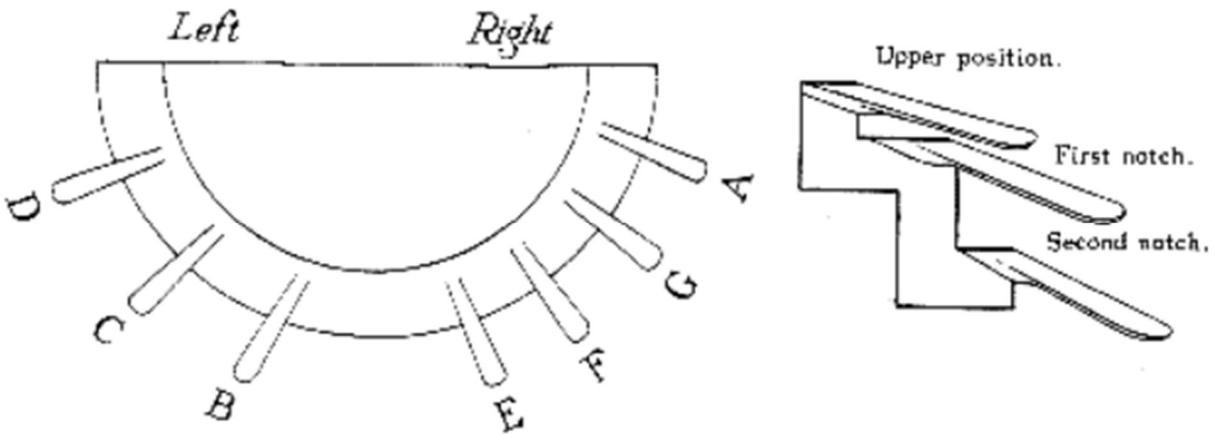


Writing for the Harp: Harp 101

Joseph Rebman, harpist and composer - www.JosephRebman.com

I. Harp mechanics

Pedals: Harps are strung diatonically, with one string for each letter name. Through the pedal mechanism, we are able to tighten the strings up to a whole step, thus reaching all the chromatic pitches. Each pedal on the harp controls every string of that type. For example, if I push the F pedal down once it tightens every F string on the harp a half-step. The Left foot controls D,C, and B. The Right foot controls E,F,G, and A.



Each string on the harp is actually three pitches. For example, our A string is A-flat, A-natural, and A-sharp. We live in a world of enharmonics, where A-flat and G-sharp are not the same note. An A-flat is an A string not tightened at all from the pedal. A G-sharp is a G string that is tightened twice by the pedals. It is impossible to play both an A-flat and an A-natural at the same time, but we *can* play a G-sharp and an A-natural at the same time.

All same string	three different strings	impossible	possible

Our home key is C-flat major. Push all the pedals down once, and you get C major. Push them all down again, you get C-sharp major. For the harpist's fingers, these are all the same key, C. Since we tune in C-flat, we sound best in flat keys. The more tension you put on the strings, the more likely they are to be out of tune. For this reason, it is common for harp repertoire to be five, six, or seven flats. A famous example is Debussy's Sonata for harp, flute, and viola. A portion of the second movement has the harp in C-flat major while the flute and viola are in B-major.

The image shows a musical score for harp, flute, and viola. The harp part is in C-flat major, while the flute and viola are in B major. The score includes markings for 'Rit.', 'Poco più animato', and 'pp'. The harp part is marked 'pp murmurando' and 'Poco più animato'. The flute and viola parts are marked 'pp' and '(s.h.)'. The harp part has a box around the number 10.

Strings: The bass strings are wire, the highest octave or two are nylon, and the mid is either gut or synthetic. While this is pretty standard, some harpists will string their whole harp in gut, and some will string the whole harp in synthetic. Keep these materials in mind when considering how things will sound in different ranges.

