

How does the oboe produce sound

How does the oboe make sound. What is the sound of an oboe. How does the oboe sound like.

Two Worlds of Sound Body The appearance of the two instruments differs in that the of plain design with a gently flaring bell whereas the Viennese oboes hores is with a gently flaring bell whereas the viennese model also has a contraction rim in the bell. Fingering from the two instruments differs in that the french oboe has a narrowst. The Viennese oboe's bore is with erg sets in two steps: The Viennese oboe's hore is with erg sets in two steps: The Viennese oboe's hore is with erg sets in two steps: The Viennese oboe's hore is with erg sets in the viennese oboe's hore is with erg sets in the viennese oboe. The sound of the French oboe has a arrow bore, 4.1 mm at its anrowst. The Viennese oboe's hore is with a gently flaring bell whereas the Viennese oboe. The sound of the French oboe has a solwer response in the lower register than the Viennese oboe. The sound of the French oboe from Bb-CG is found budy many oboists to be slightly unsatisfactory. History Aulos and tible ancient forerunners Double-reed instruments mere the most highly regarded of all instruments. Playing the aulos or this are access classed every and any privileges. Portrayals of aulos players in Ancient Greek and Roman the access are produced with high social standing and the musicians enjoyed great popularity and many privileges. Portrayals of aulos players in Ancient Greek and Roman tubie - for example on the batter there here here access and sould instruments were the access and sould ergent portain the aulos was in use that consisted of an single tube and was known as the calamus (calamus is wore the calamus (calamus is wore the calamus (



Jean Baptiste Lully, court composer to the "Sun King" Louis XIV presumably used it in his ballet L'Amour Malade in 1657. Robert Cambert included the instrument in his opera Pomone in 1671. From that point on the hautboy flourished, its heyday lasting until the end of the 18th century. During this period up to thirty hautboy players were engaged in the grande écurie, the French court orchestra. Oboe, Europe, Adi Schlinger, ca. 1730. Courtesy of Heinz Preiss (Musikinstrumentenmuseum Schloss Kremsegg, Austria, Sammlung Streitwieser) Starting from France the hautboy rapidly gained great popularity all over Europe. Unlike the flute there were no particular national styles or schools of oboe playing initially; the musicians passed the latest playing techniques and instruments around among themselves. The baroque hautboy was a special case inasmuch as it was the only instrument to be used in every context, from military to chamber music to the opera, the orchestra and sacred music. In the orchestra hautboys were initially used mainly to double the violins, although they had asserted themselves by the Classical period and were performing functions of their own. In the opera orchestra they were given their first solo roles (obligatos) in arias. The instrument's repertoire in chamber music originally consisted chiefly of pieces for consorts (two oboes, two tenor oboes [later replaced by horns] and two bassoons). At the beginning of the 18th century countless solo sonatas, suites with basso continuo, suites for trios (oboe, flute and violin) and concertos were produced. In the second half of the 18th century the oboe quartet (oboe with a string trio) emerged. At the same time the hautboy was gradually losing its place as the lead instrument in military ensembles to the clarinet.

In the 18th century the hautboy underwent continual improvements to its construction and sound. The bore was narrower and shorter, the walls of the tube thinner and the tone holes smaller. A direct result of these measures was an increase in range: whereas the instrument's range was given as C4 to D6 at the turn of the 18th century it increased during the next hundred years to G6. The sound of the new classical hautboy was narrower and more focused than that of its predecessors and its volume corresponded to that of the violin or the flute. The most renowned oboe makers of the time were Christophe Delusse and the duo Thomas Lot and Charles Bizey in France, David Denner, Wilhelm Oberländer and Carl Golde in Germany and Thomas Stanesby and Caleb Gedney in England. In the second half of the 18th century the instruments made by Augustin Grenser and Jakob Grundmann in Dresden became accepted as standard all over Europe. The 19th century - a mechanical revolution In 1781 Grundmann added a third key to the oboe, and from that point on German instrument makers began adding more and more keys. The aim was to provide a tone hole which could be closed by a key for every half tone so that cross-fingerings would no longer be necessary. This trend was followed in France, albeit with some misgivings, since many musicians felt that the quality of the sound suffered from a surfeit of keys.

In around 1825 oboes with fifteen tone holes and ten keys were being made in both Germany and France. Despite this the instruments had a fundamental difference, since the differing sound esthetics governing oboe-making had led to the emergence of two distinct types which later became known as the "French" oboe and the "German" oboe. In France the trend was toward narrower tubing, thinner walls and thinner reeds, whereas in Germany a wider bore was retained along with the characteristics of the bell, the barrel (baluster) and rings on the upper joint with the simple mechanism featuring long-levered keys mounted on wooden blocks.

