
Music Notation in the Twentieth Century

A Practical Guidebook
by KURT STONE

This is also a good resource that includes video demonstrations of techniques: <http://harpnotation.com>

HARP 227

XI. Harp

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Please check all notation with a performer; some of these techniques are not standard, and the notation may not be familiar to all performers.

Preliminary Remarks

Much of the notation recommended in this chapter hails from Carlos Salzedo's virtually clairvoyant *L'Étude moderne de la harpe* of 1918, including his color terminology for many of the effects. Wherever this terminology has been retained, it has been identified with a parenthetical S.

The large number of effects, their notational devices and practices included in this chapter, and the abundance of practical information for the actual production of these effects—an expansiveness not found in most of the other chapters—is tributable not only to the considerable versatility of the harp, but also to the widespread ignorance of its resources among otherwise well-informed musicians.

Arpeggio/Non Arpeggio

For general instructions, see page 3 f.

All unmarked chords and intervals are played arpeggio or non arpeggio ("flat") at the discretion of the harpist. Traditional practice, especially in romantic music, favors a slight rolling of the chords. In twentieth-century music, unrolled playing has become more common. To avoid ambiguities it is strongly suggested that clear instructions be given concerning the desired style of playing, as follows:

Indicate at the beginning of a composition or movement either *sempre arpeggio* or *sempre non arpeggio*, unless no predominant style of playing is desired.

In a piece marked *sempre arpeggio*, no additional arpeggio signs need be marked, except:

1. When the direction or speed of the roll is specified (see page 4);
2. When occasional non arpeggio intervals or chords appear. These must be marked with non arpeggio brackets ([]), and as a precaution, an arpeggio sign must be placed before the first chord or interval (in both hands) when the prevailing arpeggio style is to be resumed. (The cautionary arpeggio signs serve the same purpose as the words *ordinario* or *normale* in music for other instruments.)

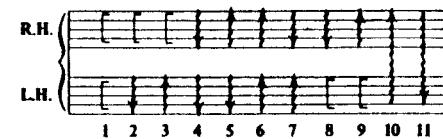


Conversely, in a piece marked *sempre non arpeggio*, no additional non arpeggio signs are needed, except when occasional arpeggio intervals or chords a-

pear. These must be marked with appropriate arpeggio signs, and a non arpeggio bracket must be placed before the first chord or interval (in both hands) when the prevailing non arpeggio style of playing is to be resumed.



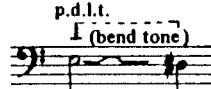
Note that harp music frequently combines non arpeggio in one hand and arpeggio in the other. These playing modes must be marked meticulously:



In 1, 4, 5, 6, and 7 both hands play together;
in 2, 3, and 10 the left hand precedes the right hand;
in 8, 9, and 11 the right hand precedes the left hand.

Bending the Pitch

The player is to insert the wooden part of the tuning key between two strings, then pluck one of them and twist the key so as to raise the pitch slightly. Always indicate whether the tuning key is to be inserted near the sounding board (p.d.l.t. = *près de la table*) or in the center of the strings.



Bisbigliando (Whispering)

This is a form of tremolo for two hands.

The notes for the right and left hands are notated either in the same staff, with up- and downstems, and with tremolo bars above or below:



or on the upper and lower staves, with stems, if any, pointing toward each other, and tremolo bars as shown:

Whole notes

Half notes

As demonstrated above, the arpeggio signs should have arrowheads to indicate the directions. The most common directions are down for the right hand and up for the left.

If arpeggios for both hands go in the same direction, one hand after the other, it is best to notate the chords above each other, with one continuous arpeggio sign, and with tremolo bars above or between the chords, depending on available space:

If specific starting and/or ending notes are desired, grace notes should be placed before and/or after the main notes, and a slur should be added:

If three-note or four-note chords are to be played in an order other than rolled up or down, the order must be written out:

bisbigliando

If the notes are to be played in random order, the pitches should be noted with note-heads only, in parentheses, with tremolo bars placed between the staves:



N.B.: It is advisable always to add the word *bisbigliando* or its abbreviation *bish*.

Clusters

(For a general discussion of clusters, see page 57 ff.)

A. Plucked Clusters

These should always be written out, i.e., treated as ordinary chords (which essentially they are). They should not exceed four notes per hand:

B. Hand-Slap Clusters

These are most effective in the lowest register of the harp. Here pedal settings become immaterial because the pitches can no longer be heard clearly.

In the upper registers, hand-slap clusters will become audible only if the strings are struck with a very short rubbing impact. Pitches are more likely to be heard in the upper registers than in the bass.

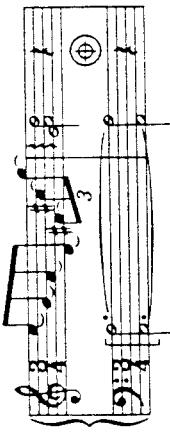
It is advisable to add the words *hand-slap cluster* on first occurrence. Cluster glissandos, see page 236. Strummed clusters, see Muting: Snare-Drum Effect, page 242, and Strumming, page 250.

Damping/Muffling (*Étouffer*)

A. General Damp Sign

The sign Φ is usually placed close to the note(s) or rest(s) involved: right hand—above; left hand—below:

B. Damp All Strings
The sign  is placed between the staves:

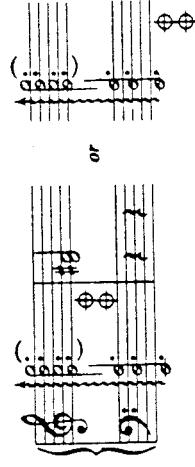


F. Damp Specific Strings

| <i>One string</i> | <i>Two strings</i> | <i>Three strings</i> |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |
| etc. | | |

The sign is placed near the note(s) involved:

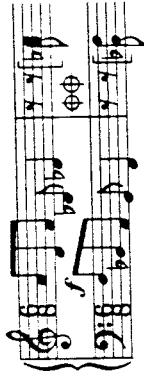
C. Damp Only the Low Strings
The sign  may be placed between the staves, or below the lower staff:



or



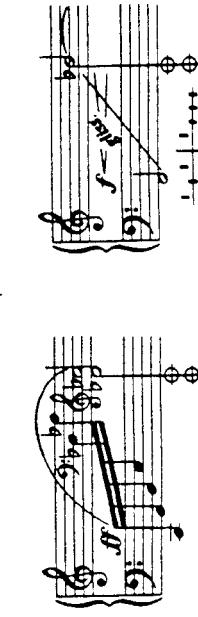
D. Damp with Both Hands
The sign used: 



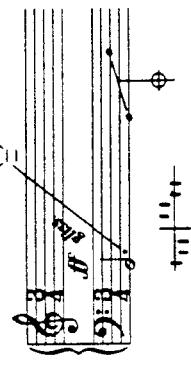
E. Damp at Specific Points
It is not always possible to damp at every rest. Therefore, arrowed signs
 should be used where damping is essential:



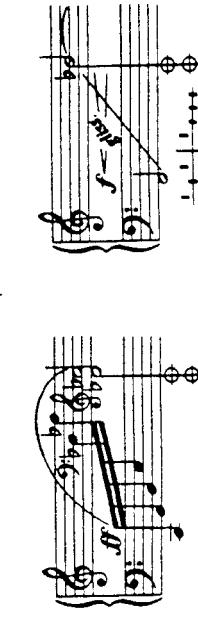
H. Damp All Strings below the Written Note
i.e., keep only the top note ringing:



G. Damp Specified Pitch Areas
The sign used:



H. Damp All Strings below the Written Note
i.e., keep only the top note ringing:



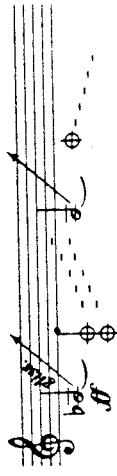
I. Damp All Strings from the Small Note on Down

The sign used:




J. Damp in a Patting Motion
(Gradually muffle the strings upward or downward according to the short horizontal strokes after the damping sign.)

