The modern classical guitar.

The early 19th-century guitar was further developed in the second half of the century by the Spanish maker Antonio de Torres Jurado (1817–92), whose experiments led to instruments that became models for his successors. The guitar thus achieved a standard size and form for the first time in its history (seefig.5 above). Torres increased the overall dimensions of the instrument and established the vibrating length of the strings at 65 cm; he developed the fan-strutting system introduced by his predecessors in Seville and Cádiz, using a system of seven struts radiating from below the soundhole, with two further struts lying tangentially below the 'fan'. The modern bridge, with the strings passing over the saddle to be tied to a rectangular block (fig.15) is also attributable to Torres, and has become standard since his time. It is in the strutting that modern makers have experimented most, varying both the number and the pattern of struts, and even extending the system to include the part of the table above the soundhole. Gut strings became obsolete after the introduction of nylon strings in 1946, with players preferring the higher tension and greater durability offered by the man-made material.

For a time the improvements brought about by Torres remained confined to Spain, where a number of distinguished makers succeeded him: Vicente Arias, Manuel Ramirez, Enrique García, Marcelo Barbero and – active in the mid-20th century – José Ramirez, Manuel Contreras, Marcelino Lopez Nieto and others. The revival of interest in the guitar in the 20th century resulted in the appearance of outstanding makers in other countries: Hermann Hauser (Germany), Robert Bouchet (France), David Rubio and Paul Fischer (England), and others in Japan, where the instrument has become extremely popular. Although at the end of the century most makers still built their instruments in the traditional Spanish manner perfected by Torres, leading luthiers in the USA, Australia and Britain had begun in the 1970s to redesign the internal structure of the classical guitar. They aimed primarily to increase the volume of sound a guitar can produce, a consideration of increasing importance as many composers had begun to use the instrument regularly in chamber and orchestral works. For example, the 'TAUT' system developed by Paul Fischer used a very light rectangular latticework of spruce struts, running across the grain of the table as well as along its length. This reinforcement permitted the thickness of the table to be greatly reduced (about 1.6 mm, as opposed to about 2.4 mm in a traditional Spanish guitar), resulting in a much greater flexibility. To further increase the effective size of the diaphragm, Fischer also experimented with moving the soundhole to the top of the table, and splitting it into two semicircles. The Australian maker Greg Smallman used a somewhat similar system, although he preferred to place his grid at an angle of 45 degrees to the grain of the table.

Francisco Tárrega (1852–1909), though active in promoting the modern playing technique, did not invent the apoyando stroke – it is a least as old as Dionysio Aguado. When used on a large instrument, such as the Torres guitar, this technique and the unsupported tirando spurred on the development of a rich repertory of original études and transcriptions for the classical guitar (as it was now called). The larger instrument rested more comfortably on the left thigh than the early 19th-century guitar, and it became standard practice to hold it in this way. Tárrega did not use the fingernails in his right-

hand technique, and in this he was followed by his pupil Emilio Vilarrubí Pujol (1886–1980), but Miguel Llobet (1878–1938), also a pupil of his, preferred to use them. Segovia adopted a more relaxed right-hand position than that of Tárrega (fig.16) and a technique employing the fingernails, in which he was followed by the majority of other 20th-century recitalists. It is in the right-hand position that one sees most variations among modern performers. The Segovia position entails the strings being sounded by the left side of the nails, whereas the position favoured by the French guitarist Ida Presti (1924–67), adopted by the American recitalist Alice Artzt, brings the right side of the nails into contact with the strings.

It is thus only during the last 100 years that the guitar has been established in its modern form and its technique developed accordingly. At the beginning of this period it lacked a repertory that would have given it a status comparable with that of other instruments. The problem of a meagre literature was first approached by transcribing works from other media, a practice initiated by Tárrega and continued by his successors. Suitable material was obviously to be found in the repertories for instruments closely related to the guitar (i.e. the lute and the vihuela), but works for bowed instruments, and keyboard, were also featured in recitals. Much more important, however, is the extent to which the guitar's repertory has been enlarged in the 20th century by composers who were not guitarists. Segovia, the leading instigator of this departure from the tradition of guitarist-composers, made it his life-work to raise the guitar's status to that of an internationally respected concert instrument, and his artistry was a source of inspiration both to players and to composers.

In 1920 Falla wrote Homenaje 'le tombeau de Claude Debussy' for Llobet, proof of his belief that the guitar 'is coming back again, because it is peculiarly adapted for modern music'. Other Spanish composers have favoured a more nationalist idiom: Joaquin Turina (1882–1949), Federico Moreno Torroba (b 1891) and Joaquín Rodrigo (1901–99). All produced works for Segovia, and Rodrigo dedicated compositions to other Spanish recitalists such as Narciso Yepes (1927–97), Manuel Lopez Ramos and the Romero family; his Concierto de Aranjuez (1939) was a tribute to Regino Sainz de la Maza y Ruiz (1896–1981). Many concertos were written in the 20th century, the first of them by Mario Castelnuovo-Tedesco (1895–1968) in 1939. Castelnuovo-Tedesco's prolific output for guitar includes a quintet (op.143, 1950) and Platero v yo (op.190, 1960) for guitar and narrator; and his works are dedicated to many guitarists: the German Siegfried Behrend (1933–90), the American Christopher Parkening (b 1947), the Italian Oscar Ghiglia (b 1938), the Venezuelan Alirio Diaz (b 1923), the Japanese Jiro Matsuda and others. He also composed several works for guitar duo, including the Concerto for two guitars and orchestra (op.201, 1962). The combination of two guitars allows more complex writing than is possible for the solo instrument (ex.4). The duo genre was firmly established in the 20th century by Ida Presti and Alexandre Lagoya, and further consolidated by the Brazilian brothers Sergio and Eduardo Abreu, the Athenian Guitar Duo (Liza Zoi and Evangelos Assimakopoulos), and the French-Japanese combination of Henri Dorigny and Ako Ito. At the end of the century guitar duos and trios were commonly encountered forms of music-making, as were guitar quartets (composed either for four standard

