examined all of the possibilities, it appears that the only plausible reason for this is to have a second string at the same pitch, although the musical advantages of this are unknown. The keylevers are of pine. Most of the natural touchplates are replacements, but the surviving original plates are of boxwood. The accidentals appear to be of pear, with an inlaid section featuring a thin sandwich of sycamore surrounded by strips of ebony either side of a central sycamore piece with random knife cuts from left to right giving a pseudo-chequered appearance.  
The presence of the lower guide, in conjunction with bridges in the original positions, allows estimates to be made about the original string lengths with some degree of accuracy. English virginals used c3, that is the c which is two octaves above middle c, as their scaling-design note, and in the AH virginal it was probably 6 inches long. This scale is found in about half of the surviving English virginals and these instruments were probably tunes to quire pitch, which, as stated previously, is between one and two semitones above modern pitch.  
English virginals were usually signed on the jackrail, which is missing on this instrument, and therefore the maker cannot be determined with certainty. However, both this instrument, and the Mar virginal, are clearly built by members of what can be called the Theewes workshop tradition, and the decorators also share a common tradition. The AH shares two very distinctive features with the Theewes harpsichord. Firstly, the balance rail has been cut so that the area under all of the natural keys slopes from the front down to the rear, and under the accidentals from the rear down to the front. Secondly, there are a series of scribed lines on the baseboard of the AH which were used in the marking out and construction of the virginal. Although marked at the same time, the lines have been made with different tools - some made with a sharp knife and others with a blunt scriber. The same feature is also found on the soundboard of the Theewes harpsichord. As the general style of the instrument clearly looks back in design to the middle of the sixteenth century it is most likely that it was built in the early 1570s, or even the late 1560s. The most likely candidate for making the instrument at that time is Lodewyk Theewes himself. In fact, it is difficult to make a case for any other maker.  
In terms of structural and musical integrity, the Mar virginal is the better preserved of the two examples. Its external dimensions are 1652 mm long, 505 mm wide, and 184 mm deep; or in Imperial measurements, 5 foot 5 inches long, 20 inches wide, and seven and a quarter inches high, not including the lid. The casework is of oak, with the exception of the spine which is of deal. The lid was originally coffered, but was flattened during a fairly severe decorative refurbishment. The lid decoration features three oval-shaped pictures surrounded by pale borders. The papers decorating the soundwell, keywell and jackrail are embossed, but clearly come from later large rectangular pieces which have been cut to fit. The jackrail is unoriginal, probably dating from the nineteenth century, and shows no evidence of having ever had a cloth attached. The embossed papers are glued to this rail, confirming the later date of those pieces. The only inscription which may give any indication of the instrument’s maker are three appearances of the capital letter M, appearing next to each other, increasing in size from left to right on the keywell liner. With reference to most recent edition of Donald Boalch’s Makers of the Harpsichord and Clavichord 1440 - 1840, the only British maker suggested by those initials is Sir Michael Mercator, who unfortunately lived too early to have built this instrument.  
There was originally a full-length keywell flap, as found in the later English virginals, and X-rays of this instrument show that parts of the original keywell flap have been used to cover the faceboards. Little of the keywell flap decoration can be determined, although two diamonds which are probably backgrounds to painted scenes can be discerned, each centred about eight inches from the ends. The soundwell and keywell mouldings are of oak, as are the original faceboard mouldings which are still in place and can be seen at the inner edge of the present faceboards. The last few letters of a Latin motto can be seen from the X-rays, as can a loose piece of inner faceboard moulding, thus confirming that the possibility that the faceboards were originally plain oak like those on the AH instrument can be excluded.  