First damping sign: after the first glissando, damp low strings upward to the small note-head;
Second damping sign: after the second glissando, damp strings from any pitch downward.



K. Isolated Sounds (S)

Damp each sound simultaneously with playing the next, so that no sounds run together:






(Put *ordinario* [*ord.*] at end of arrowed passage.)



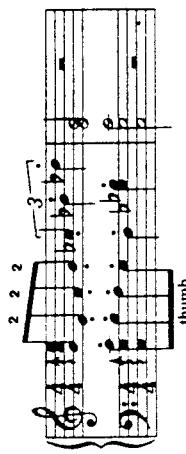
L. Repeated Pattern or Playing-Mode Indication



M. Staccato Damping

This is distinct from other forms of damping.

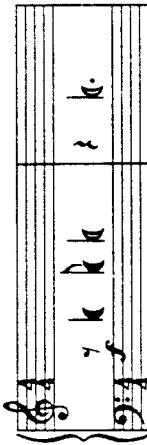
| | |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Second-Finger Staccato Thumb Staccato Two-Handed Staccato | All staccato effects are noted with staccato dots. If special techniques are desired, verbal instructions must be added: |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|



See also Muting, page 240 ff.

Fingernail Buzz

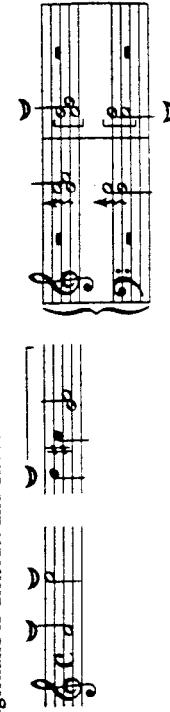
The player places the back of a fingernail against the middle of a vibrating string (best in the low register). The nail may be moved lightly against the string and away, in rhythm.



N.B.: The nail symbol here assumes the role of a note-head—black and white, and in the second measure, dotted.

Fingernail Plucking

Since fingernail plucking requires a bit of time to place the nails in the proper position, the most practical use of this technique is on single strings, although intervals and chords are also possible. Unmarked intervals and chords are played “flat.” Even so, it is advisable to specify the playing mode. Arpeggio with fingernails is difficult and should be avoided.



The fingernail symbol may also be drawn:  For other fingernail effects, see Glissando: Fingernail(s), page 236 f; Muting: with Fingernail, page 241.

Glissandos

For a general discussion, see pages 19 ff and 63 f.

A. Cluster Glissandos

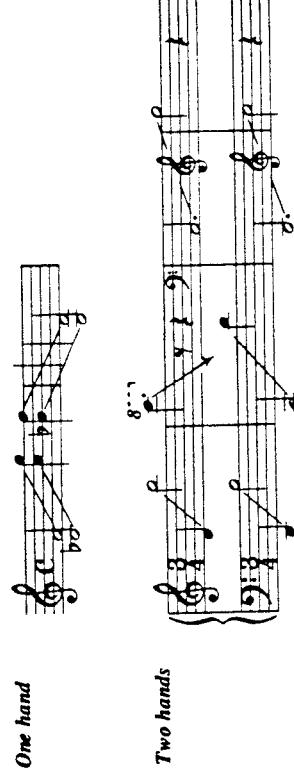
The harp does not lend itself to regular clusters, because its pitch resources are diatonic and sound essentially tonal, especially in glissandos, where the sequence of pitches always remains the same.

Thus the broad bands of sliding, chromatic clusters used for the notation of cluster glissandos in string sections or string ensembles in Polish and Polish-influenced music of the 1950s and later are not useful for the harp. Instead, the starting pitches of glissandos and the pedal settings should always be written out.

It should also be borne in mind that on the harp, one- and two-finger glissandos are more resonant and louder than those played with three or more fingers.

B. Two-Tone Glissandos

One hand



Two hands



Near the sounding board



R.H.

L.H.

Instead of , p.d.l.t. (*prés de la table*) may be used.

C. Glissandos for Three or More Tones (Fingers)

These follow the same notational principles as those for two.

D. Fingernail(s)

For fingernail glissandos, only the back of the fingernail is used. Upward glissandos thus can only be played with the back of the thumbnail, while downward glissandos are played with the fingernails.

Glissandos

One finger

Back of nail

Back of thumbnail

(The instruction *Back of nail* is optional.)

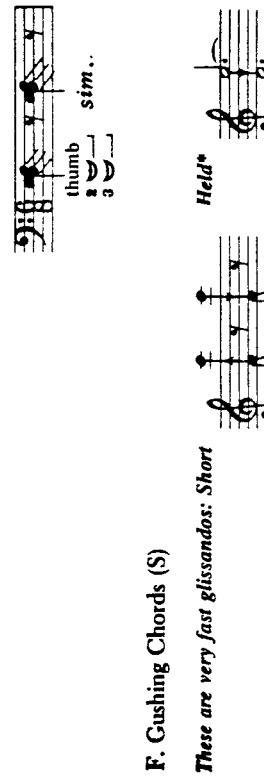


Two and three fingers



E. Combinations

Back of fingernail plus (regular) second and third fingers, plus (regular) thumb



F. Gushing Chords (S)

These are very fast glissandos: Short

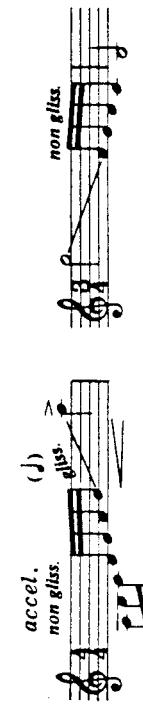
*thumb sim.. Held**

If the final note is to be plucked, this must be indicated verbally.

G. Non Glissando

Occasionally it is desirable to begin or end a glissando with a fingered scale. Such portions should be written out and marked *non gliss.*

Non gliss. may also be added in other situations, to avoid ambiguity.



The note-value indicates the duration of the resonance.

In spatial notation:

non gliss.

string noise

ff

H. Rustling Glissando

This is a glissando played with the open hand (all five fingers, spread apart), which gradually moves upward or, less frequently, downward, resulting, as its name implies, in a rustling sound. It is notated with a random number of short, curved lines between the glissando lines, or with short arrows (for the effect shown in the second example below):

Upward, final pitches not specified

'Up-up-up' from the same pitches

Upward to specified pitches

Up and down; final pitches not specified



I. String Noise

1. METALLIC SOUND OR THUNDER EFFECT (s)

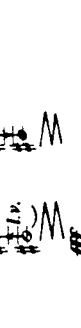
This is a rapid, forceful glissando on the wire strings, causing them to strike against each other:

With specific string indications

Thunder effect

Thunder effect

electr.



(same as strumming)

It is suggested to add the verbal instruction *Thunder effect* on first occurrence.

