

CHAPTER II

RIGHT ARM

- A. FUNCTIONS
- B. CONTACT POINT
- C. RIGHT HAND DISPLACEMENT
- D. RIGHT HAND ATTITUDE

A. FUNCTIONS

The right arm has *two well-defined and clearly differentiated functions* that must form a harmonious unit. It is true that there may be occasions when each function acts separately; in general, however, they work as a combined system, and *never* should the specialized mechanism which characterizes one of them be allowed to interfere with that of the other. This double function of the arm involves certain subtleties that are essential for the guitarist to understand and assimilate completely.

The *principle function* of the right arm is in its role as a contact point: a great deal of the stability of the instrument depends on it. Any part of the arm touching almost any section of the upper side of the guitar should be able to hold it in place.

The *other function* directly relates to the unit it creates with the hand, a unit that is vital and that depends on its *location* for responding effectively to each and every demand of the fingers. It follows that just where this point of contact between arm and guitar is made must be variable since it will determine the precise placement of the hand and fingers. It is for this reason that there cannot exist one single point since the arm may have to be displaced for the purpose of transferring the fingers to their precise spot. It can be said to be performing *passively* when it is used to displace the hand, and *actively* when in its more competent capacity it serves specific ends (for producing radical dynamic changes, percussive effects, etc.).

These two functions clearly differ, but they should complement each other in order to converge in a unit that favors the net mechanism of the hand.

B. CONTACT POINT

In determining not only where along the upper side of the guitar the arm is to rest, but also that part of the right arm which is to come into contact with the instrument, one has to take into consideration the following.

1. The fingers must always attack the strings *perpendicularly* so as to avoid the friction and scraping that could jeopardize obtaining a perfect sound.
2. The hand must be *displaceable* so that the fingers need not have to stretch to reach the strings with precision. There is an area of action in which each finger is capable of producing its maximum output—if this range is overcome by stretching, the capacity of the finger tends to diminish.

What are the conditions that favor the most effective action of the fingers? Firstly, there is their *location* and secondly, there is the attack in itself, determined by the muscle or muscles used. However, this second condition is always subordinate to the first: careful placement will assure that after striking, the trajectory of the finger will not interfere with an adjacent string.

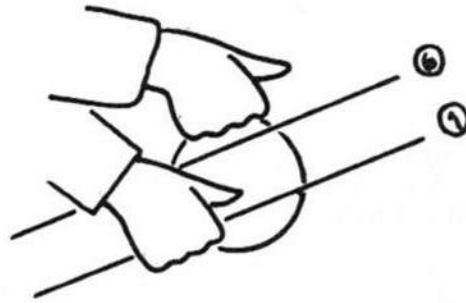


Fig. 1

Placement of the finger is thus determined by the mobility of the right hand. As a visual reference point, the knuckle line (not the finger tips, which are movable elements) should be able to surpass both the sixth and first strings when the hand is moved up and down (Fig. 1).

It is somewhere between the elbow and the wrist that the arm has its contact point, the location of which *need not be affected* in order to displace the hand from the first to the sixth string and back.

The point or section of the upper side on which the arm should rest can be located near the imaginary upward extension of the bridge, taking into account that the fingers, in their natural contraction, attack the strings perpendicularly. If, however, this point is moved to the right, as in Fig. 2, the attack becomes slanted and the fingers will slide on the strings owing to their oblique trajectory.

