The sharps and flats placed after the clef are called essential signatures, those which appear in the course of the piece, accidentals. These only influence one bar at a time, and must be placed again in the next bar before the note, if the same is to be raised or lowered unless it be connected with another note of the following bar by a tie or in which case also the note of the new bar is raised or lowered.

But in the space of a bar, every note of the same kind, even if it stands in different octaves, is changed by one accidental. In the 13th bar of the next exercise the sharp before the A, not only influences the 1st but likewise the fifth note, and in the 26th bar the lowering the G sharp to G, as well as the 7th and 9th note.

The essential sharps of the following Exercise are F, C, and G sharp; consequently the key is A.
The scholar Luberto has played with an equal strength of tone. The Violin, however, admits of various degrees of strength of tone, and it is now time that the scholar should try to produce them. In the following Exercise they are marked down in the usual manner below the staff, i.e. with the Italian mode of expression. For the present it will suffice to know: piano, (abbreviated p.) soft; pianissimo, (pp.) very soft; forte, (f.) loud; fortissimo, (ff.) very loud; crescendo, (cres.) gradually increasing in strength, and decrescendo, (decres.) gradually decreasing in power. Each of these words continues to influence the music, till some new modification is expressed.

At the forte the bow is pressed more firmly on the string with the first finger; more quickly moved and brought nearer the bridge; at the piano however, the bow is lifted a little by the pressure of the little finger, moved slower and farther from the bridge.

At the cres. and decres. a gradual swelling and diminishing of tone from one to the other takes place. The scholar should take pains a, the p, and f, to draw a fine tone from the instrument. A regular bowing and a firm placing of the finger of the left hand on the fingerboard, are here the first requisites.
The following Exercise has a p, after the clef; all B's are therefore taken half a note lower. Besides this essential signature, various accenti's are introduced, which must be well noticed by the scholar.
The following Exercise has two flats, therefore all B's and E's are to be taken half a note lower.
The following Exercise has three flats, therefore all B's, E's, and A's, are to be played half a note lower.

**Allegretto**  \( \frac{4}{4} \) 108.

No. 29.  \( p \) W.B.
CHAPTER XVI.

ON INTERVALS, MAJOR AND MINOR KEYS,—DIATONIC AND CHROMATIC SCALES.

The distance from one tone to another is called an Interval. The number of degrees or notes which it includes determines its name, for example:

- A second; from $\text{C to E}_b$.
- A third; from $\text{C to F}_b$.
- A fourth; and so on. But as these notes can be raised or lowered, they cause a variety of intervals, distinguished by the terms major, minor, sharp, and diminished.

The following intervals are most commonly used:

<table>
<thead>
<tr>
<th>FIRSTS.</th>
<th>SECONDS.</th>
<th>THIRDS.</th>
<th>FOURTHS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect.</td>
<td>minor 2d.</td>
<td>minor 3d.</td>
<td>perfect 4th.</td>
</tr>
<tr>
<td>sharp prime.</td>
<td>major 2d.</td>
<td>major 3d.</td>
<td>sharp 4th.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIFTHS.</th>
<th>SIXTHS.</th>
<th>SEVENTHS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>diminished.</td>
<td>minor.</td>
<td>diminished.</td>
</tr>
<tr>
<td>perfect.</td>
<td>major.</td>
<td>flat or minor.</td>
</tr>
<tr>
<td>sharp.</td>
<td></td>
<td>sharp or major</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCTAVES.</th>
<th>NINTHS.</th>
<th>TENTHS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect.</td>
<td>sharp.</td>
<td>minor.</td>
</tr>
<tr>
<td>sharp.</td>
<td>flat or minor.</td>
<td>major.</td>
</tr>
</tbody>
</table>

When the interval extends above the tenth, it then is counted from the Octave of the fundamental note, and again called fourth, fifth &c.

All other intervals the scholar will learn in studying Harmony. It may as well be observed that, to become a clever musician, this study cannot be dispensed with.

The scale which the scholar has hitherto studied in twelve different positions, has, in ascending and descending, both the third and the sixth major.
There is still another scale, differing from this principally on account of the third and sixth being minor, the first in ascending, the latter, however only in descending.

Besides the sixth, it will be observed, the seventh in descending has also a flat (minor 

This scale consists, like the others, of five whole and two half tones, but in different succession.

In ascending, after the first whole tone, immediately follows half a tone, then four whole tones, and lastly the second half tone.

In descending, we find at first two whole tones, then half a tone, then again two whole tones, next a half tone, and lastly a whole tone.

