Recordings:

On Compact Disks:

*Virtual Gamelan*, 2006, *Albany Records*, TROY874 (also at TF)
“Glassminute” on *60 x 60, A Slice of the Scene*, 2007, *Vox Novus*, VN-001

On Phonograph Records:

“Glassminute” on *Europe Endless*, Ramco Records (1993)

Commissions:

details below

- *Tala Malika Jak* (2005)

Compositions by Instrumentation:
(Index by Instrumentation, Linked to Alphabetical List of Descriptions Below)

Orchestra, Wind, Strings, Percussion, Vocal, Computer Music

Orchestra:
1. *Burlesque* (Chamber Orchestra)
2. *Temple of the Dancing Cascade* (Orchestra)
3. *In the Throne Room of the Mountain Spirits* (Orchestra)

Wind Instruments:

Flute (and Piccolo, Alto Flute and Bass Flute):
- *Ansikten* (Piccolo/Flute/Alto Flute/Bass Flute solo)
- *Calligraphy of Shadows*
- *Caprice in Marava* (Alto Flute)
- *The Chalky Desert Where Nothing Grows* (with Soundscape)
- *Dreams from the Shadow Lands* (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
- *Eastern Bagatelles* (Alto Flute)
- *Island of Marava*
• **Mountain of the Blue Wind** (up to 16 Flutes: 8 C Flutes, 2 Piccolos, 4 Alto Flutes, 2 Bass Flutes and Soundscape)
• **Mountain of the Fire Wind** (solo Flute and Soundscape)
• **Ombres Chinoises** (Flute, Viola and Marimba)
• **Ombres de la Pluie et de la Neige** (Piccolo/Alto Flute solo)
• **Ombres des Nuages** (Flute/Alto Flute/Bass Flute solo)
• **Ombres du Feu** (2 Piccolos and Bassoon)
• **Ombres du Vent** (Flute duet)
• **Pears** (Flute, Clarinet, Violin, Cello, Percussion)
• **Pears** (Flute/alto flute/ceramic flute and Cello/rice bowls)
• **Photo** (Flute, Clarinet and Saxophone)
• **Shadow Calligraphy**
• **Suyun Gölgeleri** (Alto Flute)
• **Temple of the Dancing Cascade** (2 Flutes, 2 Bassoons and 2 Percussion)
• **Temple of the Fire-Wind** (9 Flutes)
• **Time’s Graffiti: Lucky Calligraphy** (Flute and Soundscape)
• **Wild Herons** (Flute duet with Soundscape)

**Native American Flute:**
• **Great Spirit Song** (Treble choir, optional Native American Flute and Soundscape)
• **Rock Art in the Dream World** (Native American flute, Didgeridoo and Soundscape)

**Chinese Flutes:**
• **Lips of Stone** (Xun and DVD Soundscape)
• **In the Throne Room of the Mountain Spirits** (Xun and Soundscape)
• **Ghost Shadow in Fragile Light** (Chinese flutes (Dizi, Xiao, Xun and Paixiao), Erhu, Pipa, Zheng, Yangqin and Soundscape)
• **Ghost Shadow in the Fragile Light of Dawn** (solo for Chinese flutes (Dizi/Xun/ Paixiao) and Soundscape)

**Tin Whistle:**
• **Belfast Botanical Birds** (Tin Whistle and Soundscape)

**Clarinet:**
• **Dreams from the Shadow Lands** (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
• **Eastern Bagatelles**
• **Eggs**
• **Fireflies** (Alto and Clarinet)
• **Ombres des Nuages**
• **Ombres des Feuilles, Ombres des Fleurs** (Clarinet, Bassoon, Marimba, Viola)
• **Pears** (Flute, Clarinet, Violin, Cello, Percussion)
• **Photo** (Flute, Clarinet and Saxophone)
• **Suyun Gölgeleri**

**Oboe:**
• **Dreams from the Shadow Lands** (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
• **Edges** (Oboe, Oboe d'amore, English horn and Bassoon quartet)
• **Suyun Gölgeleri** (English horn)
Bassoon:
- Dreams from the Shadow Lands (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
- Edges (Oboe, Oboe d'amore, English horn and Bassoon quartet)
- Hot Breath of Wind
- Ombres des Feuilles, Ombres des Fleurs (Clarinet, Bassoon, Marimba, Viola)
- Ombres du Feu (2 Piccolos and Bassoon)
- Other Waters (French Bassoon)
- Temple of the Dancing Cascade (2 Flutes, 2 Bassoons and 2 Percussion)