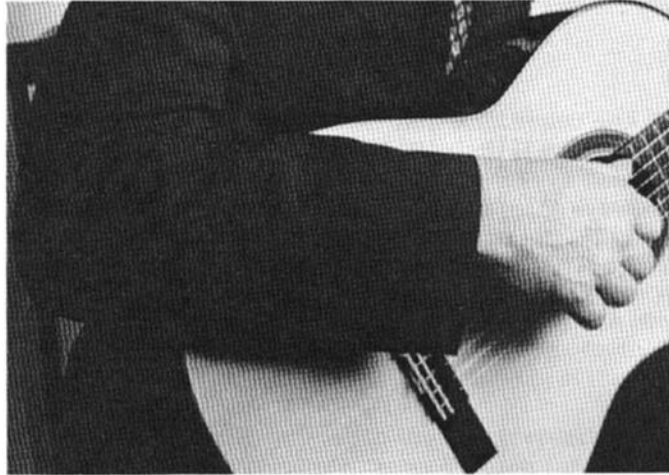
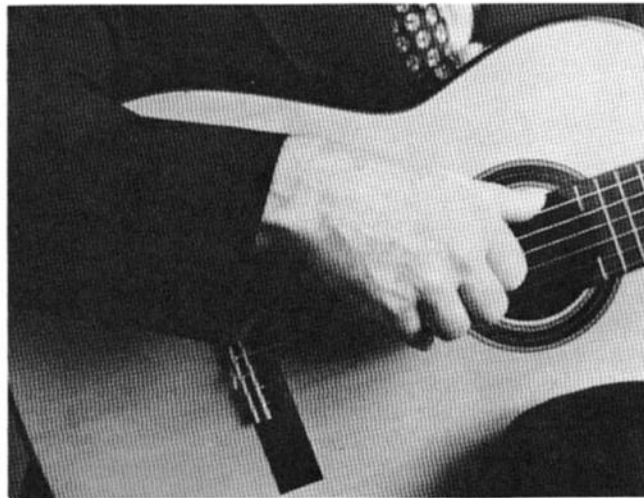


Fig. 2

N. B. The arm might be naturally and correctly placed with respect to the shoulder yet incorrectly placed in relation to the strings. As a consequence, the thumb in its trajectory is very likely to interfere with the index finger (Fig. 3).



C. RIGHT HAND DISPLACEMENT

Fig. 3

In this case, the guitarist must understand that the problem lies in just how the instrument is placed; once the position is corrected—by lifting the neck slightly and adjusting the right leg to the new situation—the strings may be struck in a perpendicular fashion (Fig. 4).

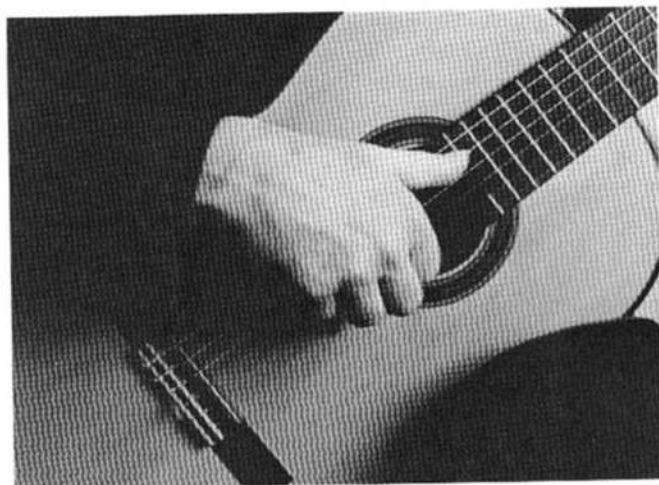


Fig. 4

Now it can be seen that the complex is satisfactory in all of its parts and that the mistake was due to the incorrect placement of the guitar, not to a wrong position of the arm. When one of the factors that makes up this harmonious complex is disturbed, the rest is also likely to be affected.

The correct placement of the right hand and a perpendicular stroke on the strings by the fingers will be achieved by interacting three different elements: point on the arm that touches the guitar, point on the upper side on which the arm rests, and the degree of inclination of the instrument. These elements should be combined in the way that best suits each guitarist.

The right hand can be displaced in three different ways, and each way permits the fingers to be positioned comfortably so that they need not stretch to reach the required string. The first two maintain the *contact point of the arm* and correspond to what shall be called "Natural Position," while the third refers to the cases in which the contact point either has to change or can be done away with altogether.