The image shows a musical score for harp in 4/4 time. The score is divided into four measures, each with a different string material and pedal connection. The first measure is labeled 'Wires' and has a bass clef. The second measure is labeled 'Gut, sometimes synthetic' and has a treble clef. The third measure is labeled 'Synthetic, sometimes gut' and has a treble clef. The fourth measure is labeled 'No pedal connection' and has a bass clef. The score includes markings for '8va' and '8vb'.

II. Basics of fingering

Fingerings: We only use four fingers, not five like piano. Avoid writing five notes in the same direction for one hand. This requires awkward fingerings which drastically increase the difficulty of a piece.

The image shows two musical staves, Treble and Bass clef, illustrating different fingering approaches for a harp passage. The first section, labeled 'Difficult', shows a sequence of notes where the right hand plays five notes in the same direction (upward), which is awkward for the harp. The second section, labeled 'Idiomatic options', shows two alternative fingerings that avoid this awkwardness by using more natural hand positions and fingerings.

Chords: Piano hands are mirrors of each other, with the largest interval of left hand at the top of a chord and the largest interval of right hand at the bottom of a chord. Harp hands are *not* mirrored and are identical to each other, so the largest interval is at the top of the chord for both hands. Thumb and pointer finger can stretch farther apart than middle and ring can. The largest standard interval in harp repertoire is a tenth. Anything larger than this can become impossible for harpists with smaller hands and requires them to re-write the chord, often leaving out a note or changing a note by an octave.

Hands work best as teammates, not individuals: While it is common in piano music for each hand to do individual things, this is highly difficult on the harp. Many fast passages are completely impossible one-handed. We function much better when the hands work as a team on a single line rather than working separately.

Cadenza from "The Nutcracker"

Waltz of the Flowers

Tchaikovsky

edited by Joseph Reberman

The image displays a musical score for the Cadenza from 'The Nutcracker', specifically the 'Waltz of the Flowers' section. The score is written for Harp and Oboe. The Harp part is in the lower register, and the Oboe part is in the upper register. The music is in 3/4 time and features a key signature of two sharps (D major). The Harp part includes a fortissimo (*ff*) dynamic marking and several triplet markings. The Oboe part includes a measure marked with a '5' and a measure marked with a '3'. The score is divided into two systems, with the first system ending at measure 4 and the second system starting at measure 5.

Staves indicate range, not hand: Due to the hands working as teams we do not strictly read top staff as right hand and bottom staff as left hand. Instead we read them as ranges. Both hands can be in the top staff, and both hands can be in the bottom staff. Whenever the hands are sharing a staff we use stem direction to indicate hand. Up stems mean to use your right hand and down stems mean to use your left hand.

Concerto for Orchestra ending

2nd harp

Bartok

Edited by Joseph Rebman

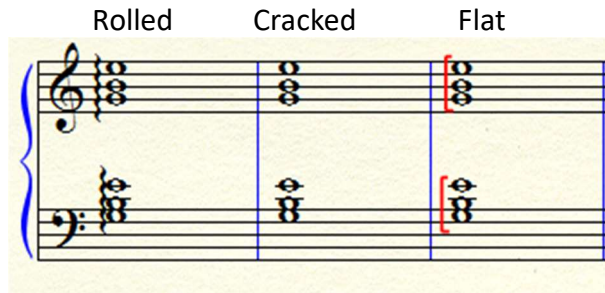
Repeated notes/trills: It is quite difficult to play the same string repeatedly, and it doesn't sound very good. This same issue applies to trills, and the best way to write either of these is through enharmonics. The general rule is: the more strings involved, the easier it is to play, and the better it will sound. This becomes a bisbigliando.