Saxophone:
- Photo (Flute, Clarinet and Saxophone)

Trumpet:
- Eggs
- Portrait

Trombone:
- Dreams from the Shadow Lands (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)

Didgeridoo:
- Rock Art in the Dream World (Native American flute, Didgeridoo and Soundscape)

String Instruments:

String Quartet:
- Dangerous Places
- In the Throne Room of the Mountain Gods

Violin:
- Butterfly Stir Fry (violin and Soundscape)
- Eastern Bagatelles
- Dreams from the Shadow Lands (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
- Pearls (Flute, Clarinet, Violin, Cello, Percussion)
- Suyun Gölğeleri

Viola:
- Dreams from the Shadow Lands (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
- Eastern Bagatelles
- Ombres Chinoises (Flute, Viola and Marimba)
- Ombres des Feuilles, Ombres des Fleurs (Clarinet, Bassoon, Marimba, Viola)

Cello:
- Dreams from the Shadow Lands (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
- Eastern Bagatelles
• **Pearls** (Flute, Clarinet, Violin, Cello, Percussion)
• **Pearls** (Flute/alto flute/ceramic flute and Cello/rice bowls)

**Bass:**
• **Dreams from the Shadow Lands** (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)

**Guitar:**
• **Étude Détempérée**

**Harp:**
• **Dreams from the Shadow Lands** (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)

**Pipa:**
• **Ghost Shadow in Fragile Light** (Chinese flutes (*Dizi*, *Xiao*, *Xun* and *Paixiao*), *Erhu*, Pipa, Zheng, *Yangqin* and Soundscape)

**Zheng:**
• **Ghost Shadow in Fragile Light** (Chinese flutes (*Dizi*, *Xiao*, *Xun* and *Paixiao*), *Erhu*, Pipa, Zheng, *Yangqin* and Soundscape)

**Erhu:**
• **Butterfly Stir Fry** (*Erhu* and Soundscape)
• **Ghost Shadow in Fragile Light** (Chinese flutes (*Dizi*, *Xiao*, *Xun* and *Paixiao*), *Erhu*, Pipa, Zheng, *Yangqin* and Soundscape)

**Yangqin:**
• **Ghost Shadow in Fragile Light** (Chinese flutes (*Dizi*, *Xiao*, *Xun* and *Paixiao*), *Erhu*, Pipa, Zheng, *Yangqin* and Soundscape)

**Percussion:**
• **Dreams from the Shadow Lands** (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
• **Ombres Chinoises** (Flute, Viola and Marimba)
• **Ombres de la Lune** (Helix Song)
• **Ombres des Étoiles** (Percussion duet)
• **Ombres des Feuilles, Ombres des Fleurs** (Clarinet, Bassoon, Marimba, Viola)
• **Ombres des Toiles d’Araignées** (Marimba)
• **Pearls** (Flute, Clarinet, Violin, Cello, Percussion)
• **Temple of the Dancing Cascade** (2 Flutes, 2 Bassoons and 2 Percussion)
• **Theme and Improvisations for Woodstock Gamelan** (Woodstock Gamelan)

**Gamelan:**
• **Merapi** (Gamelan and Soundscape)
Vocal:

Alto/Mezzo Soprano:
• *Another Victim Found in Rubble* (Alto solo)
• *Fireflies* (Alto and Clarinet)
• *The Sand Child* (Mezzo-Soprano and Soundscape)

Choir:
• *Dreams from the Shadow Lands* (2 Sopranos, 2 Altos, 2 Tenors, 2 Basses and Soundscape)
• *Dreams from the Shadow Lands* (Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass)
• *Great Spirit Song* (Treble choir, optional Native American Flute and Soundscape)