NATURAL POSITION (N.P.) shall be defined as the situation in which the right arm is employed not only as an active element in balance (contact point), but also as an important factor in hand and finger technique. These two features should form a unified structure in which neither of them is permitted to interfere with the other. The effective performing region of the right hand corresponding to the N.P. is situated around the soundhole and comprises an area limited by the natural reach of the hand and subject to the aforementioned contact point.

1. Displacement Type One

The arm remains equidistant to the soundboard as it is displaced over it, describing part of a circle which has its center at the contact point between the arm and the upper side. Taking this point (and not the elbow) as the axis, the arm is transformed into a lever of the first kind to displace the hand from the first to the sixth string and back.

To make sure that the fingers always strike the strings perpendicularly, the lateral angle formed at the wrist must be adjusted as the hand moves towards the bass strings: this angle becomes more pronounced as the forearm tends towards parallelism with the strings (see Figs. 5 and 6).



Fig. 5 (1st string)

If this adjustment of the wrist were not made, the attack would become slanted, the fingers producing undesired noises as they scrape against the bass strings.

What has been said applies to the index, middle, and annular (ring) fingers which perform in their natural contraction; the perpendicularity of attack by the thumb is not affected by this hand displacement.



Fig. 6 (6th string)



Fig. 7

2. Displacement Type Two

The hand describes a line perpendicular to the strings *without requiring the arm to slide over the side of the instrument*. It can be seen that the wrist will move away from the soundboard without affecting the contact point of the arm; for this, it would have to fold inward, changing the angle formed by the palm and the inner part of the forearm. As the hand travels from the first to the sixth string, the fingers approach the basses without difficulty (see Figs. 7 and 8).



Fig. 8

3. Displacement Type Three

Situations in which the contact point is not employed (as mentioned in Chapter I) require that the arm *temporarily* change or even abandon contact altogether. The motor mechanism linking the arm, hand, and fingers should function as a harmonious complex that has its outlet in the fingers. The arm should be conditioned to the hand, and the hand to the

fingers. In the first two types of displacement—which make use of a fixed contact point, a situation that has been referred to as Natural Position—the double role of the arm, in its mechanics and in its capacity to keep the instrument stable, functions as an integrated unit.

The third type of displacement varies or abolishes the contact point and is governed entirely by the mechanical demands of the fingers:

- a. when R.H. (right hand) movements *must exceed* the range corresponding to N.P., e.g., for performing certain harmonics at the twelfth fret with the right hand; *sulla tastiera* or *sul ponticello* effects.
- b. when the arm itself becomes directly involved as a performing element through the use of different kinds of fijación:* as required by special cases of dynamics (*ff* attacks), articulation (staccato), percussion effects (*tambora*), different timbres, and contemporary sound effects, to name but a few.

D. RIGHT HAND ATTITUDE

The most convenient attitude that the right hand can take when it is presented to the strings is one of repose, one free from any stiffness. It should be slightly concave, with the knuckle line somewhat parallel to the soundboard. When the hand is held in this proper attitude, the fingers can perform to their fullest capacity (from the point of view of intensity, timbre, and rhythmic precision) in total freedom and without obstructing one another.

As the most natural way to strike the strings is perpendicularly, the first problem that arises relates to the most advantageous use of the thumb. If the thumbnail were allowed to grow unrestricted,** the guitarist would be obliged to distort his R.H. position—the thumb, drawn into the palm and presented perpendicularly to the soundboard, would interfere with the activity of the other fingers (Fig. 9).

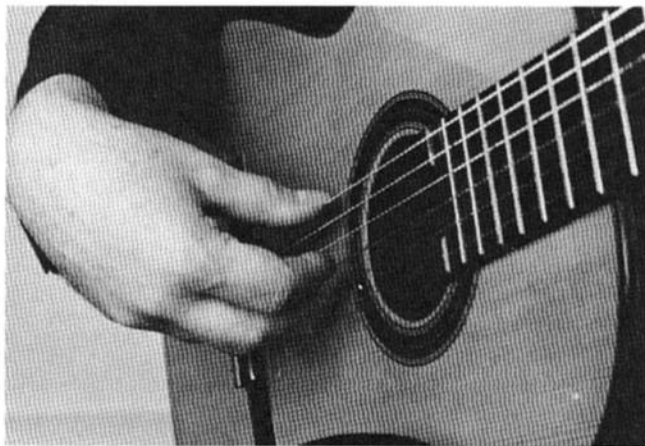


Fig. 9

All the same, separation alone of the thumb is *insufficient*.