2. NONMETALLIC SOUND

Same as above, but the pitches must lie above the wire strings and the verbal instruction must be *String noise* instead of *Thunder effect*:

Half Pedal

Hold pedal halfway between two notches to allow the string to vibrate against the tuning gear. Then proceed in one of two ways:

- Set pedal(s), then pluck

One string

Two strings

D \sharp A \flat

G \flat E \flat

A \flat D \flat

D \flat G \flat

- Pluck first, then slur into half-pedal effect

ff

This effect is possible only on low strings, because they have the long vibration time required.

For extended passages with the pedal(s) moving the tuning notches against and away from the string(s), see *Pedal Trill*, page 243.

Harmonics

Three harmonic pitches are used: the octave, twelfth, and seventeenth. (The last two are usually referred to as the fifth and the third, respectively, in spite of their actual distance from the fundamentals.)

The octave harmonic is noted with a full-size note-head for the string to be played (the fundamental), and the familiar small circle above.

The other two harmonics are notated as follows: The string to be played (fundamental) is notated full size with a diamond-shaped note-head; the sounding pitch is noted with a small regular note-head in parentheses. The small circle and the numerals 5 or 3, resp., may be added above for instant recognition.

Octave

Twelfth (Fifth)

Sounding

Seventeenth (Third)

N.B.: Because of the general lack of uniformity in the notation of harmonics, it is strongly suggested that the notational system used be indicated at the beginning of the composition.

Laisser vibrer (l.v.): Let Vibrate

In symbolic notation

(The l.v. is optional.)

In spatial notation, the duration beam should be extended to the length of desired audibility; then, a short slur is added if no actual cut-off (damping) is wanted.



or

Muting

It is necessary to indicate exactly where the string is muted and where it is plucked, as follows:

- A. Mute Near the Sound Board**
Pluck in the middle of the string [“Xylophonic Sound” (S):

or p.d.l.t.

B. Mute and Pluck Near the Sound Board

p.d.l.t.
or
wavy line above staff
wavy line below staff

- C. Mute and Pluck In or Near the Middle of the String**
This mode of muting can either produce harmonics or avoid them, depending on the position of the muting finger.

D. Harmonics

No harmonics

- E. Muting with the Fingernail**
Mute by placing the back of the fingernail lightly against the middle of the string:



- F. Muting with Foreign Objects**
Muting by weaving a strip of paper, material, yarn, tin foil, etc., into the strings or by placing objects between the strings requires somewhat lengthy operations. For this reason no signs or abbreviations are needed—verbal instructions are sufficient.

G. Muting with the Tuning Key

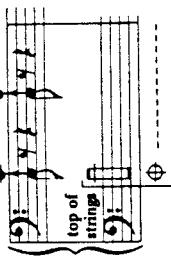
Pluck the notated strings; then hold the wood of the tuning key against the vibrating strings, thus producing a percussive effect and a considerable change of timbre. (The moment of contact must be notated rhythmically.)



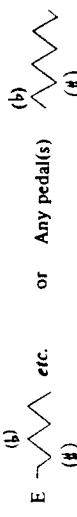
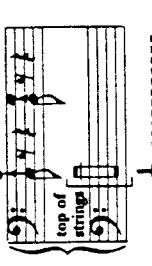
See also Muting, Snare Drum Effect (S), below.

H. Snare-Drum Effect (S)*1. MUTING WITH PALM OF HAND*

Mute low strings near the top with the palm of the left hand; produce a short, forceful strum upward with a fingertip or the back of a fingernail of the right hand:

**2. MUTING WITH TUNING KEY**

Instead of the palm of the left hand, hold the wooden part of the tuning key against the strings (see above):



N.B.: This effect is controversial not only because the sound can be negligible (though it might be strengthened electronically), but also because some harpists contend that it is damaging to the mechanism.

Pedal Slide

The pedal position is changed without replucking the string. This is notated as follows:

The lines show that a pedal slide is wanted.



The slurs show that the string is not re-plucked.

The pedal slide has to be made rather quickly, so that the aural effect is almost no slide at all. If the pedal is moved more slowly it creates a buzz, which is a separate effect (see Half Pedal, page 239).

Pedal Trill

This effect consists of fast, repeated pedal slides (see Pedal Slide above). Since the trill is rather slow, the sound is likely to die out before much trilling has taken place. It is of longest duration in the low register.

As in the pedal slide, the string is not replucked. Short, thin lines must connect the notes. They must slant up or down, according to the direction of the pitch changes. A final note must be indicated if a specified final pitch is desired.

Pedal Noise

This refers to motion of the pedals only, i.e., without plucking the respective strings.

When notating such pedal motion remember that the highest position of the pedals flattens the pitch and the lowest sharpens it. This fact is often misconstrued, since musically it would be more logical to equate a sharp with up and a flat with down.

Trill with upper note*Trill with upper note*

See also Half Pedal, page 239, and Vibrato, page 253.

Pedals

Pedal indications are properly the province of the individual harpist, particularly because harpists rarely agree on when to change which pedals. Moreover, many composers are not truly familiar with the most practical strategy of harp pedaling. In general, therefore, it is best not to indicate pedaling, but to leave ample blank space below the music or between the staves for the harpists to mark their own pedaling.

The following rules and practices thus should be considered with the caveats mentioned above in mind.
Pedal settings are indicated either with pitch letters and accidentals or with pedal diagrams.

A. Pitch Letters

These are given in the order of the pedals—the four right-foot pedals above, the three left-foot pedals below. All letters are followed by their respective accidentals or natural signs. For example:

E^b F[#] C[#] A^b
D^b C^b B^b

B. Pedal Diagrams

Pedals are shown left and right of the dividing line.

The three basic positions are:

Flats
(D^b C^b B^b E^b F[#] G^b A^b)
— — — — — — — —

Naturals
(D^b C^b B^b E^b F[#] G^b A^b)
— — — — — — — —

Sharps
(D^b C[#] B[#] E[#] F[#] G[#] A[#])
— — — — — — — —

Naturals

Sharps
(D^b C[#] B[#] E[#] F[#] G[#] A[#])
— — — — — — — —

Sharps

Flats
(D^b C^b B^b E^b F[#] G^b A^b)
— — — — — — — —

Flats

The bracket must be quite heavy so that there is no doubt that the pedal change is to be carried out with one foot only.

D. "Wrong" Foot

A pedal change with the "wrong" foot, i.e., the foot that would not normally be used for the pedal in question, is notated with boxed pedal indication: [G]

This indication should be used only if many such instances occur in the respective composition, and even then there should be an explanatory note on first occurrence.

See also Half Pedal, page 239.

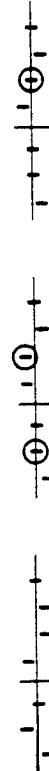
Pedal changes should be indicated with pitch letters (placed below the bottom staff or—less desirable—between the staves), regardless of whether the complete settings are shown with letters or with diagrams.

Although pitch letters and diagrams are equally useful for complete settings, the preferred system consists of a combination of both methods: diagrams for complete pedal settings; pitch letters and accidentals for changes of one or more pedal positions between complete settings. For example:

| First setting (beginning of composition or movement) | Change | Change | Second complete setting (first rehearsal stop) |
|-------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| (D ^b C ^b B ^b E ^b F [#] G [#] A ^b) | F [#] to F ^b | D ^b and A ^b to D ^b and A ^b , then to G ^b | G ^b — b |
| | | D ^b A ^b | D ^b C ^b B ^b E ^b F [#] G [#] A ^b) |

Each diagram shows the complete setting at the point of its appearance in the music. (Needless to say, the parenthetical pitches that appear below the diagrams in the above example would not appear in actual practice.)