Computer Music:
• *Ah*
• *Appetizer*
• *Balinese*
• *Belfast Botanical Birds* (Tin Whistle and Soundscape)
• *Bioluminescence*
• *Brassoufflé*
• *Butterfly Stir Fry* (*Erhu* or Violin and Soundscape)
• *CatJak*
• *The Chalky Desert Where Nothing Grows* (with Soundscape)
• *Companion of Strange Intimacies*
• *Deep Structure of Chinese Culture*
• *Dreams from the Shadow Lands* (2 Sopranos, 2 Altos, 2 Tenors, 2 Basses and Soundscape)
• *Electronic: Humorous, Tense and Suite*
• *Faraway Voices*
• *Five Spice Rice*
• *Ghost Shadow in Fragile Light* (Chinese flutes (*Dizi, Xiao, Xun* and *Paixiao*), *Erhu, Pipa, Zheng, Yangqin* and Soundscape)
• *Ghost Shadow in the Fragile Light of Dawn* (solo for Chinese flutes (*Dizi/Xun/Paixiao*) and Soundscape)
• *Ghost Winds Talking*
• *Glass-chi*
• *Glassminute*
• *Great Spirit Song* (Treble choir, optional Native American Flute and Soundscape)
• *In the Throne Room of the Mountain Spirits* (*Xun* and Soundscape)
• *Kaleidoscope*
• *Lips of Stone* (*Xun* and DVD Soundscape)
• *Live and in ... PURPLE!*
• *Merapi* (Gamelan and Soundscape or Soundscape without gamelan)
• *Mountain of the Blue Wind* (up to 16 Flutes: 8 C Flutes, 2 Piccolos, 4 Alto Flutes, 2 Bass Flutes and Soundscape)
• *Mountain of the Fire Wind* (solo Flute and Soundscape)
• *Nineteen*
• *Nostalgia Strata*
• *Paté*
• *Pendopos*
• *Prime*
• *Prime Gongs*
• **Rock Art in the Dream World** (Native American flute, Didgeridoo and Soundscape)
• **The Sand Child** (Mezzo-Soprano and Soundscape)
• **Tala Malika Gongs**
• **Tala Malika Jak**
• **Time’s Graffiti: Lucky Calligraphy** (Flute and Soundscape)
• **Why Ask Questions**
• **Wild Herons** (Flute duet with Soundscape)
• **Yazi’s Dream**

**Miscellaneous:**

• **French Curves** (any solo instrument)

**Alphabetical Index of Compositions:**

_Ah_ (1993) - Soundscape (*3:55 minutes*) [algorithmically-generated tape of Andrew Horner's voice, processed using adsyn, linear predictive coding, comb filters and some synthesized sounds]

_Another Victim Found in Rubble_ (1986) - Alto Singer (solo) (*7 minutes*) [dramatic piece which begins with the singer running onto the stage, fleeing an unknown "something." She is a bag lady, carrying her shopping bag full of her broken belongings. The music employs stylistic changes, extended vocal techniques and changes from timeless to metered time to represent the emotional states of a woman who no longer belongs to the society around her.]

_Ansikten_ (1975) - Alto flute/Piccolo/Bass flute/Flute solo (*9:49 minutes*) [four lyrical movements representing the faces of water, fire, earth and wind, inspired by short, haiku-like poems about the four elements. The flute timbres and modal scales chosen for the sections suggest those elements, and the high flute harmonics in the last section particularly suggest the ethereal quality of the air and clouds.]

_Appetizer_ (1995) - Soundscape (*1:00 minute*) [microtonal; algorithmically composed in slendro using the flute design with multi-effect processing from _Cooking with Csound_ and the Woodstock Gamelan; on _Virtual Gamelan_ CD] [tuning chart]

_Balinese_ (1993) - Soundscape (*3:00 minutes*) [microtonal; uses a variety of Balinese tunings generated with an algorithm in a quasi-Balinese style; on _Virtual Gamelan_ CD]

_Belfast Botanical Birds_ (2008) - Tin Whistle and Soundscape (*5:22 minutes*) [accompanied by synthesized dream birds and recorded real birds, people and dogs]

_Bioluminescense_ (1990) - Soundscape (*7:00 minutes*) [silvery; uses Indian tunings and Partch tunings up to the 23-limit; on _Virtual Gamelan_ CD]

_Brassoufflé_ (1995) - Soundscape (*3:17 minutes*) [microtonal; algorithmically generated; uses brass designs (trumpet, trombone, horn and tuba with various mutes) with multi-effect processing from _Cooking with Csound_ using a _utonality_ of 19.] [tuning chart]

_Burlesque_ (Version 3, 2009) - Chamber Orchestra: Flute, Oboe, Clarinet, Bassoon, Harp, Marimba/Vibraphone, Timpani, Violin 1, Violin 2, Viola, Cello and Bass (*6 minutes*) [The title
is a bit of a tease, suggesting its comical musical material, and its off-color origins, where a
woman of the street leads a young soldier to an amorous encounter.]