Enharmonics to avoid repeated strings

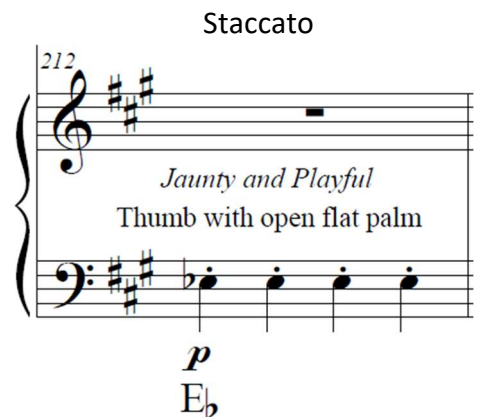
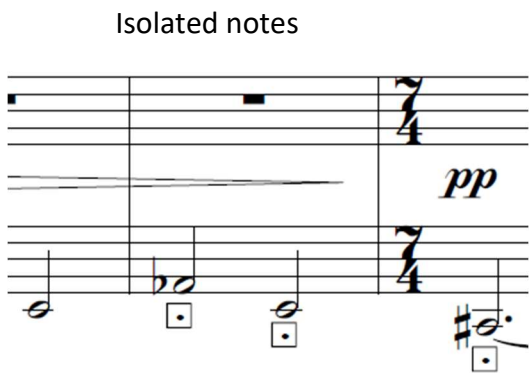
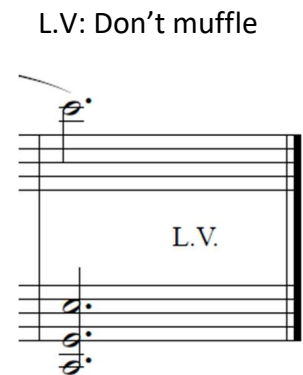
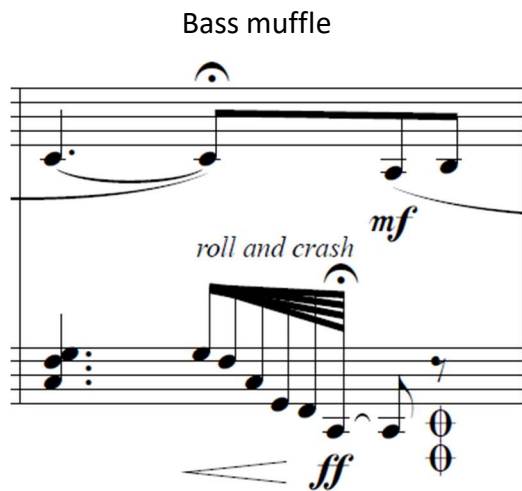
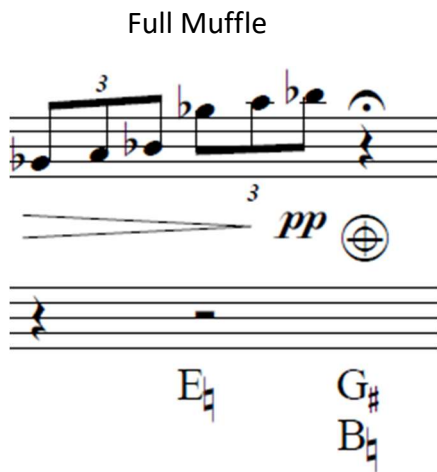
Bisbigliando using four strings for two pitches

III. Specific notation

Rolled chords: Harpists are trained to roll every chord at least slightly, using context clues to decide exactly how much a chord should be rolled. We call this a cracked chord. If we see the roll symbol we exaggerate the roll. If you want no roll at all, like a pianist would do, it requires a vertical bracket. We call that a flat chord.



Muffles: The harp is automatically a legato instrument, meaning expressions or ties for duration are redundant. Articulations and full silence require extra muffles by one or both of our hands, and we have multiple symbols for different ways to muffle. It is important to remember that this requires additional hand use, so speed while muffling or articulating is a major factor.



IV. Standard effects

Harmonics: Harmonics can be tricky for inexperienced harpists to produce consistently, and dynamic control is limited. Not enough pressure results in no sound, so harmonics tend to require a louder dynamic. Right hand harmonics use our knuckles, and we can only do one at a time. The left hand uses the palm, so we can do two at a time. Some virtuosic rep has three in the left hand, but these are quite difficult, unreliable, and painful in my opinion!