The scale with major third and major sixth is denominated the Major scale; the scale with minor third ascending, and minor seventh, major sixth and minor third descending, is called the Minor scale.

The minor scale, like the major scale, can be transposed eleven times. Consequently there are twelve major and twelve minor scales. The former the scholar knows already, the latter follow here with their signatures; at first the one of A, because on this key no essential signature is necessary, yet it requires two accidentals for raising the sixth and seventh in ascending.

**MINOR.**

**SCALE OF A, WITHOUT SIGNATURE.**

**SCALE OF E, WITH ONE SHARP.**

* Mr. Gottfried Weber in his Theory of Music objects to this hitherto used minor scale, and advocates another, having, both ascending and descending, the minor sixth and major seventh.

In his view, "the scale is the number of tones of which the peculiar harmonies of a key is composed," he is certainly right to object to the major sixth in ascending and the minor seventh in descending, as being foreign to the minor scale. But as the minor scale is mostly employed as a melody to the principal harmony of the minor scale, namely, to the triad of the fundamental note, yet (as he states) it still ought to be ascending and descending as hitherto customary.

Consequently the hitherto customary scale is, in practice, more frequently heard than his scale. I have therefore thought it better for my purpose to adhere to the old style, and to accustom the scholar's ear to the scales which he would have most often to play.
OF B, WITH TWO SHARPS.

OF F, WITH THREE SHARPS.

OF C#, WITH FOUR SHARPS.

In order to raise the seventh in the next minor scale of G sharp, (with five sharps,) it requires an accidental, with which the Scholar is not yet acquainted. This is the double-sharp, ♯♯, which raises the note (already raised half a note by a sharp) another half note, or altogether a whole tone. The simply raised note receives for the second raising the denomination of double, as F double sharp, C double sharp, &c.

The natural ♮ annuls the double sharp, but a ♯ is added if the note is to remain simply raised.

MINOR.

SCALE OF G#, WITH FIVE SHARPS.

OF D#, WITH SIX SHARPS.

OF D, WITH ONE FLAT.

OF G, WITH TWO FLATS.

OF C, WITH THREE FLATS.
OF F, WITH FOUR FLATS.

11.  \[ \text{music notation} \]

OF Bb, WITH FIVE FLATS.

12.  \[ \text{music notation} \]

The Scholar will have observed, that each of these minor scales has the same clef and signatures as the major scales have, both in ascending and descending; they are therefore called "relative."

The relative minor mode or key to a major mode lies a minor third lower; the relative key of C major consequently is A minor, of G major, E minor, &c. The following are all the major and minor keys or modes, with their different signatures:

<table>
<thead>
<tr>
<th>Major</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Major</td>
<td>G Minor</td>
</tr>
<tr>
<td>A Minor</td>
<td>E Major</td>
</tr>
<tr>
<td>E Major</td>
<td>D Major</td>
</tr>
<tr>
<td>C# Minor</td>
<td>B Minor</td>
</tr>
<tr>
<td>Bb Major</td>
<td>F Major</td>
</tr>
<tr>
<td>G Minor</td>
<td>A Minor</td>
</tr>
<tr>
<td>D# Minor</td>
<td>F# Major</td>
</tr>
<tr>
<td>E Minor</td>
<td>G# Minor</td>
</tr>
<tr>
<td>F Minor</td>
<td>Bb Minor</td>
</tr>
<tr>
<td>G# Minor</td>
<td>C Minor</td>
</tr>
<tr>
<td>A# Minor</td>
<td>D Minor</td>
</tr>
</tbody>
</table>

To a beginner on the Violin not possessing any knowledge of Harmony, it will generally be difficult to know in what key (whether major or minor) a composition is written; observe, therefore, that:

In the beginning of most compositions, the triad, i.e. the chord of the key in which they are written, consists of the fundamental note, third, fifth, and octave. Without sharps or flats after the clef, it is therefore the chord of C major, \[ C_\text{maj} \] or A minor, \[ A_\text{min} \].

In comparing these two chords it will be seen that two tones, C and E, belong to both, but that the G belongs to the major, the A to the minor chord. If a musical piece, therefore, without sharps or flats after the clef, begins with a G, this first tone decides it to begin the major key; if with an A, it is in the minor key; if it commences with C or E, then the continuation of the melody must determine the key. If after C and E, or after both tones, immediately follows the G or A, one or the other of these tones decides the key. If the melody proceeds by diatonic degrees, the F and G is to be observed in ascending, for if both are raised, as for instance:

as \[ \text{music notation} \] or only the G, \[ \text{music notation} \] then it is in the minor key; if without sharps, then it is in the major key. If the melody descends gradually, it must be pursued to where it turns or closes, where the A or G generally decides the key. This will be exemplified by the following examples, No. 13 to 19.