- **Burlesque (Version 2, 2008)** - Chamber Orchestra: Flute, Oboe, Clarinet, Bassoon,
  Harpsichord, Violin 1, Violin 2, Viola, Cello and Bass (6 minutes)
- **Burlesque (Version 1, 1973, revised 2009)** - Flute, Alto flute, Oboe, Clarinet, Bassoon,
  Harpsichord, Violin, Viola and Bass (6 minutes) [based on Scene 1 from *La Ronde*, by
  Arthur Schnitzler]

**Butterfly Stir Fry** (Version 2, 2005) - Violin and Soundscape (6:15 minutes) [accompanyed by processed
recordings from *Madama Butterfly* and other recordings about butterflies, and synthesized
Chinese instruments; inspired by Chuang Tzu’s famous Taoist dream about whether he was a
butterfly]
- **Butterfly Stir Fry** (Version 1, 2005) - Erhu (Chinese two-string fiddle) and Soundscape

**Calligraphy of Shadows** (2008) - Flute (2:20 minutes) [slow, reflective prelude using a collage of
various snippets from the slow movements of my other flute music]

**Caprice in Marava** (1982) - Alto Flute (5:20 minutes) [modal and lyrical; inspired by Indian music and
the melody is based on the Indian *Raga Marava*. The first section is an alap, unmetered slow
section, with various timbres in a computer music drone based on the *Marava* scale. The second
section is a faster, ever-changing stream of melody flowing in various moods and meters, such
as 5/4, 8.5/4, 4.5/4, etc. The computer music accompaniment, added in 2006, includes
didgeridoo, tabla and gamelan, chosen to add rhythm and drones behind the flute.] CN FW

**CatJak** (2005) - Soundscape (4:25 minutes) [a sequel to *Tala Malika Jak*, inspired by Indonesian *kecak*,
uses cat samples and a few birds, dogs and monkeys; on *Virtual Gamelan* CD]

uses microtones and multiphonics; and has the character of the subtle shimmer of the heat of the
desert and motion within motionless. Robert Dick once suggested improvising on just the notes
B and C#. The richness in microtones and multiphonics of this area of the flute inspired me
to compose a solo flute piece using this idea. The soundscape uses synthesized ghost voices, Native
American flutes, didgeridoo, Tuvan throat singing and rattlesnakes.] CN FW

**Companion of Strange Intimacies** (1990) - Soundscape (2:41 minutes) [microtonal; on *Virtual
Gamelan* CD]

**Dangerous Places** (1985) - String Quartet (12 minutes) [Mysterious Flowers, Hallucinations, Venomous
Snakes, Scorpions and Tarantulas, Canyons of Fire, Glass Cliffs, Destroying Angels; concise,
"photographic" movements, with a strange tension with lyricism, inspired by the extraordinary
beauty of the wilderness and deserts of the western United States; portamenti on artificial
harmonics, slow portamenti played with paper threaded through the strings, shifting rhythms and
ominous harmonic material from the 12-tone row derived from *Raga Dipak*.]

(30:00 minutes) [microtonal; algorithmically composed adding multi-effect processing to
Chinese voices and Chinese computer instrument designs for *dizi, xiao, erhu, pipa* and gong;
commissioned by Danny Yung for a Zuni Icosahedron installation art exhibition in February
1996]

**Dreams from the Shadow Lands** (Version 2, 1994) - 2 Sopranos, 2 Altos, 2 Tenors, 2 Basses and
Soundscape (20 minutes) [environmental text with extended vocal techniques using processed
environmental sounds and algorithmically-generated synthesized sounds; tuning systems include a 13-tone equal temperament and just tunings of a 13-utonality and a 12-otonality]

- **Dreams from the Shadow Lands** (Version 1, 1985) - Soprano, Alto, Tenor, Bass, Flute, Clarinet, Oboe, Bassoon, Trombone, Harp, 2 Percussion, Violin, Viola, Cello and Bass (25 minutes) [environmental text with extended vocal techniques]