Stephan Koch (1772-1828) and Joseph Sellner (1787-1843) developed an innovative version in 1820 in Vienna which combined features of both models: a classic appearance with a bore that was extremely narrow by the standards of the time. Both the French oboe and the Viennese "Sellner-Koch oboe" had a bright sound and were distinctly audible in the orchestra, whereas the German oboe retained the darker timbre of the classical era which was more conducive to tonal blending. In France, inventive instrument makers provided the oboe with a constant stream of technical innovations, among them the speaker key (which made overblowing unnecessary), a mechanism that made a complex interaction of levers and keys possible (introduced by the Triébert family), Theobald Boehm's ring key (operating a key by means of a ring on a rod; at the same time another tone hole is closed) and Auguste Buffet's pin springs. Theobald Boehm (1794-1881), a trained goldsmith and flutist, developed a revolutionary keywork for the transverse flute which was received with great enthusiasm in France.



Some parts of this system were subsequently adapted for use on the other woodwind instruments, although a radically altered Boehm oboe failed to gain acceptance on account of its novel sound (as did a Boehm bassoon). Modern oboes From the 1860s onward the instrument maker Frédéric Triébert (1813-1878) developed oboes together with the obies Apollon M. R. Barret (ca. 1804-1879) which are direct antecedents of today's instruments. Triébert's système 6 with its extremely narrow bore and speaker key was patented in 1872. Ten years later the oboe professor Georges Gillet pronounced it the official model at the Conservatoire de Paris. After the Second World War this conservatoire model, modified only slightly, became the international standard. The Viennese oboe played in Austria today is a development on a model (1803-1873) in Dresden. Its boing is shorter and more conical than that of the French oboe. The keywork, which follows the pattern of the German mechanism, was improved and extended during the 20th century. Although the oboe was used almost exclusively in the 19th century. Qub century on posers register French oboe: Iso-G6 (A6). Lower register French oboe: B3-F4 Middle register French oboe: F#4-Bb5 Upper register French oboe: F#4-Bb5 Upper register French oboe: B3-F4 Middle register Second of this in a controlled and sensitive way. As on all woodwind instruments it is primarily the keys which are closed directly by the fingers, all the others by keys. Overblowing largely redundant. Six of the tone holes are closed directly by the fingers, all the others by keys. Overblowing to the 3rd apartal (no speaker key is used B5 - D#6: overblowing to the 3rd apartal (no speaker key). E6 and above: 3rd speaker key is used B5 - D#6: overblowing to the 3rd apartal (no speaker key). E6 and above: 3rd speaker key is used B5 - D#6: overblowing to the 3rd apartial (no speaker key). E6 and above: 3rd speaker key is used B5 - D#6: overblowing to the 3rd apartial (no speaker key). E6 and above: 3rd speaker key is used B5 - D#6:

E6 and above: 2nd speaker key used On the Viennese oboe the notes Bb5, B5 and C6 are produced using the traditional "long fingerings", i.e., many tone holes are closed and the air column is correspondingly long. The special fingering gives these notes a full sound. On the French oboe these notes are produced with the aid of the 2nd speaker key and a short air column. As on the flute, harmonics can also be played on the oboe. They sound like notes played piano. Playing Techniques General The oboe is an agile as the flute) and can in principle play trills, arpeggios etc. But due to its sound characteristics and pitch it was used more as a melodic instrument in the past. Single Tonguing Can be played up to about MM 140 (4 sixteenths per quarter note 140). Vibrato Microtonal fluctuations in pitch and/or volume which are produced by movements of the diaphragm, larynx and lips. an ideal vibrato. Nowadays vibrato is an integral part of the oboe sound in the French school, whereas the Viennese oboe is played without vibrato. Sforzando Forced, short attack followed by a rapid reduction in tone intensity. Sforzandissimo Forced, short attack with continuance of tone intensity. Fortepiano Rapid dynamic reduction from forte to piano. Tooth embouchure The teeth lightly touch the reed. The resulting timbre is shrill and piercing. Such notes played with the teeth cannot be included in legato passages, leaps, repetitions etc. because these require a different embouchure. They can be played mezzopiano to fortissimo. Double/triple tonguing are hard to perform on the oboe because the articulation is hindered by the reeds in the mouth. In short passages 4 sixteenths per quarter note 150. Flutter tonguing On the oboe a rolled (guttural) R is generally used, since the lingual R (produced with the tip of the tongue) is made more difficult by the reed and hampers the embouchure. The slower the articulation, the softer the sound. This technique can be performed over the entire range but is harder to play in the lower register. Trills Half tone and whole tone trills are easily playable up to E6. Low trills (from Bb3 to D4) respond slowly and sound coarse and thick. Tremolo Tremolo is not one of the playing techniques typical of the oboe. A number of tremolos cannot be used because the fingering is too complicated (Bb3/Db4, Bb3/Ab4; B3/Db4, Bb3/Ab4; B3/Db4, Bb3/Ab5, Bb4/A5). Tremolos above Ab5 are very difficult to play. The larger the interval, the slower the speed at which the tremolo can be performed Glissando Finger glissando Produced by partly covering the sound holes or by changes of fingering. Rapid glissandos are only possible over short intervals and are generally very hard to play at the top or bottom end of a register and in the lower register. Lip glissando Can be played at every pitch. Depending on the initial note the pitch can be altered by up to a half tone upward and a whole tone downward. Legato Runs Flageolet Harmonics have been called for at least since 1909, since Georges Gillet's L'enseignement supérieur du hautbois. Bisbigliando Rapid alternation between the same pitch as a harmonic and its usual fingering. Double harmonic Two overtones are produced simultaneously. Possible only in slow passages because the overtones need time to develop. Multiphonics Describes a modern fingering and blowing technique which makes it possible to play two or more notes at the same time. (or several partials) of the fingered note speaks as well, or that only the partials sound. Multiphonics are produced by special fingerings, changing the lip pressure and force of attack and by altering the position of the lips on the reeds. Most fingerings on the oboe produce multiphonics with intervals outside the harmonic series. Fingering charts for multiphonics produce different results on different types of oboe and must therefore be tried out. Key slap 20th century compositions. For example, they call for the noises made by the oboe's keys themselves, writing the slapping of one or more keys explicitly into the score (the instrument is not blown!). Below the fingered note the key or keys are indicated which are to be slapped most to produce the greatest possible from pianississimo to mezzopiano. Key-slaps are called for with and without a reed; the mouth hole either remains open or is closed by the tongue. It is possible to give the resulting resonance an approximate pitch: played open with reed the sound is about a minor third above it; played closed (with and without reed) the sound is about a half note higher than the fingered pitch. Slap tongue Following a brief attack the mouth hole is abruptly closed by the tongue. With reed this technique is possible up to piano, without reed as far as mezzoforte. It can be played up to about MM 100 (4 sixteenths per quarter note 100) Further modern techniques Rolling sound, slurping noises, blowing through, sucking noises, humming and playing simultaneously, playing two oboes simultaneously, playing an oboe and an additional tube simultaneously, playing only the tube, playing without the tube, pl electronic devices ... Sound characteristics Clear, bright, penetrating, acerbic, keen, biting, rasping, reedy, powerful, robust, full, insistent. The sound quality of the oboe is very versatile and ranges from the thick notes in the low register to the thin and piercing high notes. The break between one register and the next covers roughly a minor third. The middle register is the region most often used. The oboe's acerbic timbre can lend even a tutti passage special color. The French oboe has a sound which is more conspicuously audible in the overall orchestral sound, whereas the Viennese oboe tends to blend in more easily.



best. Many oboe solos make use of this area and its manifold means of expression: cheerful rural scenes, idyllic pastoral romance, light-footed exuberance, tranquility, grief, lamentation, loneliness and yearning.

Upper register Viennese oboe: Bb5 - G6 (A6) French oboe: B5 - G6 (A6) The higher they go the less volume, substance and expressiveness the oboe's notes have. From D6 they sound shrill and narrow and have not been called for in orchestral literature until recent times. The highest notes (G6 and A6) are biting and shrill. Sound Combinations Oboe + woodwinds Oboe + flute Played in unison with the flute the oboe sounds more mellow. Oboe + clarinet Combinations with the clarinet are possible every context: in unison , in octaves and in chords. All produce a full sound, which is dominated either by the substantial clarinet or the bright oboe, depending on the register. Oboe + bassoon The sound of the oboe and the bassoon is related due to the fact that they are both double-reed instruments. Played together they sound very powerful: the acerbic quality of the oboe is toned down somewhat while the bassoon sound becomes more clearly defined. Sound combinations in octaves or double octaves have proved useful and have an organ-like quality. Because of the instrument's different pitches the possibilities for playing in unison are limited. Oboe + trumpet Playing in unison with the trumpet produces a brilliant sound, because both instruments have a large number of overtones. Oboe + horn The horn is often muted for playing in unison with the oboe. The oboe is well suited for playing in combination with the oboe, unless they are played with a mute (especially the oboe, unless they are played with a mute (especially the trumpets). Oboe + stringed instruments achieve a good blend with the woodwinds. The oboe and violin played in unison, since both are excellent melody instruments. Playing in unison, since both are excellent melody instruments. Playing in unison, since both are excellent melody instruments. Playing in unison, since both are excellent melody instruments. Playing in unison, since both are excellent melody instruments. Playing in unison, since both are excellent melody instruments. Playing in unison, since both are