In No. 13, \[ \text{music notation} \] the second note G, shows the key to be major. In No. 14, \[ \text{music notation} \] the key remains in the 1st bar undecided, as the same notes might also appertain to A minor, the first note of the second bar, G, however, shows it to be C major. In No. 15, \[ \text{music notation} \] the first note immediately announces the minor key. In No. 16, \[ \text{music notation} \] the third note indicates the major key.

In No. 17, \[ \text{music notation} \] the third note likewise shows the major key. In No. 18, \[ \text{music notation} \] it remains undecided till the beginning of the second bar, the A of which shows it to be minor. In No. 19, \[ \text{music notation} \] the second note indicates at once the major key.
The Scholar may now try, from the foregoing examples, how to find out the key of compositions with sharps or flats. If after this he is still in doubt as to the key, he may, to be certain, look to the last note, as every regular composition ends in the same key in which it begins, even if it modulates in the middle into other keys.  

Generally the first Violin ends like the Bass, with the principal and fundamental note of the key. The above Examples, No. 13 to 19, may likewise serve as illustrations, for they all end in C or A, according as they are major or minor.

The following Exercises are intended for practising the minor scales, ascending and descending, the latter sometimes with the minor, sometimes with the major seventh. The numerous accidentals must be carefully attended to.

\* A composition in a Minor key, not unfrequently ends in the Major of the same tone, ex: A Minor in A Major.
In the following Exercise, the rule that the accidentals in a bar influence the higher or lower Octaves must also be remembered.
In the 13th bar of the following Exercise appears a new Accidental, the double flat (bb), serving to lower the E, already flattened by the simple b, still a note more. The note with a double flat is called E double flat, &c. Thus the Scholar has been made acquainted with the last of the five accidentals, viz.: #, x, b, bb, and c.

ALLEGROTT \( \uparrow \) 108.

\textit{tiré.} \[ \begin{array}{c}
\text{No. 34.} \\
p \text{S.B.}
\end{array} \]
All major and minor scales, consisting of five whole and two half tones, are called diatonic (or natural) scales. But there is another kind of major and minor Scales going through all the twelve half tones:

they are called chromatic, (or artificial,) and consist always of the same half tones, and are in major and minor, ascending or descending, the same to the ear, though to the eye they appear different, i.e., written with other accidentals.

The two following Exercises are intended for practising the chromatic scales. If they are very quick, observe this rule, that with the little finger, because it is shorter than the others, and therefore less movable, never more than one tone is taken, whilst to each of the other fingers two tones are appropriated. For the raised tone of the 4th finger take, therefore, (as at 1,) the next open string, or (as at 2,) the first finger on the open string.

1.  
2.

The E sharp at 2 's taken with the second finger, because the same finger must never follow three times successively.

As the open strings (particularly E and A,) sound sharper than the same tones stopped on the preceding strings, they are avoided as much as possible in chromatic scales. In the 26th bar of the next Exercise, the E flat (as if it were D sharp) is better taken with the third finger, so that the E need not to be taken on the open string, but with the fourth finger.

* The Harmonic Scale is not practically used.
CHAPTER XVIII.

ON SHIFTS, THE EXTENSION OF FINGERS, AND THE HARMONICS.

Besides the tones from \[ \text{music notation} \] to which all the preceding Exercises are confined, the Violin possesses an extent of Harmon's tones of more than an octave.

The highest tones of this scale being difficult to read quickly on account of their being placed so much above the staff lines, the word Octave is generally written over them, and their higher situation indicated by 8va, as

The tones extending above \[ \text{music notation} \] can only be reached and taken by the finger, by moving or shifting the hand from its hitherto held position or more or less towards the bridge. These different positions are called Shifts. Formerly they were divided into half and whole Shifts. A half shift was the position of the hand which took the G of the E string \[ \text{music notation} \] with the first finger; a whole shift, that which took the first finger on the A of the E string. The next position was again called half shift, the following again whole shift, &c. To distinguish the higher shifts from the lower, they were also called second half and second whole shifts.