**Eastern Bagatelles** (1982) - Violin (4 minutes) [short, lyrical movements inspired by one of my youthful romantic poems, with melodic modes, textures and rhythms in the seven short bagatelles inspired by Asian musical flavors.]
- **Eastern Bagatelles** (2009) - alternate version for Alto Flute
- **Eastern Bagatelles** (2009) - alternate version for Cello
- **Eastern Bagatelles** (2009) - alternate version for Clarinet in Bb
- **Eastern Bagatelles** (2009) - alternate version for Viola

**Edges** (1988) - quartet for Oboe, Oboe d'amore, English horn and Bassoon (7 minutes) [microtonal and uses multophonics]

**Eggs** (1975) - Trumpet (7 minutes) [whimsical. The first movement is very slow and lyrical, the second has staccato scurrying flurries, and the third, echoing the first, is lyrical again, but a bit faster. The tempos and rhythm are very free, with ornamental flourishes suggesting painted decorations on dyed eggs.]
- **Eggs** (2009) - alternate version for Clarinet in Bb

**Electronic: Humorous, Tense and Suite** (1993) Soundscape (15:41 minutes) [suite of Companion of Strange Intimacies, Glassminute, Prime, Balinese and Bioluminescence]

**Étude détempérée** (1986) - Guitar (6 minutes) [very delicate, microtonal piece, played on the fretboard, which defeats the tempered fretting system of the guitar. When the player plays a particular note, a different microtonal note results depending on which string he or she plays it on.]

**Faraway Voices** (1984/2003) Soundscape (5:30 minutes) [two voice-like studies (5:00 and 7:00 minutes), created on the Buchla analog system at California Institute of the Arts; remixed into one piece in 2003]

**Fireflies** (1987) - Alto and Clarinet (8 minutes) [settings of seven very short poems by Rabindranath Tagore, with a few clarinet multophonics. The sonorities of the alto and clarinet and their ornamentation transform each section of Fireflies with delicate colors and textures of sound much as the colors of lights from fireflies at night.]

**Five Spice Rice** (1995) - Soundscape (3:46 minutes) [microtonal; algorithmically composed using five 13-tone scales (13-tone equal temperament, 13-otonality, 13-utonality, Mayumi and inversion of Mayumi), with the saxophone and trombone designs with multi-effect processing from Cooking with Csound, and soprano, crystal flutter and crystal bell designs] [tuning chart]

**French Curves** (1985) - any solo instrument (30 seconds) [humorous one-page graphic piece; some techniques are more characteristic of string instruments]

**Ghost Shadow in the Fragile Light of Dawn** (Version 2, 2007) - solo for Chinese flutes (dizi/xun/paixiao) and Soundscape (8:00 minutes) [fragile sounds in the recording create a strange illumination surrounding a shadow orchestra from east and west]
- **Ghost Shadow in Fragile Light** (Version 1, 1999) - Chinese flutes (Dizi, Xiao, Xun and Paixiao), Erhu, Pipà, Zheng and Yangqin and Soundscape (8:00 minutes) [in just intonation]
**Ghost Winds Talking** (2007) - Soundscape (5:02 minutes) [based on the melodious wind whistling across the edge of the bathroom window like a giant flute, and synthesized ghost voices of Harry Partch, Nadia Boulanger, Aaron Copland and Lou Harrison]

**Glass-chi** (1993) - Soundscape (11 minutes) [uses computer processing of a rubbed crystal glass sound and synthesized glass and voice sounds; the word "glass-chi" means glass energy]

**Glassminute** (1992) - Soundscape (1:00 minute) [uses linear predictive coding analysis of a rubbed crystal glass sound; gets transformations of the timbre into male vocal sound by transposition into very low register; on *60 x 60, A Slice of the Scene*; on *Deep Wireless 5*; on *PhonoPhoto 6*]

**Great Spirit Song** (2006) - for Treble Choir, optional Native American Flute and Soundscapes (8:56 minutes) [setting of a native American prayer to the Great Spirit in pentatonic scales of four native American flutes; this piece has five short sections, honoring the Spirits of the North, East, South and West and concluding with the Earth and Sky together. The soundscapes include synthesized additional native American flutes and drums, and birds and animals from the locations in the sections; commissioned by the Hong Kong Composers’ Guild]

**Hot Breath of Wind** (1988) - Bassoon (20 minutes) [virtuosic; microtonal, using 11 Indian ragas and many multiphonics; commissioned by April Chapman; computer-generated version using Csound model of bassoon in 1997]

**In the Throne Room of the Mountain Spirits** (Version 3, 2009) - Orchestra (6:10 minutes) [The southwest of the United States contains particularly beautiful landscapes. In the native American traditions, these landscapes are full of “spirit” which you can sense if you spend some time in silence.]