Occasionally, another compromise may prove practical: the use of diagrams only, with the changing pedals encircled:



A practical suggestion: In order not to lose track of the pedal settings when marking a composition, it is helpful to draw a line on a sheet of paper and place coins where the short strokes representing the pedals appear in the diagram, moving them up and down as the pedals change.

C. One Foot, Two Pedals

One foot changing two pedals simultaneously with one motion is notated with a single bracket in front of the pedal indications: [D^b C^b]

The bracket must be quite heavy so that there is no doubt that the pedal change is to be carried out with one foot only.

D. "Wrong" Foot

A pedal change with the "wrong" foot, i.e., the foot that would not normally be used for the pedal in question, is notated with boxed pedal indication: [G]

This indication should be used only if many such instances occur in the respective composition, and even then there should be an explanatory note on first occurrence.

See also Half Pedal, page 239.

Complete pedal settings should appear at the beginning of a composition (preferably below the bottom staff), at or preceding glissandos, and at likely rehearsal stops. Ideally, each line of music should begin with the pedal setting needed at that point.

Placement of Playing Indications

If possible, all playing indications for the right hand should appear above the top staff of a system, and those for the left hand below the bottom staff, regardless of whether they are symbols or verbal indications.

Plectrum

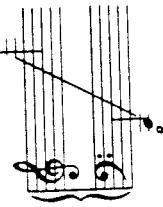
Plucking the string with a plectrum is notated as follows:



Be careful to round the corners of the symbol for the plectrum, so that it will not be mistaken for an accent v .

Range

The range of a full-size concert harp is:



Note that the pedals do not affect the top G and the bottom C and D. The wire strings of the harp range from $\text{G} \text{ E} \text{ F}$ down to the lowest string.

Scordatura (Abnormal Tuning)

If one or more strings are tuned to pitches other than the normal ones, a tuning chart is placed at the beginning of the music, for example:



Such tunings are called scordatura.

Music that includes scordatura may be notated in two ways:

A. Actual Sound ("Concert Pitch")

All notes are notated according to their actual pitches, regardless of the abnormal tuning of some of the strings. The pedal settings are notated according to the mechanical actions the player must perform, again regardless of the resulting pitches, but in order to remind the player of the discrepancies between the pedal

settings and the notes in the music, the discrepant pedals are repeated in parentheses above the notes.

The following examples operate with the scordatura given above:

(D \flat)(A \flat)
(A \flat)

B. Transposed

All scordatura notes are notated according to what the player must do to achieve the desired pitch. The actual pitches are added in small notes outside the staff, near the notes to be played. The pedal settings, too, are notated according to the mechanical actions, rather than the actual sounds.

Here is a second version (transposed) of the previous example:

The first method of notation (actual sound) is preferable because

1. The music can be read easily, without knowledge of the notational complications resulting from the scordatura tuning;
2. It is simpler to draw the additional discrepant pedal settings than the small staves, clefs, and notes.

N.B.: Scordatura should be used with great discretion. It had its just place before the invention of pedals. In our era's music it should be resorted to only if certain effects are impossible to produce by regular means.

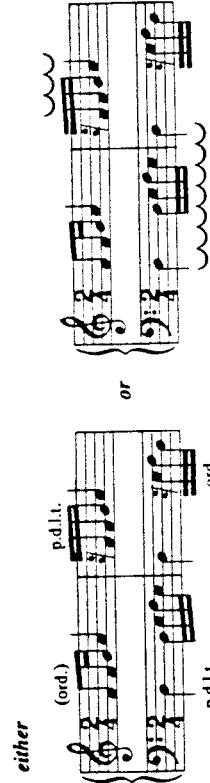
Slap Pizzicato

Plucking the string *prés de la table*, so that the finger slides forcefully to the sounding board, creates a sharp, knocking sound in addition to the pitch:

Note the similarity with the sign for the "Bartók pizzicato" in bowed string instruments, where the string is to be plucked vertically from the fingerboard, slapping the wood as it is released—an effect not too different from the sound of the slap pizzicato of the harp, i.e., a string/wood combination.

Sounding Board

The symbol for the sounding board is a bold **T** (from the French *table*). For playing near the sounding board (*près de la table*), p.d.l.t. is the most commonly used abbreviation, but a wavy horizontal line is almost equally common:



See also Striking the Body or the Sounding Board, below, and Vertical Locations, page 252 f.

Striking the Body or the Sounding Board

Use **B** for body and **T** for sounding board (*table*), and give verbal instructions, such as *strike*, *slap*, *tap*, *knock*, *drum*, etc. Indicate *knuckles*, *fingertips*, etc.

If mallets, etc., are to be employed, use pictograms (see *Percussion*, page 210 ff) but identify the pictograms in the front matter or on first occurrence. If no pictograms are available, use verbal descriptions.

Harpists will strike, scratch, rub, etc., the most resonant part of the body or sounding board—usually around the center—unless directed otherwise.

Notate all effects (striking, tapping, etc.) with x-shaped* notes, either between the staves or above the top staff, for example:



*Actually, Salzedo's large, round note-heads outside the staff are more familiar to harpists,

but since the tapings and strikings of all other instrument bodies, etc., are notated with x-shaped notes, it is desirable to have the harp follow suit.

Striking the Strings

Strike a low string with a flick of a fingernail or other implement (pencil, ivory stick, * etc.).

Use verbal instructions on first occurrence.

| Specific strings | flick | strike |
|------------------|-------|--------|
| | | |

Any (low) string(s)



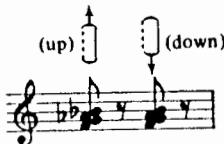
*Salzedo calls this "Tamam Sound."

**For further pictograms see *Percussion*, page 210 ff.

Strumming

Short, rapid strumming on consecutive strings (actually clusters) are noted as follows:

For small clusters



For larger clusters



(Same notation as for Gushing Chords, see page 237.)

For muffled strums see Muting, Snare Drum Effect, page 242.

Top (Upper Ends of Strings)

To indicate playing at upper ends of strings (*près des chevilles*), it is best to use verbal indications instead of the abbreviation *PC*, which is not known beyond harpist circles. ("Play near the screws" is not recommended because it is unclear whether to play above or below the screws.) For a symbol, see page 253.

Tremolos

A. Aeolian Tremolo (S)

Rub strings (between notated pitches) very rapidly, back and forth, with open hand, fingers pointing up:



N.B.: It is important that pedal indications for the strings be given between the notated notes.

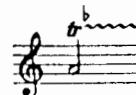
B. Thumb Tremolo

Brush strings rapidly back and forth with the side of the thumb:



Trills

With one hand (use single stem)



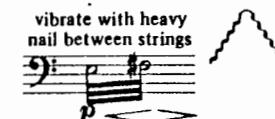
With two hands (use double stems)



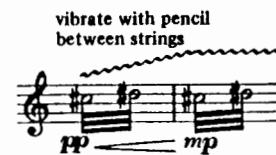
A one-handed trill is necessarily slower than a two-handed one. Harp players will usually perform a two-handed trill wherever practical, often despite the notation. It is recommended, therefore, to leave this particular decision to the performers.

Trilling (Vibrating) between Two Strings

Verbal instructions should be used, with or without the wavy line.* (This effect is quite soft.)



Note the curve showing the up-and-down motion of the playing implement.



Again, note vertical motion.