297b Richard Wagner many oboes in the late works: Parsifal (3 oboes and English horn) Arnold Schoenberg Gurre-Lieder (1901, 4 oboes, 1 English horn) Igor Stravinsky Symphony of Psalms (1930) Oboe and orchestra Oboe concertos of the 18th century T. Albinoni C. Ph. E. Bach Johann Sebastian Bach Johann Fr. Fasch Chr. Förster W. Herschel George F. Handel G. B. Sammartini Georg Philipp Telemann Antonio Vivaldi Wolfgang A. Mozart Peter von Winter oboe concerto c, F (1814) Conradin Kreutzer Max Brod Air varié op. 4, Adagio et Bólero op. 9, Rondo brillant op. 22, Morceau de concert op. 42, Fantaisie espagnole op. 44 Gustave Vogt 5 Airs variés, 5 oboe concertos, double concerto for 2 oboes, concerto for oboe and cello Antonio Pasculli Gran concerto su temi dall'opera I vespri siciliani Carl Maria von Weber Concertino C (1809, mit Blasorchester) Nikolai Rimsky-Korsakov variations on a theme by Glinka for oboe and orchestra (1959) Hans Werner Henze double concerto for oboe, harp and orchestra (1966) Witold Lutosławski double concerto for oboe, harp and orchestra (1990) Chamber music Louis Couperin Fantaisie sur le jeu des hautbois (1654) Wolfgang A. Mozart quartet for oboe and strings K.370/368b Max Brod 14 trios and fantasies for oboe, bassoon, piano Grand Trio op.



15 for oboe, violin and piano Gustave Vogt Grand Trio for oboe, viola and piano Gaetano Corticelli Anton Reicha quintet for oboe and string quartet in F Bernhard Henrik Crusell Arnold Bax quintet for oboe and strings (1922) Sergei Prokofiev quintet op. 39 for oboe, clarinet, violin, viola and double bass (1924) Paul Hindemith Serenaden for saxophone, oboe, viola and cello (1925) Francis Poulenc trio for oboe, bassoon and clarinet (1926) Walter Piston suite for oboe and piano (1931) Benjamin Britten Phantasy for oboe, violin, viola and cello (1932) Nikos Skalkottas Concertino for oboe and clarinet (1939) Ralph Vaughan Williams concerto for oboe and strings (1944) André Jolivet wind quartet with oboe principale (1944) Bohuslav Martinů quartet for oboe, violin, cello and piano (1947) Krzysztof Penderecki Capriccio for oboe and strings (1965) Elliott Carter quintet for piano and winds (1992) Solo works George F. Handel sonata B (1707/09), sonata c (1710/11) Grand Trio op. 15 for oboe, violin and piano Antonio Vivaldi C. Ph. E.



Bach 19th century fantasy-variations for oboe and piano on opera themes by Brod, Donizetti, Auguste Vény, Apollon M. R. Barret, Louis S. X. Verroust, Edouard Sabon, Daelli, Paggi. Robert Schumann 3 romances, op. 94 (1849) Camille Saint-Saëns oboe sonata op. 166 (1921) Charles Koechlin sonata for oboe and piano (1945) Henri Dutilleux Gunther Schuller Benjamin Britten Six Metamorphoses after Ovid op. 49 for solo oboe (1951) Elliott Carter sonata for flute, oboe, cello and harpsichord (1952) Darius Milhaud Ernst Krenek sonatina for solo oboe (1956) Francis Poulenc Karlheinz Stockhausen solo for a melodic instrument and feedback (1965/66) Heinz Holliger Mobile (1962), Siebengesang (1967) Henri Pousseur Ex die in machinam memoria for oboe and feedback (1971) John Exton Three pieces for solo oboe (1972) Richard Stoker Three pieces for solo oboe (1973) Luciano Berio Antal Doráti Cinq pièces for solo oboe (1981) An oboe reed is made from two pieces of cut cane, which is why it's called "double" reed. They are strapped to a metal pipe face-to-face by a string. The cork portion attached around the metal pipe fits into the upper joint socket. The two reed 'blades' are curved subtly, so as the side edges meet, a small aperture will be formed in between. This is where the breath passes through. While holding the reed between the lips and gradually blowing air into the column, the air pressure decreases and pulls the two reed blades closer. Once the reed blades touch each other and the aperture closes, a sonic wave is generated as if you've clapped your hands. The sound pressure travels through the instrument bore, and of the bell. The reflected wave subsequently returns to the reed, which has re-opened due to pressure recovery, allowing the air to pass through once again. All this happens over and over at enormous speeds. An oboe playing the "A" sound at 440Hz would repeat this cycle 440 times each second. The structure of the double reeds