guitars, or for requinto, two guitars and bass guitar), a form pioneered by Gilbert Biberian (b 1944).

Segovia's influence spread to Central and South America, where the Mexican composer Manuel Ponce (1882–1948) composed sonatas, variation sets and the Concierto del sur (1941). Villa-Lobos (1887–1959) also wrote a concerto, but he is better known for his Douze études (1929) and Cinq préludes (1940). The Etudes evidence some progress from 19th-century stereotypes, but formulae are still present, as they are in the preludes. A more lightweight work is his Chôro no.1(1920), with its evocations of folk music. The guitar features prominently in South American folk music, which permeates some of the compositions of Antonio Lauro (1917-86) of Venezuela and Agustín Barrios (1885-1944) of Paraguay. The South American repertory was augmented by the Brazilian Francisco Mignone (1897–1986), the Cuban Leo Brouwer (b 1939) and Guido Santórsola (1904–94) from Uruguay. Brouwer's music has been particularly influential, especially La espiral eterna (1970) and Elogio de la danza (1972), both for solo guitar, and his four concertos, although the Sonata op.47 (1976) by the Argentine composer Alberto Ginastera (1913–83) is widely considered the single most substantial work by a Latin American composer. Significant South American performers have included Carlos Barbosa-Lima and Turibio Santos (Brazil) and Oscar Caceres (Uruguay). The almostforgotten tradition of the composer-guitarist was revived towards the end of the 20th century: notable figures have included Brouwer, the Russian Nikita Koshkin (b 1956), the Czech Št ě pán Rak (b 1945) and the American Stephen Funk Pearson (b 1950).

Although the initial impetus came from Spain, the growth of modern guitar music was maintained elsewhere in Europe, with works by Frank Martin, Krenek, Alexandre Tansman, Malipiero, Petrassi, Milhaud, Daniel-Lesur and Poulenc. Despite its limited volume, the guitar played a small but significant role in many 20th-century operas and symphonies, as well as in chamber works such as Schoenberg's Serenade op.24 (1920– 23), Boulez's Le marteau sans maître (1952–4, rev. 1957), Gerhard's Concert for Eight (1962) and Libra (1968), and Henze's Carillon, Récitatif, Masque (1974). Henze has made frequent use of the guitar and has written several important solo works, including Drei Tentos (from Kammermusik, 1958) and two sonatas (based on Shakespearean characters) entitled Royal Winter Music (1975–7). In England, where the leading performers at the end of the 20th century were Julian Bream (b 1933) and John Williams (b 1941), the guitar did not become established in music colleges until 1961. Nonetheless English composers, or composers resident in England, made a significant contribution to the repertory. Concertos appeared by Malcolm Arnold, Stephen Dodgson, Richard Rodney Bennett and André Previn, and the solo literature was enriched by works from Britten (Nocturnal after John Dowland, 1963), Berkeley (Sonatina op.52/1, 1957, Theme and Variations op. 77, 1970), Dodgson (Partita, 1963, Fantasy-Divisions, 1973), Tippett (The Blue Guitar, 1985), Walton (Five Bagatelles, 1970–71) and others. The guitar was also used effectively as an accompaniment to the voice; settings includeSongs from the Chinese (Britten, 1957), Cantares (Gerhard, 1956), Five Love Songs (Musgrave, 1955) and Anon. in Love(Walton, 1959). John W. Duarte (b 1919) was a significant influence in the development of the guitar repertory, notably for his transcriptions of the Bach cello suites but also for some attractive original compositions (such as hisEnglish Suite op.31 (1967), written for Segovia).

The 20th-century repertory exhibits a wide variety of textures and styles, ranging from the predominantly tonal, romantic works inspired by Segovia to avant-garde compositions. Influences from folk music, flamenco and jazz can be found; and experimenters have introduced unexpected sonorities and extended the instrument's percussive and idiophonic resources. In Petrassi's Suoni notturni (1959), for example, the performer is instructed to sound notes by pulling the strings so that they slap against the frets; elsewhere sounds produced by tapping on the table are alternated with normally played sounds. Koshkin's half-hour epic The Prince's Toys was composed to include as many unusual effects as possible, and produces a remarkable range of sounds. Atonal writing and serial techniques were given expression on the guitar – evidence of its viability in contemporary music. One of the most interesting aspects of the history of the guitar in the 20th century is the extent to which its literature was vitalized in the transition from music composed by guitarists (or written to the restrictions of a guitarist) to compositions not determined by a conventional conception of the instrument's possibilities (ex.5). This has led to the appearance of works of considerable stature and the growth of an artistic compositional tradition such as eluded the guitar until the 20th century.