Tuning-Key Slides

The following effects can only be produced with old-fashioned tuning keys of uncovered wood and metal.

*Indicating the changing vertical locations of the implement is optional. If the wavy line is used, it should be drawn as close to the music and/or instructions as space permits.

1 tuning-key pictogram.* (For single-string slides, the metal part of the key is used; for two-string slides, the wooden part.)

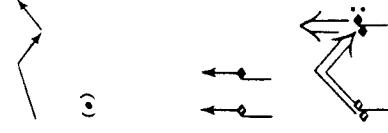
•  indicates that the string is plucked and specifies the rhythm of the plucks, including the duration of subsequent sliding motion(s) (if any) of the key. The notes are stemmed down to free the area above the note-heads for the slide indications.

indicates the vertical motion of the tuning key along the string(s).

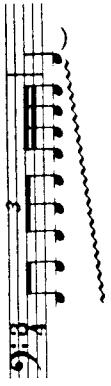
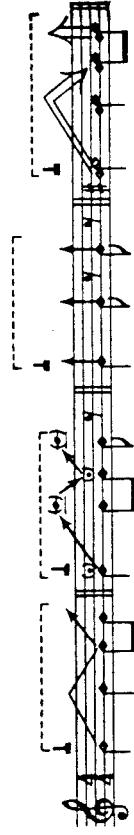
(•) indicates approximate pitches (if desired). The pitch of the slide will always be at least one third higher than the string plucked.

indicates instantaneous, fast slides (here the note-values show the duration of the resonance).

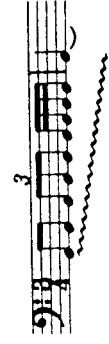
indicates a two-string slide (the wooden handle of the tuning key is inserted between two adjacent strings).



An example showing these devices



Gradually move to a lower location on the string while playing:



N.B.: This effect is best suited for the lower strings.

See also Sounding Board, page 248.

B. Playing near the Bottom

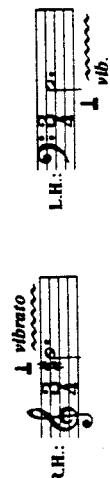
Abbreviated p.d.l.t. (*près de la table*), this effect is indicated:



C. Playing near the Top
The indication for this effect is:  but see page 250.

Vibrato

Insert the metal or wooden part of the tuning key between two strings and immediately after plucking vibrate it against the notated string:



See also Pedal Trill, page 243.

Whistling Sounds (S): Fingernail Scraps

A. Changing Vertical Locations

Gradually move to a higher location on the string while playing:

- The symbol for the tuning key must not be reversed when placed below the left-hand staff, because this would change it into a T. It must always be **L**.

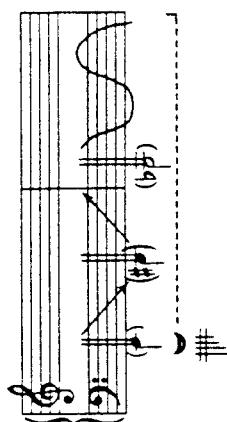
Vertical Locations on the Strings

A. Measured (Slow) Scrapping

The pitches of the notes indicate the strings to be scraped, not their normal pitches, since these cannot be discerned during the scraping action. (It is for this

reason that the note-heads are placed in parentheses.) The note-values indicate the durations of the scrapings; the slanted arrows or contour lines show the directions of the scraping. The fingernail symbol () is placed below the staff, and the Pan-pipes pictogram () below the fingernail symbol.

If a succession of scrapings occurs, a dotted extension line should be used.



If implements other than fingernails are to scrape the strings, the nail symbol must of course be replaced with a different one or a verbal indication.

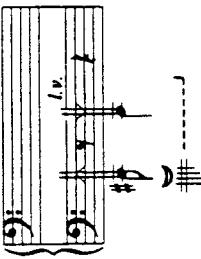
If two adjacent strings are to be scraped simultaneously, two notes must be written, with one vertical line for each:



N.B.: The longest strings are the most suitable ones for scraping.

B. Very Fast Scraping

This is notated with an arrowhead on the vertical lines that rise from the note-head(s), and without a slanting arrow. Furthermore, since the strings now are left to vibrate after the scraping, their normal pitches become audible. The note-heads are therefore drawn without parentheses, and the note-values now include the scraping and the reverberations. (To avoid misunderstandings, it is suggested that *l.v.* be placed where appropriate.)

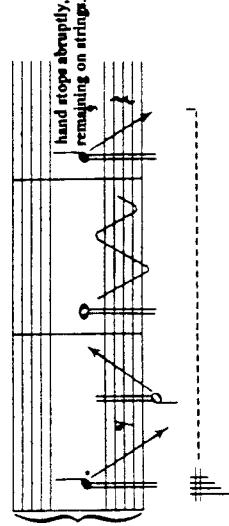


Whistling Sounds (S): Hand Slides

Hand slides are best executed on low, wound strings.

A. Measured (Slow) Vertical Slides

These go along the wire strings, either up or down:

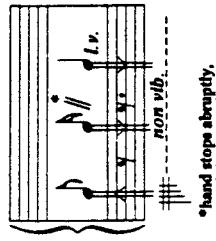


The note-heads must be well away from the staff so they will not be mistaken for pitches. The note-values indicate the duration of the sliding motion, not that of the reverberations. Up and/or down directions of the slides are shown with arrows or contour lines after the vertical double line. The Pan-pipes pictogram, although strictly speaking superfluous, should be placed at the bottom because harpists recognize it readily. If a succession of slides occurs, an extension line should be used:

B. Damping

The hand may stop the sound abruptly at the end of the slide by remaining on the strings. There is no generally recognized notation for this effect. A comma and a verbal instruction such as "hand stops abruptly, remaining on strings" must be added, since the effect is quite different from ordinary damping.

C. Very Fast Slides



N.B.: As with the measured scrapings, verbal explanations must be present at first occurrence.

The notation of the fast hand slide differs from the slow slide (see above) in the following details: The note-value shows the duration of the reverberations, not

Please check all notation with a performer; some of these techniques are not standard, and the notation may not be familiar to all performers.

256 MUSIC NOTATION IN THE TWENTIETH CENTURY

that of the sliding motion which must be as fast as possible. An arrowhead is drawn through the vertical double line to indicate that a very fast slide is wanted, as well as its direction.

1. NON L.V.

The hand may stop the sound abruptly at the end of the slide by remaining on the strings, which should be indicated with the verbal instruction *non l.v.* (A staccato dot is not recommended, since it implies raising the hand.)

2. NON STACCATO

The hand leaves the strings at the end of the slide, letting the sound ring. This need not be notated, since it is understood, but an *l.v.* may be added.

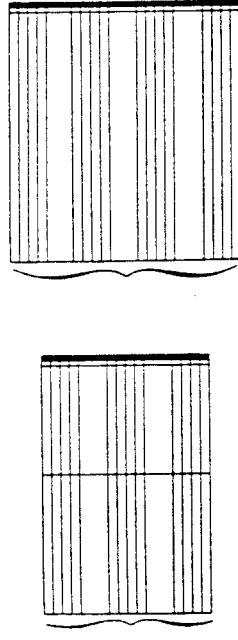
| | |
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Braces and Barlines

A. Ordinary Two-Staff Notation



B. Three- and Four-Staff Notation
This is to be used for very complex textures only.



Two-piano music is also usually notated in score form. When the two pianos are part of an ensemble, each pianist often plays from a separate part, thereby reducing the number of page turns by one half. The two parts are marked I and II, rather than *Primo* and *Secondo*.