Important: Harmonics are written *where played*, sounding an octave higher.

Left hand range

Musical notation for the left hand range in 4/4 time. The first measure is labeled 'Standard' and shows a single harmonic note in the bass clef. The second measure is labeled 'Non-standard, Difficult' and shows a harmonic note in the bass clef with a treble clef line above it. The third measure is labeled 'Wires sound different and are inconsistent' and shows a sequence of notes in the bass clef.

Right hand range

Musical notation for the right hand range in 4/4 time. The first measure is labeled 'Don't sound very good' and shows a single harmonic note in the treble clef. The second measure is labeled 'Standard' and shows a single harmonic note in the bass clef.

Chord

Musical notation for a chord in 2/4 time. The treble clef shows a single note with a circled dot above it. The bass clef shows a chord with a circled dot above it. The chord is labeled 'F#m'.

Left hand harmonic and a normal note

Musical notation for left hand harmonic and a normal note. The treble clef shows a sequence of notes with circled dots above them, labeled 'mf'. The bass clef shows a sequence of notes with circled dots below them, labeled 'p'. The notes are labeled 'E', 'B', and 'C'.

PDLT: *Pres De La Tablet* is when we play close to the soundboard, sometimes called *quasi guitar* in older Spanish repertoire. As you can guess, this sound is similar to a guitar, with less ring and a dry, clearer pitch. It is difficult to get our thumb very close to the board, so three-note passages work best.

Musical notation for PDLT in 4/4 time. The treble clef shows a sequence of notes. The bass clef shows a sequence of chords. The notation is labeled 'mp p.d.l.t.'.

Glissando: Very important first note: repeated glisses can HURT. Harpists develop callouses which remove the pain of normal playing, but glisses are a quick way to causes blisters. Try to limit repetitive use, unless they are using something besides our skin such as fingernails or picks.

Glisses can be done in both hands in either direction. When going up, a double gliss of a 3rd is capable by either hand using two fingers, but not when going down. A single-hand double gliss requires twisting the entire arm, which many harpists are unwilling to do.

The important thing with glisses is to specify what kind of gliss you want: a scale or a chord. Through enharmonics, glissandi can have all 7 strings sound like 4 or 5 pitches, thus creating chords. There are three main methods to specify the pitches for a glissando:

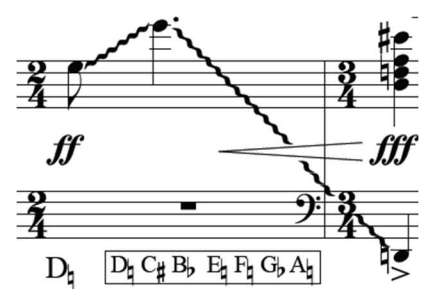
1. show all pitches



2. Use a pedal chart

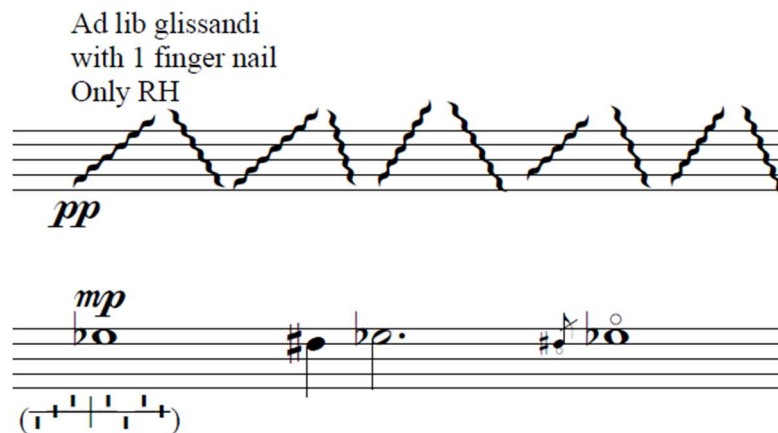


3. List all pedals (In order!)



It is also important to consider speed and range with glissandi. Most glisses sound better faster and with three or more octaves worth of strings. For a short range gliss to sound good it has to be very fast, more like a strum. A slow gliss of an octave or two will be easier as a scale.