- **In the Throne Room of the Mountain Spirits** (Version 2, 2007) - Xun and Soundscape (6:10 minutes) [includes a virtual Chinese orchestra morphing to spirit-voices]
- **In the Throne Room of the Mountain Gods** (Version 1, 1987) - String Quartet (6:10 minutes) [virtuosic; microtonal, Partch system to the 11-limit]

**Island of Marava** (1983) - Flute (4:11 minutes) [lyrical, inspired by the Indian raga Marava, mildly microtonal, contains easy multiphonics]

**Kaleidoscope** (1995) - Soundscape (4:03 minutes) [microtonal; pitch and timbre algorithmically generated using a random walk on two sets of intervals. In the last section, the scale array forms an *otonality* microtonal scale (part of an overtone series).] [tuning chart]

**Last Cry of the Wild Herons** - see *Wild Herons*

**Lips of Stone** (2008) - Xun in D and DVD soundscape (2:46 minutes) [accompained by poem, recorded birds and DVD of Bryce Canyon images; we all know the story of the birds and the bees... interesting how close bird sounds can come to human sounds...]

**Live and in ... PURPLE!** (2009) - Soundscape (9:40 minutes) [Even in my earliest memories, my mother wore only one color, purple. When she was 80, we recorded a tapestry of stories about her life, from the story of purple, to the mischief she got into as a girl, through her romances, children, poetry, involvement in the environmental movement and love of cooking. In the background, the clock marked time at striking moments as she spoke.]
**Merapi** (1995) - for Gamelan and Soundscape or Soundscape without Gamelan (15:00 minutes) [microtonal; algorithmically-generated; the computer uses and inflects the slendro and pelog tunings of the live gamelan, if the tuning information is available; on Virtual Gamelan CD] [tuning chart]

**Mountain of the Blue Wind** (Version 4, 2006) - up to 16 flutes: 8 C Flutes, 2 Piccolos, 4 Alto Flutes, 2 Bass Flutes, accompanied by a Soundscape (7:13 minutes) [virtuosic; dramatic microtonal piece using intense multiphonics, buzz tones and other extended flute techniques]
- **Mountain of the Fire Wind** (Version 3, 2006) - solo Flute version of **Mountain of the Blue Wind**, with 16 synthesized flutes in Soundscape (7:13 minutes) [virtuosic; dramatic microtonal piece using intense multiphonics, buzz tones and other extended flute techniques] CN FW
- **Temple of the Fire-Wind** (Version 2, 1985) - 9 Flutes (7:13 minutes)
- **Temple of the Fire-Wind** (Version 1, 1982) - 9 Flutes (7:13 minutes)

**Nineteen** (1994) - Soundscape (3:20 minutes) [algorithmically generated, using a nineteen-tone-per-octave utonality microtonal scale] [tuning chart]

**Nostalgia Strata** (1995) - Soundscape (formerly called Ginger Gypsy Soup) (5:13 minutes) [microtonal; algorithmically composed adding multi-effect processing to veil the quotations from Bach, Berlioz, Debussy, Dukas, Dvorak, Mahler, Strauss and Stravinsky which illustrate the woodwind and brass designs in Cooking with Csound]

**Ombres Chinoises** (1974) - Flute, Viola and Marimba (8 minutes) [I, from Ombres Délicates group, inspired by my father's shadow puppets. The first section has a lot of short quick notes, staccato, pizzicato and marimba. The second section is slow and fragile, without a metered sense of rhythm, and the flute and marimba players imitate the viola by bowing the marimba. The third section is quite fast and whimsical]

**Ombres de la Lune** (1977) - Helix Song (12 minutes) (The Helix Song is a microtonal percussion instrument invented by Erv Wilson, made of tuned electrical pipes) [computer-generated version in 1998; on Virtual Gamelan CD] [VI, from Ombres Délicates group]