The soundboard is sparsely decorated with flowers and birds. There is no border pattern, but several of the corners have painted arabesques. There are three rose holes in the soundboard, one positioned behind the left bridge, another behind the keyboard in front of the register and the third in between the right bridge and the wrestplank. Only the first rose hole has a rose which is probably original. This rose is less intricate than those found on the signed and dated instruments, though it is of the same geometric style. Rather than being made of wood glued to a parchment backing it is made of several pieces of thin card, the lowest layer which has a more intricate design than the above pieces. There are traces of roses at the edges of the other holes, but these are constructed in a totally different manner and are almost certainly not original. The method used to attach the rose is unusual, although not unique, also being found in the Gabriel Townsend virginal in the Musical Instrument Museum in Brussels, as well as several other early English virginals. The soundboard was reduced in thickness by about half from the top to allow the rose to sit flush inside, and much of the remaining wood was removed, leaving a projection at the edge, and three strips to support the rose from underneath. The other rose holes show traces of this arrangement and still contain the projection around the edges of the hole. My reproduction of this instrument has been decorated in the manner of the original as far as can be determined.  
The soundboard register is unique in English virginals. Typically, an English virginal register consists of a piece of leather glued to the top of the soundboard, with individual slots cut in it for the jacks to pass through. Wider slots are cut into the soundboard so that the jacks only come into contact with the leather. On the Mar virginal, the register consists of a strip of walnut with individual slots cut into it, resting on projections around the edge of a rectangular hole. This is similar to the method used for the roses and the competence of the work strongly supports its originality. Some soundboard deformation, due to the tension of the strings, has caused the register to raise along part of its back section, showing it was in place when the instrument was in playing order, and not an addition from the same period as the jackrail. Further confirmation that the register is original is that there are inked numbers "30" and "40" or the rear of the register, facing the spine of the instrument and counting from the treble. These numbers could only have been put on from the rear when the lid was not attached to the body. These numbers are in a hand consistent with the ink numbering on the jacks. The lower guide has the usual arrangement of leather on top of the wood, showing that the maker was certainly familiar with that method.  
The compass is that usually found in early English virginals, four chromatic octaves C - c3. The lowest key has, like the AH virginal, provision for two jacks and strings. The keylevers are of pine, with boxwood natural touchplates and accidentals of hardwood decorated with small sycamore and ebony pieces in a chequered pattern. The scaling-design note string length is 7 inches, implying that the instrument played at the lowest of what may be called the standard pitch levels found in England during this period, at about 403 Hz, which is one and a half semitones below modern pitch.  
The constructional and decorative alterations can be summarised as consisting of the flattening of the lid and consequent reduction of the panel widths, combined with applied panels on the top and battens at the end. The thickness of the case sides was reduced at the top to receive these protruding battens. The keywell flap was used to provide plain faceboards which are flush with the front of the case ends, and a small strip of oak has been glued along the front length of the baseboard to provide extra width. Supporting cross pieces have been glued from front to back on the underside of the baseboard at either end. The jackrail is unoriginal. Two unoriginal roses were inserted into the soundboard, but have now been mostly lost, and the decorative embossed papers are unoriginal, probably dating from the same period, and certainly no earlier, than the replacement parts. An examination of traces of the ironwork hinges, hasps and locks shows that at least two alterations have taken place, the second of which gives the instrument its present form. Originally the lid was attached to the spine with permanent wire hinges. There were strap hinges between the baseboard and the keywell flap, a lock and hasp between the lid and keywell flap, and small hooks near each end of the keywell flap which attached to hook at the front of the lid. In the first alteration the wire hinges and catches were replaced with strap hinges, and then the second alteration results in its present form with brass hinges between the spine and lid, and the removal of the other ironwork when the keywell flap was cut and attached permanently to the front of the case.  
The Mar probably dates from about 1580, and an examination shows that, although part of the Theewes workshop tradition, it is very unlikely to have been built by Theewes himself. Of the other makers in that tradition, perhaps the most likely candidate is Paul Defield, a maker who moved from Flanders to London with Theewes in 1568 before working with another maker, John James, and then ultimately setting up on his own.  
Although both the AH and Mar virginals were built by Flemish-born makers, they should be considered as wholly English in design and decoration. The soundboard barring is probably inherited from their Flemish learning, as can be seen when examining the barring of the AH and Mar virginals along with a virginal by Johannes Grouwels of around 1580. In all three instruments the barring is very similar. It has often being considered that the typical seventeenth century English virginal is derived from the instruments made by the Ruckers family, but an examination shows that they also have barring, as well as other design features, which is similar to those found in sixteenth century Flemish examples.