Rather than highly specific gliss notation, harpists are quite comfortable with a marking of ad lib and then making up their own glisses.



V. Pedals and parts

Important! There are two main styles of pedal notation, originally standardized by Carlos Salzedo and Marcel Grandjany. Even though these two styles conflict and disagree, harpist are able to read both. The important thing is not what style you use, but that whatever guidelines you use are followed *consistently*. It is less important whether you put pedals in the middle or underneath. It is more important that they are *always* in the same place so we know where to find them!

I am trained in the Salzedo style so I will be explaining that method the same way I teach my young harp students how to read and put in pedal notation.

Pedal guidelines:

1. The absolute best place for pedal changes to happen is during bars of rest.
2. When we do need to move pedals while playing, the pedal change should happen on the same beat as they are needed. This helps with memorization. If I am about to change my F pedal to an F-sharp, I should also have my hand about to play that F-sharp. This way our pedals have an instant correlation to what we are playing, and if we miss a pedal we know it instantly.
3. We can only move one pedal per foot at a time. When using both feet the right foot pedal goes above the left foot pedal. If a third pedal is needed on the same beat, then we can change one a beat or two early instead. In some highly chromatic music we will prepare pedals very early, but we generally try to avoid that.
4. Think of moving pedals like choreography: The most basic dances involve stepping exactly on major beats. Pedals should be done and written in the same way whenever possible. Write your pedal changes on exact beats, preferably major beats but subdivisions are ok. Pedals should not be underneath barlines, or on a sixteenth note.
5. Pedals belong underneath the bottom staff. Reasons – Above the top staff is reserved for tempo markings. In between the staves is reserved for expressive text and dynamics. Nothing already uses the space below the bottom staff, so nothing gets in the way of the pedals. Also other instruments that have pedals have their pedal markings underneath (piano, organ, vibraphone, etc.)
6. Please have your pedals the same size as your dynamics or slightly larger!



Bartok 43-59

CfO mvt 4

Bela Bartok

Edited Joseph Rebman

Harp

f

Hp.

6

G# D
F_b
A_b C_b
E_b B
A C
F D
G

Pedal diagrams are mostly used for reference. They do *not* replace writing in individual pedals.

To help you remember the order of the pedals you can think:

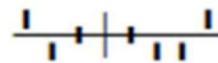
Did Columbus Bring Enough Food Going-to America

Then like a phone number without an area code, write them as DCB-EFGA.

The center vertical line represents the division between the feet. The horizontal line represents the middle position (natural). Above the line is the top position (flat) and below the line is the bottom position (sharp).

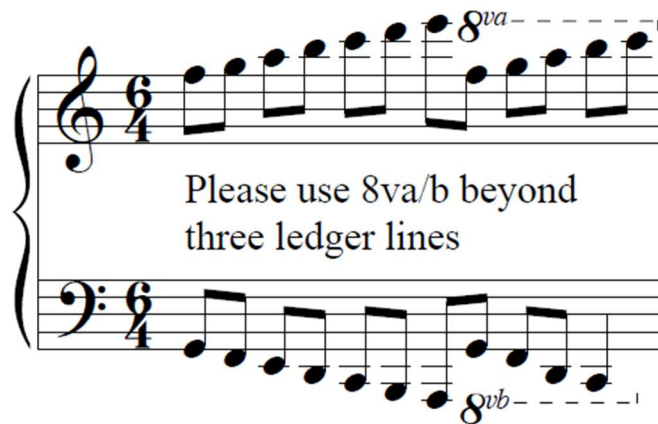
If you use Finale you can type in pedal diagrams using the following:

1. Use the font "Engraver Text T, H, or NCS"
2. O – flat, o – natural, p – sharp, and P – middle line
3. As an example, OpoPoppO becomes



Things to consider when creating a harp part:

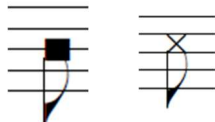





1. Good page turns are very important. Harpists can only turn the page with their left hand. Depending on the speed of the music, our left hand needs at least a beat or two to turn a page.
2. Harpists are typically not fluent with ledger lines. 8va and 8vb are far easier to read.