* A Spanish term literally meaning "fixation" which will be defined and discussed thoroughly in Chapter III.

** See Chapter IV, Section D.

The path along which each finger moves must be free from any interference; as index, middle, and annular perform in the same direction (one opposite to that of the thumb), it is very unlikely for them to get in each other's way. The thumb, however, could be obstructed if it were allowed to act within the range of the other fingers: positioning it perpendicularly to the soundboard has, therefore, to be rejected. The best way to assure a clear course for the thumb would be to separate it laterally (Fig. 10) so that it could be activated at its base by its *muscular aggregate* (a concept that will be discussed in Chapter IV).



Fig. 10 (with lifted thumb)

With the thumb lifted away from the strings, the stroke becomes slanted and creates an annoying sound caused by the friction against the string.



Fig. 11

An alternative would be to bring down the whole palm, allowing the thumb to reach the required string each time it has to perform.

In the first case, a defective sound is produced, while in the second, the hand unnecessarily loses control. (There are situations, no doubt, in which the hand moves to assist the thumb; but they are justified by *more important and clearly defined* motives related to the use of the arm by *fijación*, a concept already mentioned and to be defined later.)

The thumb, separated laterally, should be presented to the string with a slight inclination of the hand, and carried to its precise position until it makes contact with the string. It is in this way that the problems mentioned above can be avoided (Fig. 11).

The index and middle fingers should be slightly curved so that this tilting of the hand will not affect the annular's ability to reach the string.

In this manner, the hand is in its N.P. and is ready to perform because:

1. The thumb can play laterally on the basses (and even on the third, second, and first strings exceptionally), without encountering any obstacles whatsoever.
2. Index and middle fingers may also perform freely without hampering or being hampered by the thumb.
3. The annular, the "singing" finger which often carries the soprano voice, takes on a slightly straighter attitude allowing for better sonority as shall be seen in the chapter that deals with *toques*, the different types of strokes available to the right hand.

The guitarist must by all means avoid "dropping" the hand to the right side (i.e., towards the little finger) as this action would force the annular to bend and thereby restrict its mobility. By closely examining Fig. 12 and especially by attempting the task oneself, it can be discovered that the free movement of the thumb becomes impaired and that the annular produces an annoying and disagreeable sound, one completely lacking in quality.

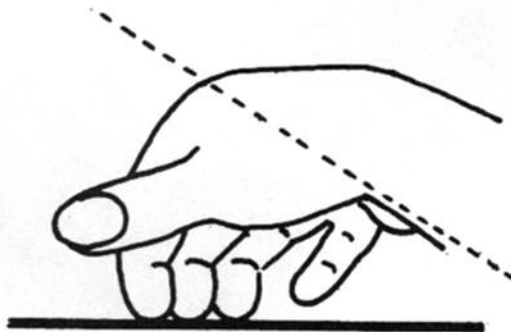


Fig. 12

CHAPTER III

**THE GUITARIST AND HIS TOTAL
DEVELOPMENT**

- A. **TECHNIQUE AT THE SERVICE OF ART**
- B. **WHAT IS SIMPLE DERIVES FROM AN INTELLI-
GENTLY COMBINED COMPLEX**
- C. **MUSCULAR FATIGUE**
- D. **FIJACIÓN**
- E. **LOGICAL SOLUTIONS AND HARD WORK:
MUTUALLY EXCLUSIVE? THE NOTION OF RE-
LAXATION**
- F. **SOME SITUATIONS THAT REQUIRE FIJACIÓN**