## BASICS

## String crossing

## Seven levels of the bow

One of the secrets of a smooth bow-arm, and of seamless, legato string-crossings, is to bow between the levels of the four strings.
Think of seven levels of the bow: 1) The bow positioned to play the G string alone; 2) the G-D double stop; 3) D string alone; 4) D-A double stop; 5) A string alone; 6) A-E double stop; 7) E string alone.

One of the things that you always have to watch out for, when practising or teaching pieces that contain no double stops, is that the bow does not play only on levels $1,3,5$ and 7 , i.e. the levels of the four open strings.

Instead, the bow should spend as much time - or more - almost playing on levels 2, 4 and 6 . If basically you play only on levels $1,3,5$ and 7 , the movement of the bow from one string to another is too extreme - that is, unless you want to make an accent of some sort. But if you want smoothness and evenness, the hair of the bow often needs to be quite near the new string before crossing to it - whether playing slurs or separate bows.

Some players go further than seven levels and think in terms of twelve, each string having three levels of bowing. For example, playing on the D string you can be almost touching the A string, or almost touching the G string, or be midway between the two.

## Experiment in leverage

$\diamond$ Place the bow on the D string in the lower half. Position the bow on Level 3. Note the exact distance the hair of the bow is from the A string.
$\diamond$ Watch the point of the bow. Without moving the hair along the string, pivot the hair over to touch the A string. Notice the extremely wide movement at the point caused by the tiny movement at the contactpoint of the hair with the string.
$\diamond$ Repeat, starting with the hair much closer to the A string. Now the movement at the point is much less.
$\diamond$ Try the same thing in the middle of the bow, and at the point.

## Study for smooth string-crossing

A good way to make string-crossings smooth and rounded is to play them as a double-stop (Example 1). Another practice technique is to leave out the left hand, and just play the bowing pattern on open strings. Example 2 shows Example 1 played without the left hand.


The following sequence covers every possibility of string crossing, including slurs across two, three and four notes. Play in all parts of the bow, first beginning down-bow and then beginning up-bow.

Keep the bow deep in the string, sustaining each stroke firmly and joining it to the next without any break. Play all the tied notes solidly and evenly. Naturally, you can vary the four-string chords as you like.