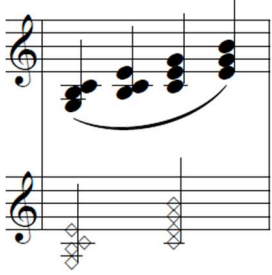
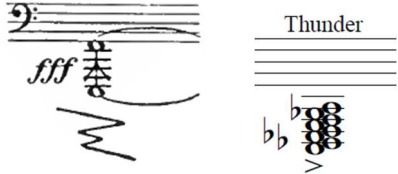


3. When writing orchestral harp parts, I suggest always utilizing both hands unless it is a delicate, exposed part. The best way the harp can project is having as many strings ringing as possible. Easy ways to do this are filling out chords or doubling passages in octaves with both hands.


VI. Extended Techniques – no tools

These effects were largely discovered by Carlos Salzedo and Bernard Andres. Each of them have extensive writings on these effects if you would like to learn more. A wonderful online encyclopedia of harp effects was created by Gunnhildur Einarsdóttir, which I highly recommend: <http://sites.siba.fi/en/web/harpnotation>

Effect Name	Description	Notation
Drumming/Knocking	Hand against wood. Different Timbre based on location and hand shape. Knuckles, fingertips, or palm. Back of harp, high or low on soundboard.	
Gong	Open-palm slap of strings, most effective on bass wires. Muddy cloud.	
Vibrato	Press on string above nut to change pitch. Most effective on highest strings. Works best in flat, generally inaudible in natural or sharp.	
Bartok Piz	Slam finger into soundboard after plucking. Don't use too much in a row, can hurt. If possible, use a pluck paired with a knock in the other hand.	Same as Bartok Piz for strings.
Pedal Slide/Gliss	Move pedal while string is vibrating. Timbre varies by speed. Abrasive. Slower slides produce overtones.	
Metalic Quarter-tone	Holding a pedal halfway between notches. loud buzz, best in bass wires.	
Non-standard harmonics.	Octave plus 5 th and two octave available. Effective in the bass staff range. Create many overtones.	

Xylophone	Press on strings at board with LH. Muted, round sounds like a Xylo.	
Thunder	Low gliss hard enough to cause strings to hit each other. Loudest effect.	

VII. Extended Techniques – tools or prep needed

Effect Name	Description	Notation
Key slide	Press tuning key or something similar against string. Pluck with finger and slide key. True glissando, large slides available.	Like a gliss, specify string and how far to slide.
Metalic Gliss (Spoons)	Gliss using something metallic. Spoons work quite well. Loud and abrasive.	Regular gliss, say metallic.
Prepared harp: Con Sordino	Weaving a piece of paper or felt into the harp. Different materials give different timbres.	Specify range and give plenty of time if done in middle of piece. Can be removed very quickly.
Prepared harp: Tuning fork	Place a tuning fork on the soundboard, hanging on a string. Fork vibrates when that string is plucked.	English.
Harp picks	Large felt picks are used by harpists for loud glissandi, and to save fingertips during rehearsals. Can specifically be used for pieces.	Standard gliss notation, just specify “with picks”.
Fingernails	Fingernails can be used to pluck strings, and also for glissandi. Classical harpists keep their nails short, so will need time to specifically grow them out.	

I am available for bookings as a guest artist to present this lecture, perform 20th and 21st century harp music, masterclasses, and more! Happy composing!

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