Clusters *

(For a general discussion of clusters, see page 57 ff.)

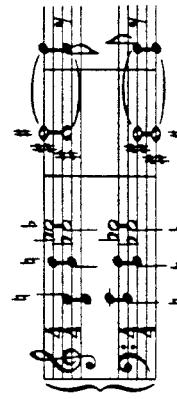
A. Specified Pitches

The note-heads of the outer pitches of a cluster are connected in the center with a heavy line.

The stem (if any) is attached to the top or bottom note, according to the rules of stem direction. Ties should connect only the top and bottom note-heads.

For white-key clusters, natural signs are placed above the right-hand clusters and/or below the left-hand ones. ** For black-key clusters, sharps or flats are placed above and/or below the clusters.

C. Four-Hand Music
Traditionally, four-hand piano music (piano duet) was notated on facing pages (preferably of oblong format), the left-hand pages marked *Secondo*, the right-hand pages marked *Primo*.



B. Chromatic Clusters

Chromatic clusters do not require accidentals, since it is generally understood that clusters without accidentals are chromatic. If, however, a composition includes only one type of cluster (in keyboard music usually white-key clusters), a note should be placed at the beginning of the music or at the first cluster, stating which type of cluster is wanted, thus making further identification unnecessary.

It is desirable to indicate whether the clusters are to be played with the fist—tightly closed or relaxed—palm of hand, edge of hand, forearm, etc. Clusters may also be played with suitable objects.

All such special instructions must be given verbally.

*Notation invented by Henry Cowell.

**White-key and black-key clusters may also be identified by large natural signs or accidentals, respectively, placed in front of the clusters:



This notation violates regular-size accidentals in front of the top and bottom notes. On the other hand, the large accidentals are not only rather unwieldy, but take up more horizontal space than ordinary accidentals, which can cause problems in spatial notation.

From the first movement of Beethoven's Piano Sonata, Op. 57

C. Indeterminate Boundary Notes: Approximate Pitches

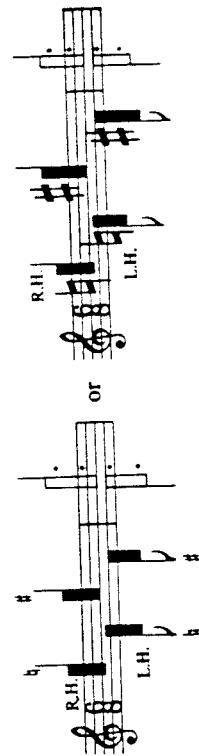
Narrow vertical boxes replace the boundary note-heads.

The length of the boxes indicates the approximate width of the clusters.

For black-key or white-key clusters, accidentals or natural signs are placed

above or below (or large ones in front—see preceding footnote).

Chromatic clusters do not require any accidentals.



If still greater indeterminacy of pitches is desired, single-staff-line notation may be used:



Indeterminate clusters such as these need not be provided with accidentals.

D. Spatial Notation

In spatial notation the duration of the clusters is shown by the length of the duration bars. Durational elongation of the cluster boxes themselves is not recommended. It needlessly interrupts the otherwise consistent notation. Besides, it is inappropriate for instruments such as piano which have tones of short duration. For use of elongated cluster boxes, see Pitch, Clusters in Ensemble Music, page 58 ff.

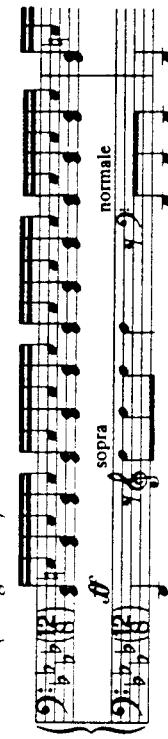
Crossing of Hands

Music is too diverse to permit rigid rules for the notation of crossing hands. In general, however, the notes of both hands should remain in their respective staves during hand crossings. The word *sopra* (above) may be added for clarification, and in the less frequent cases where a hand is to cross below the other, the word *sotto* (below or under) should be used.

Harmonics

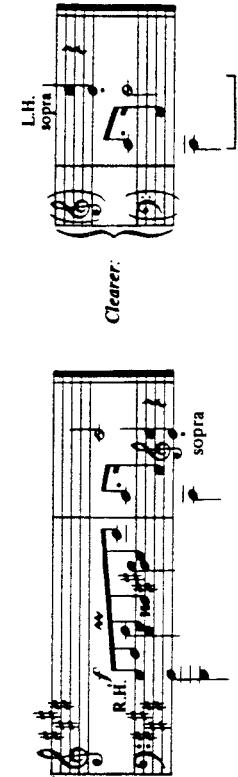
The keys noted with diamond-shaped note-heads are depressed silently by the right hand; the left hand then plays the regular staccato notes. This will create

(Allegro assai)

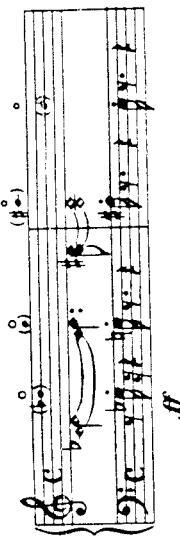


In certain situations the notational picture becomes clearer if the notes of the crossing hand are moved into the other hand's staff, showing the crossing graphically, as in the following example:

End of Mazurka, Op. 63, No. 3 by Frédéric Chopin



harmonics (resultants), which are shown with small parenthetical note-heads topped by the harmonics circle:



(The small note-heads showing the resultants are optional but advisable.)

Another method of creating harmonics is to touch the appropriate node of a given string inside the piano lightly before playing it. The string is notated full size, while the resultant is shown with a small, parenthetical note-head topped by the harmonics circle:



The verbal instruction need be added only on first occurrence. (The string node is not notated—the player must find it before the performance and should mark it with chalk.)

A third method is the same as the one just above except that the fundamental is played first and the string node touched subsequently:



Inside the Piano

A. Preliminary Remarks

1. IDENTIFICATION OF STRINGS

As long as piano manufacturers do not provide black and white dampers to duplicate the keyboard, pianists should either attach labels to the dampers of the specific strings to be used (using masking tape to insure easy removal) or mark all white-key dampers with white tape for general orientation. This would not only aid performances but also reduce the need for notational explanations.

2. STRINGS COVERED BY METAL BARS

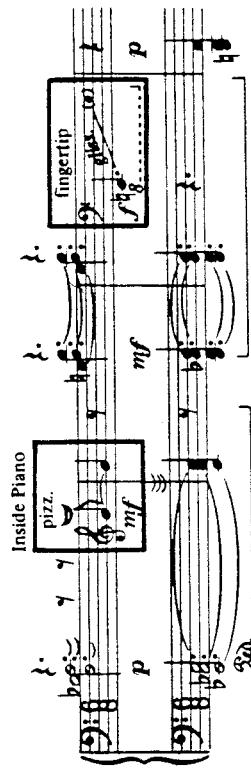
The metal frames of different makes and vintages of pianos vary considerably with respect to which strings are covered by cross bars, and there are other struc-

tural variations which make it extremely unwise to call for specific pitches and effects as if all pianos were identical. This should be borne in mind when considering the following notational suggestions, whether additional warnings are included in their descriptions or not.

3. BOXED INSTRUCTIONS

Instructions for playing inside the piano can be reduced considerably by drawing heavy black boxes around the word *Inside* or around certain pertinent instructions, such as **pizz.**, etc., depending on the context.