**Ombres de la Pluie et de la Neige** (1977) - Piccolo/Alto Flute (5:09 minutes) [X, from Ombres Délicates group, piccolo in the atonal fast first section (the pattering of the Rain) and alto flute in the modal slow second section (the slow flakes of Snow)] CN FW

**Ombres des Étoiles** (1977) - Percussion duet (5 minutes) [VII, from Ombres Délicates group]

**Ombres des Feuilles, Ombres des Fleurs** (1977) - Clarinet, Bassoon, Marimba, Viola (2 minutes) [VII, from Ombres Délicates group, modal]

**Ombres des Nuages** (1976) - (7:30 minutes) [V, from Ombres Délicates group. The contrasting colors used in this piece suggest clouds and the shadows they cast on the ground.]
- 1976 version for clarinet in Bb TF
- 2007 version for flute/alto flute/bass flute FW

**Ombres des Toiles d'Araignées** (1977) - Marimba (4 minutes) [III, from Ombres Délicates group, whimsical; on Virtual Gamelan CD]

**Ombres du Feu** (1977) - 2 Piccolos and Bassoon (2 minutes) [II, from Ombres Délicates group. In this short humorous piece, small melodic cells continually shift their accents in swirling cross rhythms as the two piccolos flicker like fiery shadows around the bassoon]
**Ombres du Vent** (1976) - Flute duet (3:45 minutes) [IX, from Ombres Délicates group. Microtonal differences between close harmonics in the Moderato section cause audible difference tones. The Allegro Assai is a lilting and syncopated section in changing, asymmetrical meters. The Slow section seems to conclude with a sigh]  
CN FW TF

**Other Waters** (1986) - French Bassoon (7 minutes) [microtonal, contains multiphonics]

**Paté** (1995) - Soundscape (2:42 minutes) [just intonation chorale using brass designs (trumpet, trombone, horn and tuba with various mutes) from Cooking with Csound; six versions, each tuned differently: two versions in just intonation, one in pelog, one in meantone, one in 12-tone equal temperament and one in 26-tone equal temperament]

**Pearls** (Version 3, 2009) - Flute, Clarinet, Violin, Cello, Percussion (10 minutes) [virtuosic; microtonal with multiphonics and other extended techniques; about free-diving pearl fishers, using distorted voices, instruments and sea birds; “energetic cacophony and an attractive otherworldliness” – Allan Kozinn, New York Times]  
• Pearls (Version 2, 1991) - Flute, Clarinet, Violin, Cello, Percussion (10 minutes) [virtuosic; microtonal with multiphonics and other extended techniques]  
• Pearls (Version 1, 1984) - Flute/Alto Flute/Ceramic Flute and Cello/Rice Bowls (10 minutes) [virtuosic; microtonal with flute multiphonics, extended cello techniques and some extended vocal techniques]

**Pendopos** (2000) - Soundscape (4:26 minutes) [in just intonation in gamelan style using Woodstock gamelan, Risset gongs and birds recorded in Bali; on Virtual Gamelan CD]

**Photo** (1986) - Flute, Clarinet and Saxophone (5-10 minutes) [performers choose from four to seven of a group of short variations with optional doubling; all parts contain multiphonics; difficulty of variations ranges from easy to virtuosic]

**Portrait** (1986) - Trumpet (10 minutes) [virtuosic; contains overtone-based multiphonics and vocal articulations]

**Prime Gongs** (2006) - Soundscape (2:15 minutes) [uses prime number ratios in gong and glide instruments; gets transformations of the timbre from inharmonic relationships and registral change; this new version of Prime uses gong timbres in place of plucked timbres; on Virtual Gamelan CD]  
• Prime (1992) - Soundscape (2:00 minutes) [uses prime number ratios in pluck and glide instruments; gets transformations of the timbre from inharmonic relationships and registral change]

**Rock Art in the Dream World** (2007) - Native American flutes (high and low E), Didgeridoo in E and Soundscape (7:56 minutes) [with synthesized alter egos of the two performers, and real and synthesized birds and rock tapping]

**The Sand Child** (1994) - solo opera for Mezzo-soprano and Soundscape (35 minutes) [adaptation of novel The Sand Child by Tahar ben Jelloun; microtonal, using Arabic tunings; commissioned by Isabel Ganz]

**Scene 1** (see Burlesque)

**Shadow Calligraphy** (2008) - Flute (1:20 minutes) [flashy, encore-style collage of various snippets from the fast movements of my other flute music]
**Suyun Gölgeneri** (1976) - Alto Flute solo (4:23 minutes) [VIII, from *Ombres Délicates* group, [lyrical, in a very slow, soft, and melancholy, quasi-Middle Eastern style]  
* Suyun Gölgeneri (2009) - alternate version for Clarinet in Bb  
* Suyun Gölgeneri (2009) - alternate version for English Horn  
* Suyun Gölgeneri (2009) - alternate version for Violin

**Tala Malika Gongs** (2006) - Soundscape (6:40 minutes) [inspired by Indonesian kecak, but uses Indian and Middle Eastern rhythms; where the *Tala Malika Jak* version of this piece emphasized the rhythms of vocal samples, this new gong version emphasizes the pitches derived from the vocal samples in the earlier version; on *Virtual Gamelan* CD]

**Tala Malika Jak** (2005) - Soundscape (6:40 minutes) [inspired by Indonesian kecak, uses cak samples in Indian and Middle Eastern rhythms; commissioned by South Indian Dancer Siri Rama; on *Virtual Gamelan* CD]

**Temple of the Fire-Wind** - (see *Mountain of the Blue Wind*)

**Temple of the Dancing Cascade** (Version 2, 2010) - Orchestra (10:15 minutes) [a micro-ballet in 4 scenes; begins in a quasi-gamelan style, then moves into a fiery Middle Eastern dance, followed by a slower pas de deux, and concludes with a fight with the demon of destruction in interrupted meters]  
* Temple of the Dancing Cascade (Version 1, 1982) - 2 Flutes, 2 Bassoons and 2 Percussion (10:15 minutes)

**Theme and Improvisations for Woodstock Gamelan** (1992) - Woodstock Gamelan (5-20 minutes) [improvisations using quasi-Balinese themes; 9-minute computer-generated version (1998) using Csound model of Woodstock Gamelan; on *Virtual Gamelan* CD]

**Time’s Graffiti: Lucky Calligraphy** (2006) - Flute and Soundscape (5:10 minutes) [Petroglyphs, The Dancing Figure, Blue Rain, Raining on the Dancing Figure; multiphonics, middle eastern and blues; commissioned by The National Flute Association, Inc.]  
* Why Ask Questions (1996) - concert version of (and formerly called) *Deep Structure of Chinese Culture* for Soundscape (9:00 minutes) [microtonal; algorithmically composed adding multi-effect processing to Chinese voices and Chinese computer instrument designs for *dizi, xiao, erhu, zheng* and *qing*] [tuning chart]

**Wild Herons** (Version 2, 2008) - Flute duet and Soundscape (8:33 minutes) [fluttery extended flute techniques suggest the sounds and movements of birds and the recorded soundscape includes sampled herons along with synthesized herons, flutes and voices that morph together]  
* Wild Herons (Version 1, 1971) Flute duet [under the title *Last Cry of the Wild Herons*] (8:33 minutes)

**Yazi’s Dream** (2003) - Soundscape (7:00 minutes) [cat accompanied by birds, environmental sounds and synthesized Chinese flutes (*dizi, xiao, xun* and *paixiao*) and percussion (Buddha gongs and *qing*) in just intonation]
Indicated works are available from the following sources:

<table>
<thead>
<tr>
<th>Title or Key:</th>
<th>Links to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>Carolyn Nussbaum Music Company  (sheet music)</td>
</tr>
<tr>
<td><em>Cooking with Csound</em></td>
<td>AR Editions  (book)</td>
</tr>
<tr>
<td><em>Deep Wireless 5</em></td>
<td>New Adventures in Sound Art  (CD)</td>
</tr>
<tr>
<td>FW</td>
<td>Flute World  (sheet music)</td>
</tr>
<tr>
<td>TF</td>
<td>Theodore Front  (sheet music, book and CD)</td>
</tr>
<tr>
<td><em>Virtual Gamelan</em></td>
<td>Albany Records  (CD)</td>
</tr>
<tr>
<td>60 x 60</td>
<td>Vox Novus  (CD)</td>
</tr>
</tbody>
</table>