But as this denomination of shifts is intricate I have here applied the French manner, which marks the different positions of the hand, by “first Position,” “second Position,” &c.
The lower position of the hand, in which all the preceding Exercises, have been played is therefore called first position, by advancing the hand a little nearer the bridge, so as to let the first finger fall on the G or G♯ of the E string.

\[
\begin{align*}
\text{in the second position: on } & \gsh \gsh \gsh \gsh \gsh \\
\text{in the third position: on } & \gsh \gsh \gsh \gsh \\
\text{in the fourth position: on } & \gsh \gsh \\
\text{in the fifth: on } & \gsh \\
\text{in the sixth: on } & \gsh \\
\text{in the seventh: on } & \gsh \\
\text{in the eighth position, &c.} & \gsh
\end{align*}
\]

In these higher positions of the hand, not only the notes of the E string, but also the notes of the other three strings are played, although they may be reached with the assistance of the E string in the lower position. But continually playing in this way would change the position of the hand too often, and unnecessarily increase the difficulty. In fact, many passages, really very easy in a quiet position of the hand, could not possibly be executed.

In the new shifts of the following Exercises, the scholar will be careful not to change the holding of the hand as hitherto used, and will see that the fingers bent in both joints fall horizontally on the strings. In the second shift, the wrist must not reach the ribs of the Violin, till the hand has advanced to be third shift, where the ball of the hand adheres to the hollow of the neck.

**Allegro** 120.

2d Position.

No. 37.
ALLEGRO. \( \frac{63}{4} \).

2d Position. \( \text{tiré.} \)

No. 38.
ALLEGRO $\approx 132$.

2d Position. \textit{tiré}.

No. 39.

\begin{music}\begin{align*}
\text{H.B.u.} & \quad \text{sempre staccato.} \quad \text{S.B.} \quad \text{H.B.I.}
\end{align*}\end{music}
The following Exercise is intended to teach the Scholar how to extend the finger to tones belonging to the next or preceding position. This is effected, either with the fourth or the first finger without moving the hand, as:

\[\text{To slur the extended tone in one bowing with the nearest tone, it must not be distant more than half a tone, as the whole tone, by drawing back the finger, produces an unpleasant effect, as:} \]

But if the extended tone does not immediately follow the next nearest tone, then the whole tone, even with one slurred bowing, may be taken, as:
This extension of tones, not belonging to the position in which we are playing, avoids changing the position of the hand, on account of a single tone merely; but in the second case, where they are extended, and might also, without leaving the shift, be taken on the nearest string, it is intended to unite them with the other tones in a much more quiet bowing than otherwise could possibly be done.

**ALLEGRO**

3d Position.

No. 41.

[W.B.

**W.B.**

**cres.**
As the tones nearest the bridge lie always closer to each other, the Scholar's ear will also direct him to place his fingers from Shift to Shift more closely together, particularly the little finger, which, having to take the half tone, must closely adhere to its predecessor. In very high shifts it is necessary, for the sure intonation of the half tone, that this be first removed before the other can be put down. It is not possible to determine in what position this shifting should begin, for a scholar with strong and fleshy fingers may find it even necessary in the lower positions, whereas thin and pointed fingers will not have this obstacle to encounter.
In the next fourth position, the left hand must be lifted a little more than hitherto, over the edge of the belly, to enable the fingers to reach the G string horizontally; at each succeeding position, this lifting of the hand is gradually increased. The thumb by degrees is drawn round the back of the neck, and the elbow moved more under the Violin. If the Scholar have a very small hand, he will be obliged in the highest positions to draw the thumb entirely from under the neck, and even to rest it on the ribs; but then it is necessary to hold the Violin very tight with the chin, particularly in the sliding down of the hand to the lower positions.

In the 7th bar of the following Exercise, the hand, in extending the A sharp, with the first finger, must by no means be moved from its position; nor the fourth finger in the 8th bar of the 2d part at the F sharp.

4th Position.

\[ \text{Allegro, } \frac{d}{d} = 100. \]

No. 48.

\[ f \text{ T.B.u.} \]

\[ \text{poussé.} \]

\[ \text{S.B.u.} \]

\[ \text{T.B. pp S.B. T.B.} \]

\[ \text{S.B. T.B. S.B.u. T.B. S.B. T.B. T.B.} \]

\[ \text{f T.B.} \]
The dotted notes in the following Exercise are to be bowed very short and darting.

ALLEGRO  \( \frac{\dot{\ }}{\frac{\dot{\ }}{\dot{\ }}\dot{\ }} \) 126.

5th Position.

5th Position.

No. 44.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.

S.B.
In the high positions of the hand, where the stops are very close, not only the tones of the nearest position, but also those of two or three higher positions, can be extended.

In the following Exercise there are such which pertain to the 7th and 8th position. I here again remind the scholar that in the extension of these tones, only the little finger should be stretched out as far as necessary, without moving the hand from its position.