If an intermittent effect (such as a fingernail pizzicato or a sweep across the strings) is called for in an otherwise ordinary texture, the specific instructions and the staff with the pertinent notation may be placed in a box. This would obviate the boxed words *Inside* and the subsequent *normal* or *ord.*



pizz.: In spite of what has just been said about labeling, the meaning of the boxes must always be indicated at least once, because boxes are also used for choices.

If all boxes in a given piece are used for playing inside the piano, or if all boxes enclose choices, only the first box needs a verbal explanation. However, if the meaning of the boxes changes from box to box, each must be labeled. (If the boxes are rather small, a fairly large *I* for "Inside" or *C* for "Choice," with an explanatory note on first occurrence, may be preferable to the spelled-out words.)

B. Finger Damping

Damp the string with a finger after playing:



If the note is played on the keyboard, but damped inside the piano, a verbal explanation is needed. In the example above, both events—the playing and the damping—take place inside the piano.

*The fingernail symbol may also be drawn:

In the following example, the note is played on the keyboard and damped inside the piano:



(See Harp, Damping/Muffling, pages 231 ff. for similar but more detailed situations.)

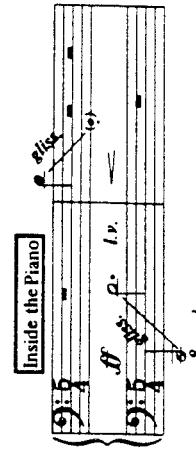
C. Glissandos

(For a general discussion of glissandos, see pages 19 ff and 63 f.)

1. GLISSANDOS WITH SPECIFIED PITCHES

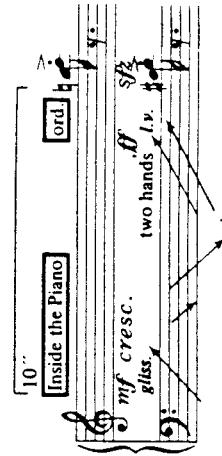
A glissando, naturally, can be performed only on an unobstructed set of strings. Therefore, the pitch range of a glissando must be considered carefully because of the different kinds of metal frames used in different makes of pianos.

The note-value of the initial note shows the duration of the glissando, but not the total glissando's reverberations. These are expressed in the second note (note of destination). An open tie and/or the abbreviation *l.v.* may be added. A pedal indication can also show the desired duration of the sound:



2. GLISSANDOS WITH INDETERMINATE PITCHES

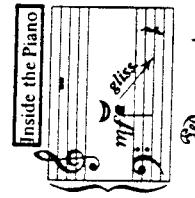
Indeterminate glissandos are actually the "safest," considering the variations in metal frames.



In the following example, the note is played on the keyboard and damped inside the piano:

- 3. GLISSANDOS WITH FINGERNAIL (USUALLY BACK OF FINGERNAIL), THIMBLE, OR OTHER IMPLEMENTS
- The fingernail symbol (⌚) or appropriate pictograms should be used (for percussion beaters, see Percussion, page 210 ff.), with a verbal explanation at first occurrence.

With a fingernail



D. Muffle or "Stop" the String with a Finger (Before Playing)



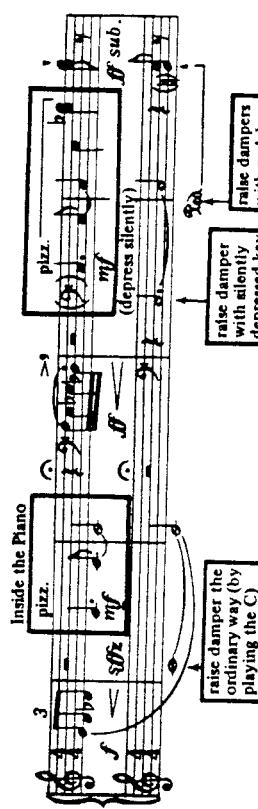
E. Pizzicato

1. FINGER TIP PIZZICATO

Abbreviation: *pizz.*

The dampers may be raised in three ways:
by playing the note on the keyboard and holding it;
by depressing the key silently (diamond-shaped notes);
by raising its damper (along with all others) with the pedal.

The following example shows the three methods in context (with boxed explanations):



2. FINGERNAIL PIZZICATO
(Damper notation as above.)



If a pizzicato passage extends to the next line, repeat *pizz.* in parentheses.
Plucking with plectra, thin knitting needles, and other suitable implements must be dealt with on an individual basis, but the beater pictograms in the percussion chapter would prove useful. These must be explained, however, because they are usually unfamiliar to pianists.

F. Scraping Up or Down One or Two Wound Strings

Fingernails or wooden or metal implements should be used. For fingernails, the  sign should be placed at the top of the vertical line(s); other implements require verbal indications.

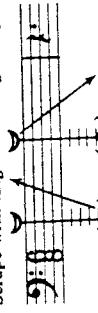
1. MEASURED (SLOW) SCRAPING

a. WITHOUT PEDAL

The pitches of the notes indicate the strings to be scraped, not the resulting pitches, since these cannot be discerned during the scraping action. (It is for this reason that the note-heads are placed in parentheses.)

The note-values indicate the durations of the scrapings; the slanted arrows show the direction of the scraping. Inside the Piano

Scrape with fingernail along string



senza ped.

If two adjacent strings of the same pitch are to be scraped simultaneously, two thin, vertical lines must be drawn. If two different pitches are wanted, two notes, each with its own line, are required:



N.B.: The lowest strings are the most suitable ones for scraping.

b. WITH PEDAL

In this technique, the strings are left to vibrate after scraping, which means that their normal pitches become audible. The note-heads are therefore drawn without parentheses. The note-values, however, still indicate only the duration of the scraping. The reverberations must be indicated with pedal extension lines or with *l.v.* (or both).

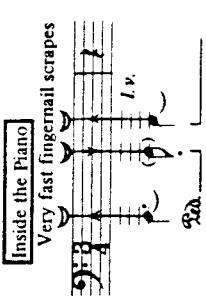
Inside the Piano



2. VERY FAST SCRAPING

This is notated with an arrowhead on the vertical line that rises from the note-head, and without a slanting arrow.

Furthermore, since the strings here are left to vibrate after scraping, the note-heads are drawn without parentheses, and the note-values now include both scraping and reverberations. (To avoid misunderstandings, it is suggested that *l.v.* be placed wherever appropriate.)



N.B.: As with the measured scrapings, verbal explanations must be added at first occurrence.

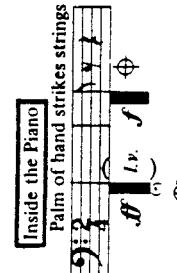
C. Striking the Strings

1. WITH THE PALM OF THE HAND (RINGING SOUND)

The hand bounces off the strings after striking to allow the strings to reverberate (first chord in the example below).

2. WITH THE PALM OF THE HAND (DAMPED SOUND)

The hand remains on the strings after striking, thus damping the sound (second chord in the example below). Verbal instructions must be added; pedal indications are essential.

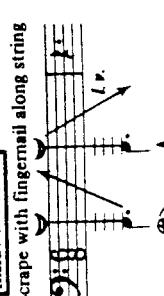


3. WITH OTHER IMPLEMENTS

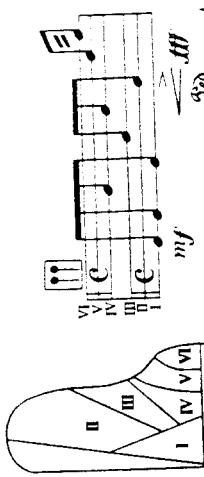
If the strings are to be struck with other implements, such as percussion beaters, verbal instructions or pictograms should be employed. The beater pictograms require verbal explanations on first occurrence.

4. STRIKING DIFFERENT REGIONS OF STRINGS

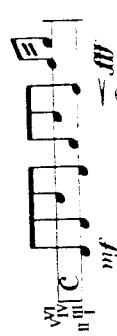
Although different makes of pianos have differently shaped metal frames, there generally are five reasonably similar areas within which the strings can be struck (or plucked, etc.).



If several specific regions are to be struck, it is advisable to note such passages in tablature* and add a drawing that shows the regions with their identifying numerals:



or



Since the piano, if played in this way, actually becomes a percussion instrument, the reader should turn to the Percussion section, page 205 ff, for programs of beaters and for other notational information.

H. Strumming

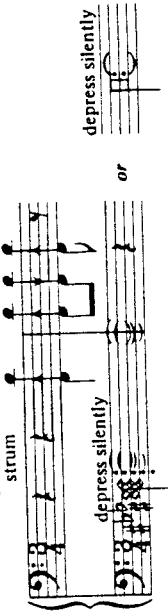
The notational symbol is borrowed from harp notation; it must be accompanied by a verbal indication at first occurrence:



1. CHROMATIC STRUMMING

Dampers are raised by keys:

Inside the Piano



2. NONCHROMATIC STRUMMING
Dampers are raised by keys. Although the finger strums across all the strings, only the undamped ones will reverberate.

*For further details concerning this kind of tablature notation, see *Bowed String Instruments*, page 307 f.



For slightly slower strumming, the arpeggio sign should be used, with an arrow above or below showing the direction:



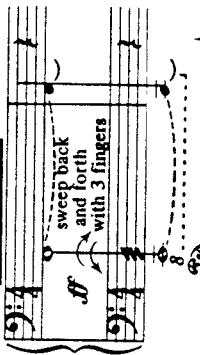
I. Sweeping Back and Forth with Fingers across the Strings

A vertical line is drawn between two pitches to indicate the approximate range of the sweeps.

The note-values indicate the duration of the sweeping motion, not that of the reverberations. If reverberations are desired, they can be indicated with open ties from subsequent notes (see example), or by adding *l.v.* Pedal markings, which belong to this effect anyway, also show the desired duration of the reverberations.

A verbal instruction must be added, such as 'sweep back and forth [across strings],' as well as indications for dynamics, pedaling, and the number of fingers to be employed.

Inside the Piano



Pedals

A. Abbreviations and Signs

= damper pedal. (Do not use for any other pedals, including pedals on other instruments, such as organ or vibraphone, where the abbreviation Ped. in ordinary roman type is customary.)

Sust. Ped. = sostenuto pedal. (Although the shorter abbreviation *S.P.* is used quite often, it is undesirable because it might be mistaken for *Senza Pedale*.)

U.C. = *una corda*.

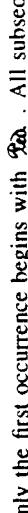
B. Order

The vertical order of pedal indications should be as given above.

C. Depression and Release

The traditional method of placing Rd followed by A below the music is often too vague for twentieth-century music. Besides, if more than one pedal are employed simultaneously, it is not always clear to which pedal the release sign refers.

To remedy the situation, it is suggested that extension lines be used for all three pedals, with various graphic devices for indicating different ways of pedal depression and release, as follows:

I. DAMPER PEDAL

Note that only the first occurrence begins with Rd . All subsequent indications within the same movement may omit the Rd sign and begin with a mere downstroke.

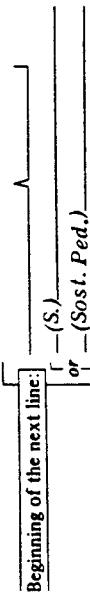
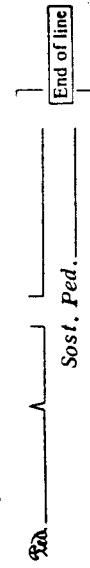
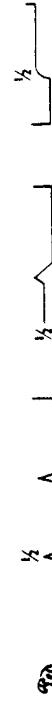
Note also that the depression begins at the letter R (and at the letters S and U for the other pedals), rather than at the beginning of the extension line.

2. OTHER PEDALS

Precede the extension line with Sost. Ped. or U.C. , respectively. Repeat the abbreviations as often as necessary to avoid ambiguity. (The abbreviations may be further shortened, after their first occurrence, to S. for sostenuo pedal and U. for *una corda*.)

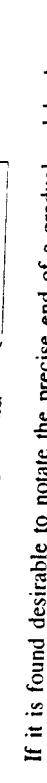
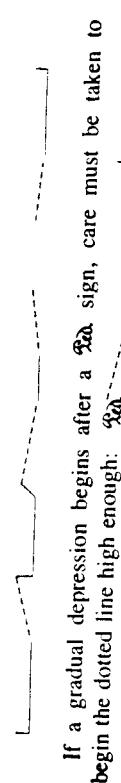
3. PEDALING EXTENDING FROM ONE LINE TO THE NEXT

The damper pedal generally needs no identification; the other two pedals do:

**D. Half Pedal**

Since the difference between full and half pedal indications is not easy to see, the $\frac{1}{2}$ should be repeated at each occurrence of the half pedal, and if it continues

from one line to the next, a $\frac{1}{2}$ in parentheses should be placed at the beginning of the new line: $(\frac{1}{2})$ _____ $\frac{1}{2}$ _____

E. Gradual Pedal Depression, Change, and Release

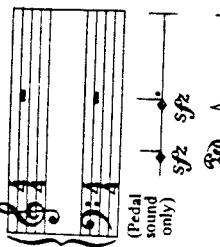
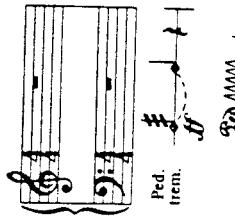
If the duration of a gradual pedal movement is to be measured exactly, one or more notes in parentheses should be used:



For catching staccato reverberations with the pedal, see *Staccato Reverberations*, page 272.

F. Pedal Sound Only

Use diamond-shaped note-heads on a single line.

Single attacks*Tremolo*

Verbal instructions should always accompany a pedal-sound effect.
Electronic amplification of the sound is suggested since the strings reverberate only very softly.

Silent Depression of Keys

This is notated with diamond-shaped, full-size notes:

The first example shows a treble clef staff with a key signature of one flat. A note is depressed silently with dynamic *fff*, followed by a note with a fermata. The instruction *senza ped.* is written below. The second example shows a bass clef staff with a key signature of one flat. It includes a dynamic *pp*, a note labeled '(depress silently)', and a dynamic *lv.* Below this, a pedal tremolo pattern is shown with dynamics *ff*, *sfz*, *sfz*, *sfz*, *sfz*, and *sfz*.

See also Harmonics, page 261 f, and Inside the Piano: Strumming, page 268 f.

Staccato Reverberations

Catching the vibrations after a staccato attack may be effected in two ways:

By silently redepressing the key(s)



(The *senza pedale* is optional but advisable.)

By depressing the damper pedal immediately after leaving the key(s)



Tied Notes from One Hand to the Other

Ambiguity as to whether such notes are to be played again or merely taken over by the other hand can be avoided by notating them with diamond-shaped notes at the point of transfer:



If further ties are needed after the transfer, normal notes are resumed:

