

Николай СЛОНИМСКИЙ

**ТЕЗАУРУС ГАММ
И МЕЛОДИЧЕСКИХ
ОБОРОТОВ**

*Справочник для музыкантов —
композиторов и исполнителей*

В двух томах

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Том 1

**СВОД ПРАВИЛ И ОБРАЗЦОВ
Основные последовательности**



Nicolas SLONIMSKY

**THESAURUS OF SCALES
AND MELODIC PATTERNS**

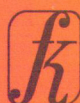
*Reference book for musicians —
composers and executors*

In two volumes

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Volume 1

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Main Patterns**



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Настоящий справочник включает результаты исследования гамм и фигурационных мелодических моделей, образованных как в опоре на диатоническую основу или искусственные ладовые системы, так и в 12-тоновой технике, которые обладают качествами универсальных средств композиции. Работа была опубликована Николаем Леонидовичем Слонимским в 1947 году в США и с тех пор приобрела беспрецедентную популярность у джазовых музыкантов. Настоящее издание в переводе на русский язык предназначается для преподавателей, студентов и учащихся, а также для всех желающих освоить гармонию или развить технику исполнения сложных пассажей через изучение их структуры.

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Николай Леонидович СЛОНИМСКИЙ

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От редактора-переводчика

Николай Леонидович Слонимский (1894–1995) — американский композитор, пианист, музыковед, музыкальный критик и лексикограф, дирижер. Он приходится дядей российскому композитору Сергею Михайловичу Слонимскому, которому во время визитов в Россию и дарил свои книги, изданные за рубежом. Среди его работ выделяется «Тезаурус гамм и мелодических оборотов» (“Thesaurus of scales and melodic patterns”), выпущенный ранее в США и прошедший несколько переизданий.

«Тезаурус» создан в жанре справочника, но этой функцией не ограничивается, ибо довольно скоро после выхода из печати стал служить учебным пособием, потому что его «открыли» для себя джазовые музыканты. Многие из них не получают профессионального образования, практически во весь период своей деятельности оставаясь малограмотными в области музыкальной теории. По трудам Н. Л. Слонимского зарубежные джазисты, и не только представители этого направления, осваивали теорию музыки и гармонию, получали представление о музыкальных системах. Высокий профессионализм, системность и безупречная логика делают эту «умственную гимнастику» в «Тезаурусе», по выражению А. Шёнберга¹, весьма привлекательной и полезной. Характерно, что многих музыкантов — и джаз-авангардистов, и рок-музыкантов, и композиторов-минималистов (примерами могут служить Джон Колтрейн, Фрэнк Заппа, Джон Адамс и другие) — таблица необычных гамм и гармонизаций вдохновила, по их собственным признаниям, на творческие поиски².

Н. Л. Слонимский в «Тезаурусе» представляет результаты масштабного исследования фигуративной составляющей фактуры и способов гармонизации, то есть формирует свод многообразных гамм и мелодических и гармонических оборотов. Стремясь учесть все возможные в музыкальном мире сочетания звуков, он приходит к выводу о неисчерпаемости допустимых комбинаций. Научный подход к собиранию сведений по теории музыки, полученный свод правил и возможных вариантов гармонизации гамм и мелодических оборотов высоко оценивается профессионалами, а желающие освоить теорию с успехом могут использовать эту книгу в качестве учебника.

В тексте американского издания обозначения звуков и тональностей произведены в западной системе, принятой в США. Для удобства российских музыкантов выполнена адаптация к отечественной системе обозначений. Н. Л. Слонимский вводит и собственную оригинальную терминологию, которая полностью сохранена. Однако стремление донести до читателя «авторскую интонацию» повлекло за собой некоторые нарушения в организации материала. Например, в разделе «Словарь терминов» слова расположены в алфавитном порядке, а не так, как в авторском тексте (на английском языке).

Редактор-переводчик выражает искреннюю признательность Сергею Михайловичу и Раисе Николаевне Слонимским за поддержку и ценные замечания при подготовке данного издания.

¹ Слонимский Н. Л. Абсолютный слух. История жизни / Пер. Н. Кострубиной, В. Банкевича; прим. О. Рудневой, В. Банкевича, А. Вульфсона. СПб.: Композитор • Санкт-Петербург, 2006. 424 с.; ил. — С. 269

² Там же. С. 270.

От автора

Настоящий *Тезаурус* представляет собой справочник по гаммам и мелодическим оборотам, функционально аналогичный фразеологическим сборникам и словарям идиоматических выражений. Вместе с тем тогда как фразеологические сборники имеют ограничения по территориальному применению, *Тезаурус* включает большое число универсальных мелодически возможных оборотов, среди которых есть и неизвестные ранее. На самом деле многие произведения, появившиеся в последние годы, содержат тематические фигуры, идентичные тем, которые включены в *Тезаурус*.

Время от времени теоретики музыки предлагали обратиться к возможности создания совершенно новых, неизвестных ранее гамм, основанных на делении октавы на равные части. Так, в 1911 году итальянец Доменико Алалеона предложил именно такие виды гамм. Алоиз Хаба в своем «Новом учебнике гармонии» (*Neue Harmonielehre*) классифицирует большое число гамм, основанных на равенстве интервальных делений, и предлагает гармонизации этих неизвестных ранее гамм. Йозеф Шиллингер в своей посмертно опубликованной «Системе музыкальной композиции Шиллингера» классифицирует новые тональные последовательности в главе «Теория высотных гамм».

Гаммы и мелодические обороты в *Тезаурусе* систематизированы так, как это удобно композиторам, находящимся в поиске новых средств. Название «Тезаурус гамм и мелодических оборотов» выбрано намеренно. Терминологически под гаммой здесь понимается последовательность, диатоническая либо хроматическая, которая направлена в одну сторону, в восходящем либо нисходящем движении, и идущая до конечной точки. Мелодический оборот, в свою очередь, может быть сформирован из любой группы нот, если в этом имеется какой-либо мелодический смысл. Существуют гаммы, состоящие всего из 4 нот; но есть гаммы и обороты из 12 различных нот. Однако, если учитывать повторяющиеся ноты в разных октавах, гамма может содержать ни много ни мало 48 функционально различных нот, как, например, это происходит в непоступенном мажорном политетрахорде (№ 958). Для мелодических оборотов ограничений по численности составляющих их тонов фактически не существует.

Тезаурус организован по типу исследования различных видов фортепианных гамм и мелодических оборотов. Аппликатура не прописывается, так как пианист сам найдет способ группировки, подходящий для его руки. Другие инструменталисты также смогут приспособить большинство гамм и мелодических оборотов к своим инструментам. Нотация на всем протяжении является энгармонической, и случайные знаки используются в соответствии с удобством для чтения нот. Двойные диезы и бемоли избегаются. Предупреждающие знаки отмены выставляются то там, то здесь, если встречается необычный мелодический ход. Все знаки альтерации относятся только непосредственно к последующей за ними ноте.

Гаммы и обороты в *Тезаурусе* расположены в соответствии с интервалом, определяющим каждый конкретный раздел. Для того чтобы избежать ассоциации с конкретной тональностью, эти базовые интервалы обозначаются здесь латинскими и греческими наименованиями, выведенными из характера их употребления в старину. Кроме того, новые термины были изобретены для интервалов, которые не входят в систему

исторически существовавших гамм. В этих новых терминах приставка *сескви-* ставится для обозначения полутона. Таким образом, сесквитон — это $1\frac{1}{2}$ тона, или минорная терция, сесквикуадритон — это $4\frac{1}{2}$ тона, или мажорная секста, а сесквикуинквентон — это $5\frac{1}{2}$ тонов, или мажорная септима.

Таблица интервалов от полутона до мажорной септимы приобретает следующий вид:

<i>Семитон</i>	малая секунда	<i>Тритон</i>	увеличенная кварта
<i>Тон</i>	большая секунда	<i>Диапента</i>	чистая квинта
<i>Сесквитон</i>	малая терция	<i>Квадритон</i>	малая секста
<i>Дитон</i>	большая терция	<i>Сесквикуадритон</i>	большая секста
<i>Диатессарон</i>	чистая кварта	<i>Квинквентон</i>	малая септима
		<i>Сесквикуинквентон</i>	большая септима

Интервал большой ноты назван *септитоном*, чтобы обозначить, что он содержит 7 тонов.

Эти базовые интервалы рассматриваются как доли одной или нескольких октав. Таким образом, тритоновая последовательность представляет деление октавы на 2 равные части, и оно способствует созданию секвенцирующих гамм и оборотов. Дитоновая последовательность является разделением октавы на 3 равные части, она интервально идентична увеличенному трезвучию. Сесквитоновая последовательность представляет собой деление октавы на 4 равные части, она идентична хорошо знакомым уменьшенным септаккордам. Целотоновая гамма представляет деление октавы на 6 равных частей. Семитоновая последовательность является эквивалентом хроматической гаммы. Благодаря процессу пермутации хроматическая гамма способна продуцировать характерные обороты в 12-тоновой технике.

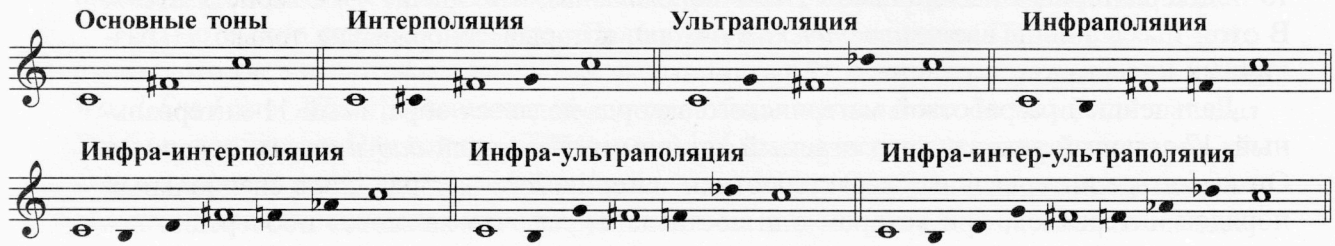
Разделив 2 октавы на 3 равные части, мы получаем квадритоновую последовательность, которая близко родственна дитоновой последовательности, являясь фактически расширением увеличенного трезвучия. Разделив 3 октавы на 4 равные части, мы получаем интервал большой сексты. Это сесквикуадритоновая последовательность, которая является развернутой сесквитоновой последовательностью, образующей модели, родственные гармониям уменьшенных септаккордов.

Интервал чистой квинты составляет одну двенадцатую часть от 7 октав, именно так он и представлен в диапентовой последовательности. Чистая кварта составляет одну двенадцатую часть от пяти октав и классифицируется в разделе «Диатессароновые последовательности».

Развивая далее этот процесс, мы находим, что сесквикуинквентоновая последовательность, или последовательность больших септим, является результатом деления 11 октав на 12 равных частей. Наконец, септитоновая последовательность представляет собой деление 7 октав на 6 равных частей, основанное на интервале большой ноты.

Некоторые гаммы и мелодические обороты образуются благодаря процессам интерполяции, инфраполяции и ультраполяции. Слово «интерполяция» употребляется в обычном смысле; здесь оно обозначает внедрение одной или нескольких нот между основными тонами. «Инфраполяция» и «ультраполяция» — это новые, введенные в употребление слова. Инфраполяция обозначает добавление ноты ниже последующего основного тона; ультраполяция — это добавление ноты сверху от следующего основного тона. Инфраполяция и ультраполяция выражаются в изменениях направления движения, когда мелодическая линия перемещается зигзагами. Инфраполяция, интерполяция и ультраполяция могут сочетаться свободно, представая в комбиниро-

ванных видах, названия которых записываются через дефис: инфра-интерполяция, инфра-ультраполяция, инфра-интер-ультраполяция.



Последовательности и обороты, основанные на неравном делении октавы, представлены гептатоническими и пентатоническими гаммами. Среди гептатонических, или 7-тоновых, гамм есть как известные нам мажор и минор, так и церковные лады. В разделе гептатонических арпеджио гаммы развернуты по терциям. В разделе битональных арпеджио до-мажорное арпеджио сочетается с арпеджио во всех остальных 23 мажорных и минорных тональностях.

Бузони, добросовестно исследовавший новые музыкальные ресурсы, нашел 113 различных гамм, состоящих из 7 тонов. Упомянув в качестве примера гамму: *C, Des, Es, Fes, Ges, As, B, C* (№ 1035 в *Тезаурусе*), он пишет в своем «Эскизе новой эстетики музыкального искусства»: «Существует большое различие в употреблении звуков этой новой гаммы, когда *C* взят в качестве тоники или когда мы считаем его вводным тоном *des-moll'*а. Новая гармоническая сенсация рождается, когда обычное *C-dur'*ное трезвучие используется [в составленном звукоряде. — *Прим. пер.*] для гармонизации тоники».

В «Хронике моей музыкальной жизни» Римский-Корсаков отмечает использование им 8-тоновой гаммы, образованной путем альтерации секунды, с получением ее малой и большой разновидностей. Это гамма № 393 в *Тезаурусе*. Спорадическое использование целотоновой гаммы можно найти у Глинки и даже у Моцарта (в качестве насмешки над неадекватными *Dorfmusikanten* (*Деревенские музыканты*)), но это не стало свободно употребляемым приемом до Дебюсси. В фортепианной пьесе Дебюсси *Voiles* (*Паруса*) опорной мелодической структурой является целотоновая гамма, но середина написана вся на черных клавишах, воплощая средства пентатонической гаммы.

В целотоновой гамме 6 нот в каждой октаве, в пентатонической — 5. Целотоновую гамму от предложенной ноты можно образовать только в одном варианте, а пентатонических — множество. В *Тезаурусе* 49 пентатонических гамм.

Двенадцатитоновая техника композиции, которую пропагандирует Шёнберг, основывается на пермутациях семитоновой гаммы. Различные 12-тоновые модели помещены в примерах № 1214 и 1318 *Тезауруса*. Например, можно составить из 12 хроматических тонов два мажорных и два минорных трезвучия без повторений нот. При использовании всех 12 хроматических тонов возможно также образование 4 взаимоисключающих увеличенных трезвучий. Тема *Фауст-симфонии* Листа скомпонована из 4 таких увеличенных трезвучий. Далее, возможно расщепление хроматической гаммы на уменьшенные трезвучия, минорные трезвучия, мажорные трезвучия и увеличенные трезвучия. Эти взаимно исключающие друг друга трезвучия можно организовать в виде квадритоновых арпеджио.

Недавнее развитие 12-тоновой техники по своей сути является 11-интервальной техникой, которая предписывает образование последовательностей, содержащих

11 различных интервалов. Идея впервые была представлена австрийским музыкантом Фрицем Клейном в 1921 году в любопытной композиции, названной «Машина» и имеющей подзаголовок «Экс-тональная самосатира». Имя композитора было скрыто под характерным псевдонимом *Heaton timorumenus*, что значит — Самоистязатель. В этой пьесе Клейн ввел *материнский аккорд*, который содержит не только 11 различных интервалов, но также и 12 различных нот.

Дальнейшей разработкой материнского аккорда является обратимый 11-интервальный, 12-тоновый аккорд, предлагаемый автором и названный *бабушкиным аккордом*. Он имеет все интервальные характеристики материнского аккорда плюс специальный порядок интервалов, при котором они составлены так, что являются поочередно нечетными и четными, если считать их в полутонах, при этом ряд нечетных интервалов образует понижающуюся арифметическую прогрессию, а ряд четных интервалов — возрастающую арифметическую прогрессию. Порядок нот в бабушкином аккорде идентичен с 12-тоновой спиральной моделью № 1232a.

Все аккорды, образованные из 11 различных интервалов, слагаются в интервал, состоящий из 66 полутонов, что является суммой арифметической прогрессии величин от 1 до 11. Интервал из 66 полутонов равняется $5\frac{1}{2}$ октавам и, таким образом, образует тритон между самыми низкими и самыми высокими тонами в пирамидальном аккорде, материнском аккорде, бабушкином аккорде и других 11-интервальных структурах.

Гаммы и модели, помещенные в основной части *Тезауруса*, готовы к использованию в новых мелодических возможностях. Например, нисходящую гамму можно играть как вариант мелодической инверсии восходящей гаммы, что предложено в разделе «Зеркальные интервальные последовательности». Можно сформировать сложные составные гаммы протяженностью в 2 октавы, если во второй октаве использовать ноты, которые не употреблялись в первой октаве. Другие возможности по созданию новых оборотов представлены в разделе «Пермутации».

Диатоническим аналогом 12-тоновой техники является система пандиатонической композиции. Термин «пандиатоника», впервые использованный автором в 1937 году, обозначает свободное использование всех 7 тонов диатонической гаммы, и мелодически и гармонически [то есть в горизонтальном и в вертикальном расположении. — *Прим. пер.*]. В одноголосной пандиатонической последовательности мелодия составлена из 7 различных нот диатонической гаммы. Такую последовательность можно сделать мелодически обратимой, прочитать в обратном порядке или выполнить то и другое вместе, что позволяет получить результат из 34 разновидностей. Пандиатонический контрапункт в строгом стиле использует последовательности из 7 различных нот в каждом из голосов, без вертикальных дублировок.

Пандиатоническая гармония в XX веке становится аналогом классической гармонии. Современные композиторы, имеющие различные взгляды и музыкальные пристрастия, такие как Равель, Стравинский, Хиндемит, Мийо, Копланд и Рой Харрис, обращаются к этой технике, приходя к ней с помощью разных творческих процессов. Джазовые композиторы тоже путем всеми ободряемого экспериментирования вышли на эффективное применение обогащенных аккордов пандиатонических образований. Распространенной практикой стало оканчивать оркестровое переложение популярной песни обогащенным мажорным трезвучием с добавленной секстой, септимой или ноной.

В заключительных разделах *Тезауруса* показываются различные методы, с помощью которых можно успешно употреблять тональные материалы. В разделе «Двойные ноты» показываются комбинации, выведенные из соответствующих гамм и моделей. Раздел «Мультигаммы и мультиарпеджио» дает образцы последовательностей обыч-

ных мажора и минора, расположенных в хроматической транспозиции. «Политональные гаммы» — это последовательности, идущие параллельно в разных тональностях. Полиритмические гаммы — это последовательности в различных ритмах. Политональные полиритмические гаммы сочетают разные ритмы в разных тональностях.

Особо нужно сказать о разделе «Палиндромические каноны». Палиндромы — это слова, которые читаются одинаково вперед и назад, как, например, предложение «*Able Was I Ere I Saw Elba*» [буквально: *Мне многое было подвластно до того, как я увидел Эльбу, в отношении Наполеона. — Прим. ред.*]. Аналогично, прочтение ритмических канонов вперед и назад также дает одинаковый результат. Особый интерес представляют два палиндромических канона, базирующиеся на модели № 72. Они дают последовательность энгармонически равных трезвучий или их инверсий, различных в мажорных и минорных тональностях.

Фрагменты гамм и оборотов из *Тезауруса* можно использовать в качестве мотивов и тем. Их ритмическая разработка отдается на волю композитора. Используя часть модели в прямом и обратном движении, в изменяющихся ритмах внутри заданного метра, можно сформировать неисчерпаемое число мелодических фигур.

Ритмическое развитие

Модель № 194



В гармонизации гамм и оборотов используются две формулы: одна выполняется с помощью обычных трезвучий, а другая опирается на септаккорды. При гармонизации обычными трезвучиями применяются только основные обращения мажорных трезвучий в тесном расположении. Либо основной тон, либо терция, либо квинта могут появиться в мелодии. Их расположение отмечается как октавное, терцовое и квинтовое или цифрами, как 8, 3 и 5. Если мелодия движется вверх, в диатонике или с использованием хроматики, расположение меняется с октавного на терцовое, далее на квинтовое и октавное. Когда мелодия идет вниз, порядок позиций обратный. Более того, порядок расположений может быть изменен в конце каденции даже при восходящем движении. Когда мелодия остается статичной, порядок расположения свободный. Складывающаяся гармония проходит через несколько тональностей в регулярной смене следующих друг за другом мажорных аккордов.

Гармонизация мажорными трезвучиями

(цифры обозначают интервалы между мелодией и басом)



Гармонизацию мажорными трезвучиями можно встретить у Дебюсси, Мусоргского и других композиторов из французской и русской школ. Классическим примером может служить сцена в келье монаха из оперы Мусоргского «Борис Годунов». Во втором акте оперы Пуччини «Тоска» целотоновая гамма в басу гармонизуется

с помощью ряда мажорных трезвучий, с положениями мелодических звуков, следующими по формуле: октава — терция — квинта (8–3–5).

Мусоргский: Борис Годунов *Пуччини: Тоска (В басу целотоновая гамма)*

Другой тип гармонизации связан со средствами *мастерских аккордов*. Это доминантсептаккорды с пропущенной квинтой. В сочетании с мелодическими элементами заданных гамм или оборотов эти аккорды образуют гармонические структуры типа септаккордов, нонаккордов или целотоновых аккордов. Мастерские аккорды взяты за основу в восходящих гаммах и моделях в разделах «Тритоновые последовательности», «Дитоновые последовательности», «Сесквинтоновые последовательности» и обозначены с помощью цифр в кружочках, например (5), и они используются для гармонизации целой ритмической группы в заданной последовательности. В тритоновых и сесквинтоновых последовательностях возможна также гармонизация всего октавного ряда с применением одного мастерского аккорда. Более того, любой мастерский аккорд, подходящий для гармонизации заданной последовательности, можно транспонировать на тритон вверх и вниз с удовлетворительными результатами.

Гармонизация с употреблением мастерских аккордов

Модель № 53 Модель № 186 Модель № 393

Оба типа гармонизации представлены в таблицах на страницах 264–265. Для того чтобы гармонизовать мажорными трезвучиями, нужно изменить октавное, терцовое и квинтовое расположение, представленное в таблице. При гармонизации септ-, нон- и целотоновыми аккордами любой аккорд, поставленный под заданными нотами мелодии, добавляет приемлемую гармонию.

Обороты в диатессароновых и дианепентовых последовательностях позволяют выполнить гармонизацию, типичную для тонико-доминантовых отношений. Если выполняется гармонизация следующими друг за другом септаккордами, то такие модели приобретают свойства, напоминающие шумановское качество.

Гармонизация с помощью септаккордов

Модель № 856

Гармонизация тонико-доминантового типа придаст ощущение наличия тональности даже в 12-тоновой последовательности.

Тональная гармонизация 12-тонового оборота

Модель № 646



При традиционной гармонизации в мажорных и минорных тональностях используются аккорды, образованные в диатоническом звукоряде. Точно так же новые гаммы можно гармонизовать с помощью аккордов, сложенных из нот, составляющих сами гаммы. Примеры такой автоаккордовой гармонизации приведены в специальной таблице. Существуют гаммы, допускающие образование только двух различных трезвучий, как, например, гамма № 7, которую можно гармонизовать мажорными трезвучиями *C-dur*'а и *Fis-dur*'а. Восьмитоновая гамма № 393 способна образовать 8 различных трезвучий, в то время как другие гаммы, например № 5, не производят ни одного.

Все гаммы и обороты в *Тезаурусе* строятся от центра на *C* как начальном и заключительном тоне. Само собой разумеется, что эти последовательности можно транспонировать относительно любого другого тонального центра согласно требованиям композитора.

Джон Стюарт Милль однажды написал: «Я был серьезно озадачен мыслью о неисчерпаемости музыкальных комбинаций. Октава состоит всего из пяти тонов и двух полутонов, которые можно сложить в ограниченном числе вариантов, из которых хороши лишь некоторые: большая их часть, на мой взгляд, уже открыта, и вряд ли найдется много Моцартов и Веберов, способных нас поразить, подобно тем, кто черпает идеи из новых богатых источников музыкальной красоты. О такого рода беспокойстве, возможно, стоило подумать, чтобы не походить на философов Лапуты, которые опасались того, что солнце погаснет».

Страхи Джона Стюарта Милля не подтверждаются. Существует 479 001 600 возможных комбинаций 12 тонов хроматической гаммы. Учитывая ритмическое разнообразие, которое соединяется с безбрежной вселенной мелодических оборотов, нет каких-либо признаков того, что новая музыка умрет от внутреннего истощения в ближайшие 1000 лет.

Николай Слонимский

1 января 1947 г. Бостон, Массачусетс

Словарь терминов

Автоаккордовая гармонизация. Применение аккордов, выведенных из тонов заданной гаммы (например, в гамме № 12: *C, Dis, F, Fis, A, H, C*, гармонизация выполнена с использованием двух трезвучий: фа мажор и си мажор).

Аккорд малой 23-й. Аккорд, состоящий из 12 различных нот, расположенных по терциям, и образующий 4 взаимно исключающих друг друга по составу трезвучия.

Бабушкин аккорд. Аккорд, изобретенный Николаем Слонимским 13 февраля 1938 года, состоящий из 12 различных тонов и различных интервалов, симметрично обратимых по отношению к центральному интервалу — тритону, который обратим по отношению к самому себе; интервальная структура является рядом, состоящим из четных и нечетных интервалов (посчитанных в полутонах), причем серия, составленная из четных интервалов, образует уменьшающуюся арифметическую прогрессию, а та, что составлена из нечетных интервалов, формирует возрастающую прогрессию.

Битональные арпеджио (№ 1191–1213). Мелодические последовательности, построенные из отличающихся друг от друга арпеджио в 2 различных тональностях.

Битональные палиндромические каноны. Каноны, которые приводят к образованию 6-тоновых аккордов, состоящих из двух трезвучий (например, гамма № 7: *C, Cis, E, Fis, G, Ais, C*, развиваясь канонически, образует битональные аккорды *до мажора* и *фа-диез мажора*).

Взаимно исключающие друг друга трезвучия. Четыре трезвучия (мажорное, минорное, уменьшенное или увеличенное), включающие все 12 различных тонов (например, *до мажор*, *фа-диез мажор*, *ре минор* и *соль-диез минор*).

Гамма. Последовательность тонов, меняющая направление движения в конечных точках (все интерполированные последовательности являются гаммами).

Гептатонические арпеджио (№ 1088–1141). Мелодические последовательности, с расположением звуков по терциям, выведенные из гептатонических гамм.

Гептатонические гаммы (№ 1034–1087). Диатонические последовательности из 7 ступеней, такие как мажорные и минорные гаммы и церковные лады, а также гаммы, содержащие одну или две увеличенные секунды.

Двенадцатитоновая последовательность. Мелодические фигуры из 12 различных тонов.

Дианента. Интервал, состоящий из $3\frac{1}{2}$ тонов; чистая квинта.

Диатессарон. Интервал, состоящий из $2\frac{1}{2}$ тонов; чистая кварта.

Дитон. Интервал, состоящий из двух целых тонов; мажорная терция.

Зеркальные последовательности интервалов. Гаммы и последовательности, в которых нисходящая фигура является мелодической инверсией восходящей фигуры (например, восходящая гамма № 1 является зеркальной инверсией нисходящей гаммы № 4).

Инфра-интер-ультраполяция. Модель, образованная вставками нот под, между и над основными тонами последовательности (например, модель № 341).

Инфраполяция. Внедрение нот под основными тонами последовательности (например, модель № 231).

Интерполяция. Внедрение одной или нескольких нот между основными тонами последовательности (например, гамма № 21).

Интер-ультраполяция. Внедрение двух нот, одна из которых располагается между основными тонами заданной последовательности, а другая — над основным тоном (например, модель № 123).

Квадритон. Интервал, состоящий из четырех целых тонов; минорная секста.

Квадритональные арпеджио (№ 1251–1291). Мелодические последовательности, образуемые из четырех исключающих друг друга по звуковому составу трезвучий, например *до мажор*, *ре минор*, *фа-диез мажор* и *соль-диез минор*.

Квартовый аккорд. 12-тоновый аккорд, образованный из чистых кварт.

Квинквентон. Интервал, состоящий из пяти целых тонов; малая септима.

Квинтовое положение. В четырехголосной гармонии трезвучие с основным тоном в басу и квинтой в мелодии.

Мажорный битональный аккорд. Аккорд, состоящий из двух мажорных трезвучий, обычно в тональностях, тоники которых отстают друг от друга на тритон, как, например, до мажор и фа-диез мажор.

Мажорный политетрахорд. Серия из мажорных тетрахордов, поступенных и непоступенных, охватывающих все 12 мажорных тональностей (например, № 833 и 958).

Мастерские аккорды. Доминантсептаккорды с пропущенной квинтой, систематизированные в хроматическом порядке в 12 различных тональностях для использования при гармонизации гамм и мелодических моделей, с цифровыми обозначениями, помещенными в кружках, от 1 до 12.

Материнский аккорд. Аккорд, введенный Фрицем Клейном в 1921 году, который включает все 12 тонов и 11 различных интервалов.

Минорный битональный аккорд. Аккорд, состоящий из двух минорных аккордов, тоники которых обычно находятся на расстоянии тритона, как, например, до минор и фа-диез минор.

Минорный политетрахорд. Серия, состоящая из минорных тетрахордов, поступенных и непоступенных, охватывающих все 12 минорных тональностей (например, № 832 и 956).

Мультигаммы. Последовательности, образованные непоступенными гаммами, например: до мажор, ре-бемоль мажор, ре мажор и ми-бемоль мажор.

Непоступенный политетрахорд. Последовательность из 12 тетрахордов, проходящая по всем 12 тональностям, где расположение тетрахордов разделено одним диатоническим шагом (например, непоступенный фригийский политетрахорд № 951; непоступенный минорный политетрахорд № 956; непоступенный мажорный политетрахорд № 956; непоступенный лидийский политетрахорд № 959).

Несимметричная интерполяция. Свободное включение дополнительных нот между основными тонами лада.

Оборот. Мелодическая фигура, в которой направление меняется с восходящего на нисходящее или наоборот, до тех пор, пока не достигается конечный тон (все инфраполюционные и ультраполюционные последовательности являются оборотами).

Октавная позиция. В четырехголосной гармонии — трезвучие с основным тоном в мелодии и басу.

Пандиатоническая гармония. Голосоведение в аккордах, связанное со свободными комбинациями, составленными из семи тонов диатонической гаммы.

Палиндромические каноны. Каноны, которые дают одни и те же сочетания, как при движении вперед, так и в обратном направлении.

Пандиатонические последовательности. Тональные ряды, построенные от всех семи различных тонов диатонической гаммы.

Пентатонические гаммы (№ 1142–1190). Гаммы, состоящие из 5 нот.

Пересекающиеся интервалы (№ 1243–1250). Два перекрывающихся друг друга 6-тоновых ряда, включающие все 12 различных тонов, причем в каждом ряду образуется последовательность из мажорных или минорных секунд, терций, кварт, квинт и секст.

Пермутация. Использование нот заданного мелодического оборота в различном порядке.

Пирамидальный аккорд. Аккорд, введенный Фрицем Клейном в 1921 году, который образован из серии уменьшающихся интервалов от октавы до полутона.

Полиритмические гаммы. Одновременные последовательности в разных ритмах.

Политетрахорд. Последовательность из 12 тетрахордов, проходящих через все 12 тональностей поступенно (последний тон одного тетрахорда совпадает с первым тоном следующего) или непоступенно (последний тон первого тетрахорда отделен диатоническим ходом от начального тона последующего тетрахорда).

Политональные полиритмические гаммы. Одновременные последовательности в различных тональностях и разных ритмах.

Политональные гаммы. Гаммы в различных тональностях, которые играют одновременно.

Полутоновая последовательность. Гамма, состоящая из следующих подряд полутонов; хроматическая гамма.

Последовательность. Основной термин для обозначения любой гаммы или мелодической модели.

Поступенный политетрахорд. Последовательность из 12 тетрахордов, проходящая по всем 12 тональностям, в которой заключительный тон одного тетрахорда является начальным тоном следующего (например, фригийский политетрахорд № 830; минорный политетрахорд № 832; мажорный политетрахорд № 833).

Прометеевская гамма (№ 50). Шеститоновая гамма (до, ре, ми, фа-диез, ля, си-бемоль), использованная Скрябиным в его симфонической поэме «Прометей».

Сложные гаммы. Мелодические последовательности на протяжении двух октав, включающие все 12 тонов хроматической гаммы (например,

до-мажорная гамма плюс пентатоническая гамма на черных клавишах).

Септитон. Интервал, составленный из семи целых тонов; большая нона.

Сескви-. Приставка, обозначающая добавление полутона к заданному интервалу (сесквитон = $1\frac{1}{2}$ тона; сесквикуадритон = $4\frac{1}{2}$ тона).

Сесквикуадритон. Интервал, состоящий из $4\frac{1}{2}$ тонов; большая секста.

Сесквикуинкветон. Интервал, состоящий из $5\frac{1}{2}$ тонов; большая септима.

Сесквитон. Интервал, состоящий из $1\frac{1}{2}$ тонов; малая терция.

Симметричная интерполяция. Включение нот на равных интервалах от осевых точек, что выражается в образовании соответствующих инверсивных последовательностей (например, гамма № 37: *C, D, F, Fis, G, B, C*, где образуются одни и те же интервалы при движении от *C* вверх и от верхнего *C* вниз).

Спиралевидные обороты. Мелодические последовательности, ориентированные на связь с центральным тоном.

Терцовое положение. В четырехголосной гармонии трезвучие с основой в басу и терцией в мелодии.

Тono-кластер. Термин, введенный Генри Коэлом, обозначающий комплекс нот, заполняющих одну или несколько октав диатонически, хроматически или пентатонически.

Тритон. Интервал, составленный из трех целых тонов; увеличенная кварта или уменьшенная квинта.

Ультраполяция. Включение одной или нескольких нот над основным тоном гаммы (например, модель № 53, в которой *G* вставлен над *F#*).

Фригийский политетрахорд. Политетрахорд, составленный из 12 поступенных и непоступенных фригийских тетрахордов (один полутон плюс два целых тона, примеры № 830 и № 951).

Целотоновые аккорды. Аккорды, построенные из интервалов, каждый из которых содержит один или несколько тонов.

Thesaurus of Scales and Melodic Patterns

Nicolas Slonimsky

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THESAURUS OF SCALES AND MELODIC PATTERNS

INTRODUCTION

THE PRESENT THESAURUS is a reference book of scales and melodic patterns, analogous in function with phrase books and dictionaries of idiomatic expressions. But while phrase books are limited to locutions consecrated by usage, the THESAURUS includes a great number of melodically plausible patterns that are new. In fact, many compositions appearing in recent years contain thematic figures identical with those found in the THESAURUS.

From time to time musical theorists have suggested the possibility of forming entirely new scales based on the division of the octave into several equal parts. As early as 1911 the Italian musician Domenico Alaleona proposed such new scales. Alois Haba, in his *Neue Harmonielehre* (1927), classifies a great number of scales based on equal intervals and suggests harmonizations of these new scales. Joseph Schillinger in his posthumously published *Schillinger System of Musical Composition* classifies new tonal progressions in the chapter Theory of Pitch-Scales.

The scales and melodic patterns in the THESAURUS are systematized in a manner convenient to composers in search of new materials. The title THESAURUS OF SCALES AND MELODIC PATTERNS is chosen advisedly. The term scale, as here used, means a progression, either diatonic or chromatic, that proceeds uniformly in one direction, ascending or descending, until the terminal point is reached. A melodic pattern, on the other hand, may be formed by any group of notes that has melodic plausibility. There are scales of 4 notes only; and there are scales and patterns of 12 different notes. But counting repeated notes appearing in different octaves, a scale may have as many as 48 functionally different notes, as in the Disjunct Major Polytetrachord (No. 958). As to melodic patterns, there is virtually no limit to the number of such tones.

The THESAURUS is arranged in the form of piano scales and melodic studies. No fingering is given, for the pianist will readily find the type of digitation best suited to the hand. Other instrumentalists, too, will find most of the scales and melodic patterns in the THESAURUS adaptable to their instruments. The notation throughout is enharmonic, and accidentals are used according to convenience. Double sharps and double flats are avoided entirely. Precautionary natural signs are placed here and there when an unusual melodic interval occurs. All accidentals affect only the note immediately following.

The scales and patterns in the THESAURUS are arranged according to the principal interval of each particular section. In order to avoid association with a definite tonality, these basic intervals are here referred to by Latin and Greek names derived from old usage. In addition, new terms had to be coined for intervals not in the system of historic scales. In these new terms the prefix *sesqui* stands for the addition of one-half of a tone. Thus, Sesquitone is $1\frac{1}{2}$ tones, or a minor third; Sesquiquadritone is $4\frac{1}{2}$ tones, or a major sixth; and Sesquiquinquetone is $5\frac{1}{2}$ tones, or a major seventh.

The table of intervals from the semitone to the major seventh appears as follows:

<i>Semitone</i>	Minor Second	<i>Tritone</i>	Augmented Fourth
<i>Whole Tone</i>	Major Second	<i>Diapente</i>	Perfect Fifth
<i>Sesquitone</i>	Minor Third	<i>Quadritone</i>	Minor Sixth
<i>Ditone</i>	Major Third	<i>Sesquiquadritone</i>	Major Sixth
<i>Diatessaron</i>	Perfect Fourth	<i>Quinquetone</i>	Minor Seventh
	<i>Sesquiquinquetone</i>		Major Seventh

The interval of a major ninth is called Septitone, to indicate that it contains 7 whole tones.

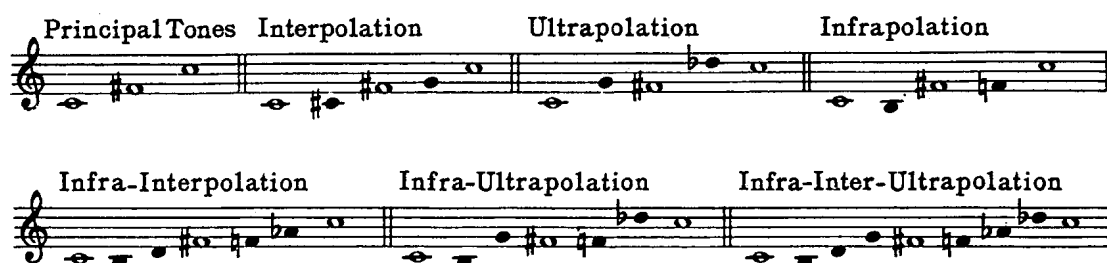
These basic intervals are regarded as fractions of one or more octaves. Thus, the Tritone Progression represents the division of the octave into 2 equal parts, and it produces sequential scales and patterns. The Ditone Progression is the division of the octave into 3 equal parts, and is intervallically identical with the augmented triad. The Sesquitone Progression is the division of the octave into 4 equal parts, and is identical with the familiar diminished-seventh chord. The Whole-Tone scale represents the equal division of the octave into 6 parts. The Semitone Progression is equivalent to the chromatic scale. By the process of permutation the chromatic scale is productive of characteristic patterns of the 12-tone technique.

By dividing 2 octaves into 3 equal parts we obtain the Quadritone Progression, which is closely related to the Ditone Progression, being in fact a spread-out augmented triad. By dividing 3 octaves into 4 equal parts we obtain the interval of the major sixth. This is the Sesquiquadritone Progression, which is an unfolded Sesquitone Progression, productive of patterns related to diminished-seventh harmonies.

In the cycle of scales the interval of a perfect fifth is one-twelfth part of 7 octaves, and it is so represented in the Diapente Progression. A perfect fourth is one-twelfth part of 5 octaves, and is classified as such in the section Diatessaron Progression.

Pursuing a similar process, we find that the Sesquiquinquetone Progression, or the progression of major sevenths, is the result of the equal division of 11 octaves into 12 parts. Finally, the Septitone Progression is the equal division of 7 octaves into 6 parts, with the basic interval of a major ninth.

Scales and melodic patterns are formed by the processes of Interpolation, Infrapolation, and Ultrapolation. The word Interpolation is in common usage; here it signifies the insertion of one or several notes between the principal tones. Infrapolation and Ultrapolation are coined words. Infrapolation indicates the addition of a note below a principal tone; Ultrapolation is the addition of a note above the next principal tone. Infrapolation and Ultrapolation result in the shift of direction, with the melodic line progressing in zigzags. Infrapolation, Interpolation and Ultrapolation may be freely combined, resulting in hyphenated forms: Infra-Interpolation, Infra-Ultrapolation, and Infra-Inter-Ultrapolation.



Progressions and patterns based on unequal division of the octave are exemplified by Heptatonic scales and Pentatonic scales. Among Heptatonic scales, or 7-tone scales, are our familiar major and minor scales as well as the church modes. In the section Heptatonic Arpeggios the scales are spread out in thirds. In the section Bitonal Arpeggios the C major arpeggio is combined with arpeggios in all other 23 major and minor keys.

Busoni, who had earnestly explored new musical resources, found 113 different scales of 7 notes. Mentioning as an example the scale: C, Db, Eb, Fb, Gb, Ab, Bb, C (it is No. 1035 in the THESAURUS), he writes in his *Entwurf einer neuen Aesthetik der Tonkunst*: "There is a significant difference between the sound of this new scale when C is taken as the tonic and when it is taken as the leading tone of the scale of Db minor. By harmonizing the tonic with the customary C major triad as a fundamental chord, a novel harmonic sensation is obtained."

In his *Chronicle of My Musical Life* Rimsky-Korsakov mentions the use he made of an 8-tone scale, formed by alternating major and minor seconds. This is Scale No. 393 in the THESAURUS. Sporadic uses of the Whole-Tone scale are found in Glinka and even in Mozart (as a jest to mock the inept *Dorfmusikanten*), but it did not become a deliberate device before Debussy. In Debussy's piano piece *Voiles* the principal melodic structure is in the Whole-Tone scale, but the middle part is written exclusively on the black keys, exemplifying the Pentatonic scale.

The Whole-Tone scale has 6 notes to the octave; the Pentatonic scale has five. The Whole-Tone scale is possible in only one form on a given note, but there can be many Pentatonic scales. There are 49 Pentatonic scales in the THESAURUS.

The 12-Tone Technique of composition promulgated by Schoenberg is based on permutations of the Semitone scale. Various 12-tone patterns are found in the THESAURUS in examples No. 1214 to No. 1318. For example, it is possible to arrange the 12 chromatic tones in 2 major and 2 minor triads without repeating a note. It is also possible to form 4 mutually exclusive augmented triads using all 12 chromatic tones. The theme of Liszt's *Faust* Symphony is composed of 4 augmented triads. It is further possible to split the chromatic scale into a diminished triad, a minor triad, a major triad, and an augmented triad. These mutually exclusive triads can be arranged in the form of Quadritonal Arpeggios.

A recent development of the 12-Tone Technique is the 11-interval technique, which prescribes the formation of progressions containing 11 different intervals. The idea was first introduced by the Austrian musician Fritz Klein in 1921 in a curious composition entitled *Die Maschine*, with the sub-title *Ex-Tonal Self-Satire*. The name of the composer was concealed behind a characteristic nom de plume *Heautontimorumenus* which means Self-Torturer. In this piece Klein introduced a Mother Chord which contains not only all 11 different intervals, but 12 different notes as well.

A further elaboration on the Mother Chord is an invertible 11-interval, 12-tone chord introduced by the author and appropriately christened Grandmother Chord. It has all the intervallic properties of the Mother Chord plus an especial order of intervals so arranged that they are alternately odd-numbered and even-numbered when counted in semitones, with the row of odd-numbered intervals forming a decreasing arithmetical progression and the row of even-numbered intervals forming an increasing arithmetical progression. The order of notes in the Grandmother Chord is identical with the 12-tone Spiral Pattern No. 1232a.

All chords composed of 11 different intervals add up to the interval of 66 semitones, which is the sum of the arithmetical progression from 1 to 11. The interval of 66 semitones equals $5\frac{1}{2}$ octaves, and so forms a Tritone between the lowest and the highest tones in the Pyramid Chord, Mother Chord, Grandmother Chord, and other 11-interval structures.

Scales and patterns listed in the main body of the THESAURUS readily lend themselves to new melodic possibilities. For instance, a descending scale may be played in the form of the melodic inversion of the ascending scale, as suggested in the section Mirror Interval Progressions. It is possible to form complementary scales in the range of 2 octaves, by using in the second octave the notes not used in the first. Other possibilities for the formation of new patterns are demonstrated in the section on Permutations.

A Diatonic counterpart of the 12-Tone Technique is the system of Pandiatonic composition. The term Pandiatonic, first introduced by this writer in 1937, denotes the free use of all 7 tones of the diatonic scale, both melodically and harmonically. In one-part Pandiatonic Progressions, the melody is made up of 7 different notes of the diatonic scale. Such a progression may then be melodically inverted, read backward, or both, resulting in 4 different forms. Pandiatonic Counterpoint in strict style uses progressions of 7 different notes in each voice, with no vertical duplication.

Pandiatonic Harmony is the twentieth century counterpart of classical harmony. Modern composers of such varied backgrounds and musical persuasions as Ravel, Stravinsky, Hindemith, Milhaud, Copland and Roy Harris make use of this technique, arriving at it by different creative processes. Jazz composers, too, have found, by sheer experimentation, effective application for the enriched chords of Pandiatonic formations. It is a common practice to end an orchestral arrangement of a popular song by the enriched major triad with an added sixth, seventh, or ninth.

The concluding sections of the THESAURUS demonstrate the various methods by which tonal materials may be used to best advantage. The section Double Notes shows the combinations derived from corresponding scales and patterns. Plural Scales and Arpeggios give examples of common major and minor progressions arranged consecutively in chromatic transposition. Polytonal Scales are simultaneous progressions in different keys. Polyrhythmic Scales are progressions in different rhythms. Polytonal Polyrhythmic Scales combine different rhythms in different tonalities.

A special word is to be said about Palindromic Canons. Palindromes are words or sentences that read the same forward or backward, as the sentence *Able Was I Ere I Saw Elba* (applied to Napoleon). Similarly, Palindromic Canons read the same backward or forward. The two Palindromic Canons based on Pattern No. 72 are particularly interesting. They result in a progression of enharmonic triads or their inversions, alternating in major and minor keys.

Fragments of the scales and patterns in the THESAURUS may be used as motives and themes. The rhythmical elaboration is left to the imagination of the composer. By using a portion of a pattern in forward and retrograde motion, in varied rhythms within a given meter, it is possible to form an unlimited number of melodic figures.

Rhythmic Development

Pattern No. 194

Two formulas are used in the harmonization of the scales and patterns: one by common triads, and one by seventh-chords. In the harmonization by common triads, only root positions of major triads in close harmony are applied. Either the root, the third, or the fifth may appear in the melody. These positions are referred to as Octave, Tertian, and Quintan, or in figures, 8, 3, and 5. When the melody ascends, diatonically or chromatically, the positions change from the Octave to the Tertian to the Quintan to the Octave. When the melody descends, the order of the positions is reversed. Furthermore, the order of positions may be reversed at the end of a cadence even in ascending motion. When the melody is stationary, the order of positions is free. The resulting harmony traverses several tonalities in an alternation of successive major chords.

Harmonization in Major Triads

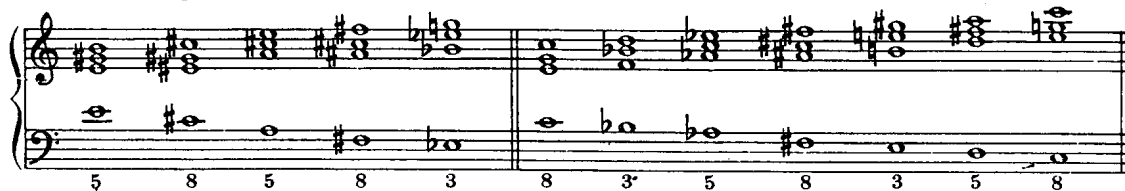
(Figures Indicate Intervals Between the Melody and the Bass)



The harmonization in major triads is found in the music of Debussy, Moussorgsky, and other composers of the French and Russian schools. A classical example is the scene in the monk's cell in Moussorgsky's opera *Boris Godunov*. In the second act of Puccini's opera *Tosca* the Whole-Tone scale in the bass is harmonized by a row of major triads with the positions following the Octave-Tertian-Quintan (8-3-5) formula.

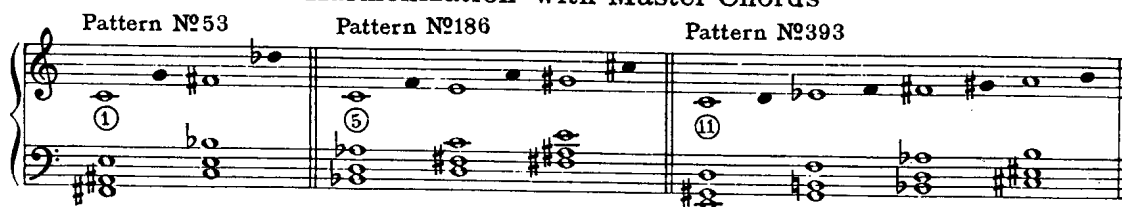
Moussorgsky: *Boris Godunov*

Puccini: *Tosca* (Whole-Tone Scale in the Bass)



The second type of harmonization is effected by means of Master Chords. These Master Chords are dominant-seventh chords with the fifth omitted. In combination with melodic elements of a given scale or pattern, these chords form harmonic structures of the type of seventh-chords, ninth-chords, or whole-tone chords. The Master Chords are indicated for ascending scales and patterns in the sections Tritone Progression, Ditone Progression and Sesquitone Progression by figures within circles, as ⑤, and are used to harmonize an entire rhythmic group in a given progression. In the Tritone and Sesquitone Progressions it is also possible to harmonize the entire octave range with a single Master Chord. Furthermore, any Master Chord suitable for harmonization of a given progression may be transposed a tritone up or down with satisfactory results.

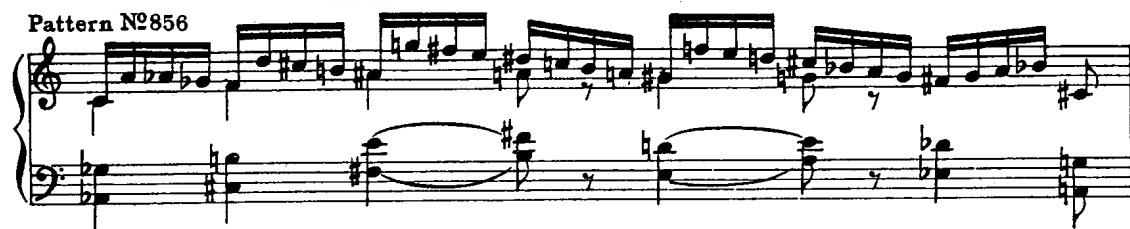
Harmonization with Master Chords



Harmonization of both types is given in the tables on pp.240-241. To harmonize in major triads, it is necessary to alternate the Octave, Tertian, and Quintan positions given in the table. In harmonizing by seventh-chords, ninth-chords, and whole-tone chords, any chord under a given melody note will furnish a workable harmony.

The patterns in the Diatessaron and Diapente Progressions lend themselves to harmonization characteristic of the Dominant-Tonic cycle. When harmonized in consecutive seventh-chords, such patterns acquire a Schumannesque quality.

Harmonization in Seventh-Chords



A harmonization of the Dominant-Tonic type will impart a feeling of tonality even to a 12-tone progression.

Tonal Harmonization of a 12-Tone Pattern



Traditional harmonization in major and minor keys uses chords formed by the diatonic scale. Similarly, new scales may be harmonized with the aid of chords formed by the notes of the scale itself. Examples of such Autochordal Harmonization are given in a special table. There are scales that admit of only 2 different triads, as Scale No. 7, which can be harmonized with C major and F# major triads. The 8-tone scale No. 393 is capable of forming 8 different triads, while other scales, such as No. 5, do not yield a single triad.

All scales and patterns in the THESAURUS are centered on C as the initial and concluding tone. It goes without saying that these progressions can be transposed to any tonal center according to a composer's requirements.

John Stuart Mill once wrote: "I was seriously tormented by the thought of the exhaustibility of musical combinations. The octave consists only of five tones and two semitones, which can be put together in only a limited number of ways of which but a small proportion are beautiful: most of these, it seemed to me, must have been already discovered, and there could not be room for a long succession of Mozarts and Webers to strike out, as these have done, entirely new surpassing rich veins of musical beauty. This sort of anxiety, may, perhaps, be thought to resemble that of the philosophers of Laputa, who feared lest the sun be burnt out."

The fears of John Stuart Mill are unjustified. There are 479,001,600 possible combinations of the 12 tones of the chromatic scale. With rhythmic variety added to the unbounded universe of melodic patterns, there is no likelihood that new music will die of internal starvation in the next 1000 years.

NICOLAS SLONIMSKY

1 January 1947 Boston, Massachusetts

EXPLANATION OF TERMS

AUTOCHORDAL HARMONIZATION. Application of chords derived from the tones of a given scale (Example, Scale No. 12: C, D \sharp , F, F \sharp , A, B, C, harmonized in 2 triads, F major and B major).

BITONAL ARPEGGIOS. [Nos. 1191-1213]. Melodic progressions formed of alternating arpeggios in 2 different keys.

BITONAL PALINDROMIC CANONS. Canons that result in the formation of 6-tone chords composed of 2 triads (Example, Scale No. 7: C, C \sharp , E, F \sharp , G, A \sharp , C, developed canonically, forming bitonal chords of C major and F \sharp major).

CHORD OF THE MINOR 23RD. Chord consisting of 12 different notes, arranged in thirds, and forming 4 mutually exclusive triads.

COMPLEMENTARY SCALES. Melodic progressions of two octaves in range, comprising all 12 tones of the chromatic scale (Example, C major scale plus the pentatonic scale on black keys).

CONJUNCT POLYTETRACHORD. Progression of 12 tetrachords traversing all 12 keys, with the terminal tone of one tetrachord being the initial tone of the next (Examples, Phrygian Polytetrachord, No. 830; Minor Polytetrachord, No. 832; Major Polytetrachord, No. 833).

CROSSING INTERVALS. [Nos. 1243-1250]. Two overlapping 6-tone rows comprising all 12 different tones, each row forming a progression of major or minor seconds, thirds, fourths, fifths and sixths.

DIAPENTE. Interval of $3\frac{1}{2}$ tones; a perfect fifth.

DIATESSARON. Interval of $2\frac{1}{2}$ tones; a perfect fourth.

DISJUNCT POLYTETRACHORD. Progression of 12 tetrachords traversing all 12 keys, with adjacent tetrachords separated by one diatonic degree (Examples, Disjunct Phrygian Polytetrachord, No. 951; Disjunct Minor Polytetrachord, No. 956; Disjunct Major Polytetrachord, No. 958; Disjunct Lydian Polytetrachord, No. 959).

DITONE. Interval of 2 whole tones; a major third.

GRANDMOTHER CHORD. Chord, invented by Nicolas Slonimsky on February 13, 1938, containing all 12 different tones and different intervals symmetrically invertible in relation to the central interval, the tritone, which is the inversion of itself; the intervallic structure being a row of alter-

natingly odd and even intervals (counted in semitones), the odd-numbered series forming a diminishing arithmetical progression, and the even-numbered series an increasing progression.

HEPTATONIC ARPEGGIOS. [Nos. 1088-1141]. Melodic progressions by thirds derived from Heptatonic scales.

HEPTATONIC SCALES. [Nos. 1034-1087]. Diatonic progressions of 7 degrees, such as major and minor scales and church modes, and also scales containing 1 or 2 augmented seconds.

INFRA-INTER-ULTRAPOLATION. Pattern formed by the insertion of notes below, between, and above the principal tones of a progression (Example, Pattern No. 341).

INFRAPOLATION. Insertion of a note below the principal tones of a progression (Example, Pattern 231).

INTERPOLATION. Insertion of one or more notes between the principal tones of a progression (Example, Scale No. 21).

INTER-ULTRAPOLATION. Insertion of 2 notes, one between the principal tones of a given progression, the other above the principal tone (Example, Pattern No. 123).

MAJOR BITONAL CHORD. Chord of 2 major triads usually in keys whose tonics are at the interval of a tritone, as C major and F \sharp major.

MAJOR POLYTETRACHORD. A series of major tetrachords, conjunct or disjunct, covering all 12 major keys (Examples, No. 833 and No. 958).

MASTER CHORDS. Dominant-seventh chords with the fifth omitted, tabulated chromatically in 12 different keys, to be used in harmonizing scales and melodic patterns, and indicated by figures, enclosed in circles, from 1 to 12.

MINOR BITONAL CHORD. Chord consisting of 2 minor chords, usually with tonics at the interval of a tritone, as C minor and F \sharp minor.

MINOR POLYTETRACHORD. A series of minor tetrachords, conjunct or disjunct, covering all 12 minor keys (Examples, No. 832 and No. 956).

MIRROR INTERVAL PROGRESSIONS. Scales and patterns in which the descending figure is the melodic inversion of the ascending figure (Example, Scale No. 1 ascending is the mirror inversion of Scale No. 4 descending).

MOTHER CHORD. Chord, introduced by Fritz Klein in 1921, containing all 12 tones and 11 different intervals.

MUTUALLY EXCLUSIVE TRIADS. Four triads (major, minor, diminished or augmented) comprising all 12 different tones (Example, C major, F# major, D minor, and G# minor).

NON-SYMMETRIC INTERPOLATION. Free insertion of additional notes between the principal tones.

OCTAVE POSITION. In four-part harmony, a triad with the root both in the melody and in the bass.

PALINDROMIC CANONS. Canons that read the same backward or forward.

PANDIATONIC HARMONY. Part-writing in chords freely combined from the 7 tones of the diatonic scale.

PANDIATONIC PROGRESSIONS. Tonal rows composed of all 7 different tones of the diatonic scale.

PATTERN. Melodic figure in which the direction changes from ascending to descending, or vice versa, before arriving at the terminal point (All infrapolated and extrapolated progressions are patterns).

PENTATONIC SCALES. [Nos. 1142-1190]. Scales of 5 notes.

PERMUTATION. Distribution of notes of a given melodic pattern in different orders of succession.

PHRYGIAN POLYTETRACHORD. Polytetrachord composed of 12 conjunct or disjunct Phrygian tetrachords (1 semitone plus 2 whole tones), (Examples, No. 830 and No. 951).

PLURAL SCALES. Progressions formed by disjunct scales, as C major, D \flat major, D major, and E \flat major.

POLYRHYTHMIC SCALES. Simultaneous progressions in different rhythms.

POLYTETRACHORD. Progression of 12 tetrachords passing through all 12 keys conjunctly (with the last tone of one tetrachord coinciding with the first tone of the next), or disjunctly (with the terminal tone of the first tetrachord separated by a diatonic degree from the initial tone of the next).

POLYTONAL POLYRHYTHMIC SCALES. Simultaneous progressions in different keys and in different rhythms.

POLYTONAL SCALES. Scales in different tonalities played simultaneously.

PROGRESSION. General term for any scale or melodic pattern.

PROMETHEUS SCALE. [No. 50]. The 6-tone scale (C, D, E, F#, A, B \flat) used by Scriabin in his symphonic poem *Prometheus*.

PYRAMID CHORD. Chord, introduced by Fritz Klein in 1921, composed of a series of diminishing intervals from an octave to a semitone.

QUADRITONE. Interval of 4 whole tones; a minor sixth.

QUADRITONAL ARPEGGIOS. [Nos. 1251-1291]. Melodic progressions formed by 4 mutually exclusive triads, as C major, D minor, F# major, and G# minor.

QUARTAL CHORD. 12-tone chord arranged in perfect fourths.

QUINQUETONE. Interval of 5 whole tones; a minor seventh.

QUINTAN POSITION. In four-part harmony, a triad with the root in the bass and the fifth in the melody.

SCALE. Progression of tones changing its direction only at terminal points (All interpolated progressions are scales).

SEMITONE PROGRESSION. Scale consisting of consecutive semitones; a chromatic scale.

SEPTITONE. Interval of 7 whole tones; a major ninth.

SESQUI. Prefix signifying the addition of a semitone to a given interval (Sesquitone = 1½ tones; Sesquiquadritone = 4½ tones).

SESQUIQUADRITONE. Interval of 4½ tones; a major sixth.

SESQUIQUINQUETONE. Interval of 5½ tones; a major seventh.

SEQUITONE. Interval of 1½ tones; a minor third.

SPIRAL PATTERNS. Melodic progressions converging toward a central tone.

SYMMETRIC INTERPOLATION. Insertion of notes at equal intervals from respective pivotal points, resulting in invertible progressions (Example, Scale No. 37: C, D, F, F#, G, B \flat , C, in which the intervals are the same from C upward and from the upper C downward).

TERTIAN POSITION. In four-part harmony, a triad with the root in the bass and the third in the melody.

TONE-CLUSTER. Term, introduced by Henry Cowell, signifying a complex of notes filling one or more octaves, diatonically, chromatically, or pentatonically.

TRITONE. Interval of 3 whole tones; an augmented fourth, or a diminished fifth.

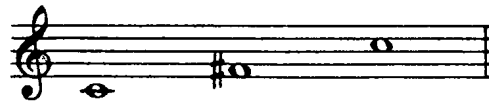
TWELVE-TONE PROGRESSIONS. Melodic figures of 12 different tones.

ULTRAPOLATION. Insertion of one or more notes above a principal tone of a scale (Example, Pattern No. 53, in which G is inserted above F#).

WHOLE-TONE CHORDS. Chords composed of intervals of one or several whole tones each.

Tritone Progression

Equal Division of One Octave into Two Parts



Interpolation of One Note

1

2

3

4

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ indicate Master Chords.

Interpolation of Two Notes

5

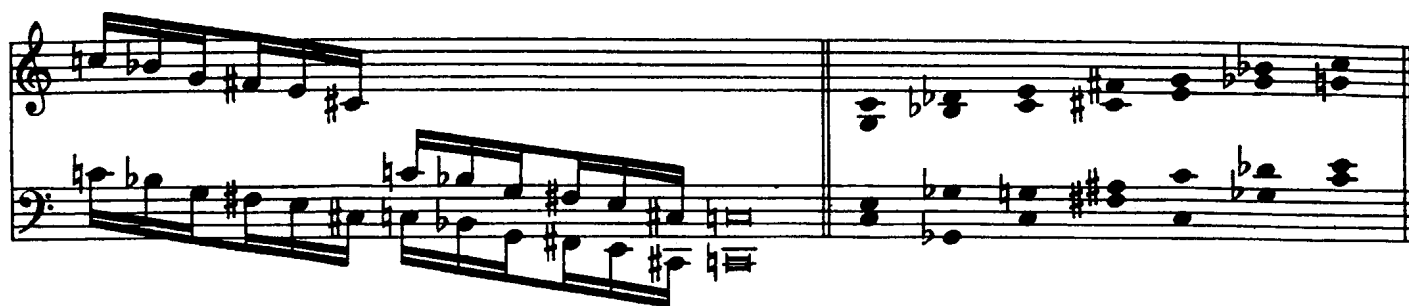
① ⑤ ⑦ ⑨ ⑪

6

③ ⑥ ⑧ ⑩ ⑫

7

① ④ ⑦



10

System 1, measures 10 and 11. The treble staff begins with a circled number 5. The music is in a key with one sharp (F#) and a 4/4 time signature. The bass staff continues the melodic line with similar rhythmic patterns.

System 2, measures 10 and 11. This system shows the continuation of the melodic lines from the previous system, with some chords and rests in the bass staff.

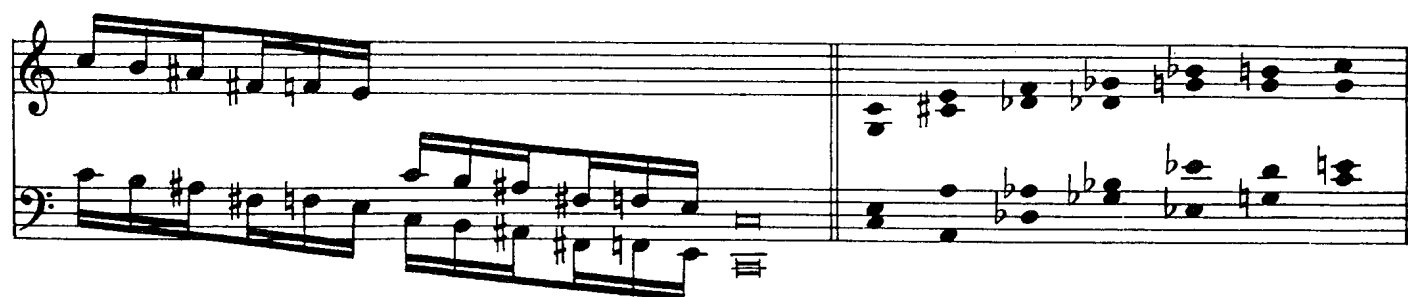
11

System 1, measures 12 and 13. The treble staff begins with a circled number 3. The key signature changes to two flats (Bb and Eb). The bass staff continues the melodic line.

System 2, measures 12 and 13. This system shows the continuation of the melodic lines from the previous system, with some chords and rests in the bass staff.

12

System 1, measures 14 and 15. The treble staff begins with circled numbers 3 and 6. The key signature remains two flats. The bass staff continues the melodic line.



Interpolation of Three Notes



15

Musical score for measures 15-16. Measure 15 is marked with a circled '1' and a circled '7'. The score consists of a grand staff with a treble and bass clef. The melody in the treble clef features a series of eighth and sixteenth notes, while the bass clef provides a harmonic accompaniment with similar rhythmic patterns. The key signature has one flat (B-flat).

Continuation of the musical score for measures 15-16. The right-hand system shows the continuation of the melody and accompaniment from the previous system, ending with a double bar line. The notation remains consistent with the previous system.

16

Musical score for measures 17-18. Measure 17 is marked with a circled '5' and a circled '11'. The score continues with the same grand staff and key signature. The melody in the treble clef and the accompaniment in the bass clef maintain the established rhythmic and melodic patterns.

Continuation of the musical score for measures 17-18. The right-hand system shows the continuation of the melody and accompaniment from the previous system, ending with a double bar line. The notation remains consistent with the previous system.

17

Musical score for measures 19-20. Measure 19 is marked with a circled '6' and a circled '12'. The score continues with the same grand staff and key signature. The melody in the treble clef and the accompaniment in the bass clef maintain the established rhythmic and melodic patterns.



20

System 1 of the musical score, measures 20-21. The treble staff contains a melodic line with eighth and sixteenth notes, including a triplet of eighth notes marked with a circled '3'. The bass staff contains a corresponding bass line with similar rhythmic patterns. The key signature has one flat (B-flat), and the time signature is 4/4.

System 2 of the musical score, measures 20-21. The treble staff continues the melodic line, ending with a double bar line. The bass staff continues the bass line, also ending with a double bar line. The notation includes various accidentals (sharps, flats, naturals) and rests.

21

System 1 of the musical score, measures 22-23. The treble staff contains a melodic line with eighth and sixteenth notes, including a triplet of eighth notes marked with a circled '5'. The bass staff contains a corresponding bass line with similar rhythmic patterns. The key signature has one flat (B-flat), and the time signature is 4/4.

System 2 of the musical score, measures 22-23. The treble staff continues the melodic line, ending with a double bar line. The bass staff continues the bass line, also ending with a double bar line. The notation includes various accidentals (sharps, flats, naturals) and rests.

Interpolation of Four Notes

22

System 1 of the musical score, measures 24-25. The treble staff contains a melodic line with eighth and sixteenth notes, including a triplet of eighth notes marked with a circled '1'. The bass staff contains a corresponding bass line with similar rhythmic patterns. The key signature has one flat (B-flat), and the time signature is 4/4.



②

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat). The music consists of eighth and sixteenth notes, with some accidentals (sharps and flats).

Continuation of the musical score for measures 24-25, showing the same two staves with eighth and sixteenth notes and accidentals.

Continuation of the musical score for measures 24-25, showing the same two staves with eighth and sixteenth notes and accidentals.

⑫

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat). The music consists of eighth and sixteenth notes, with some accidentals (sharps and flats).

Continuation of the musical score for measures 25-26, showing the same two staves with eighth and sixteenth notes and accidentals.



26



12

27

Symmetric Interpolation of One Note





Symmetric Interpolation of Three Notes



14



48

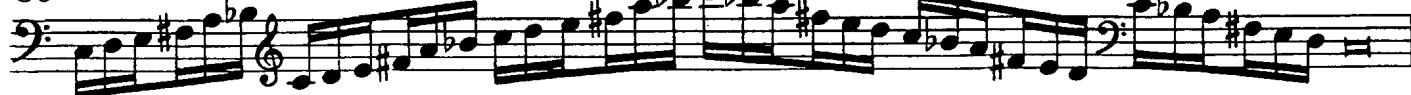


Non-Symmetric Interpolation

49



50 [Scriabin: Prometheus Scale]



51



52



Ultrapolation of One Note

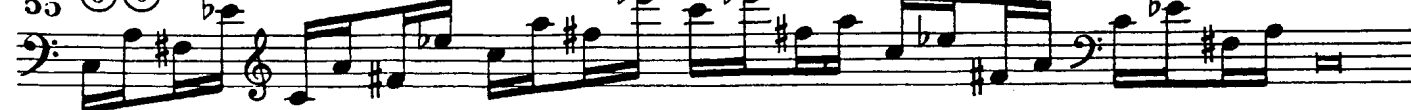
53



54



55



56



57 (5) (6) (11) (12)

15



58 (1) (12)



59

(1)

Ultrapolation of Two Notes



60

(6) (12)



61

(1)



62

(6) (12)



63

(3)



64

(3) (5) (7) (9) (11)



65

(5) (11)



66

(3) (9)



16

67

(6)



68

(5)



69

(1)



70

(6)



71

(1 7)



Ultrapolation of Three Notes

72

(1 7)



73

(12)



74

(5)



75

(5 11)



76

(1 7)

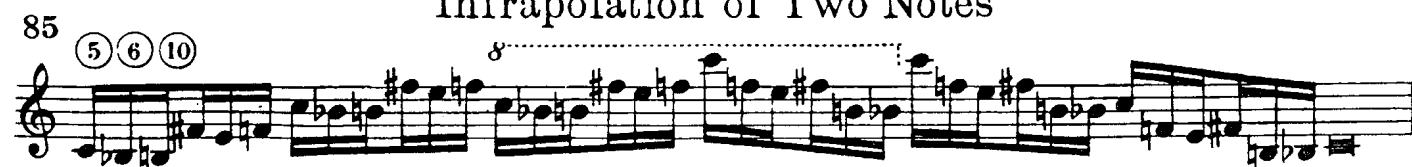




80 (5) (11) Infrapolation of One Note



Infrapolation of Two Notes



87 (5) (11) 8

88 (6) 8

89 (3) (9) 8

90 (1) (3) (5) (7) (9) (11) 8

91 (1) (7) 8

92 (3) (9) 8

93 (6) (12) 8

Infrapolation of Three Notes

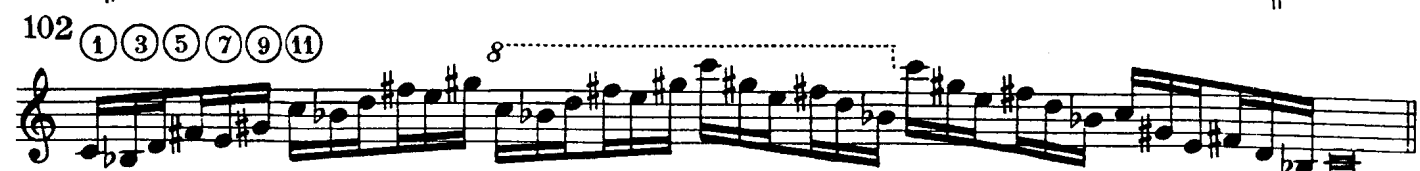
94 (6) (12)

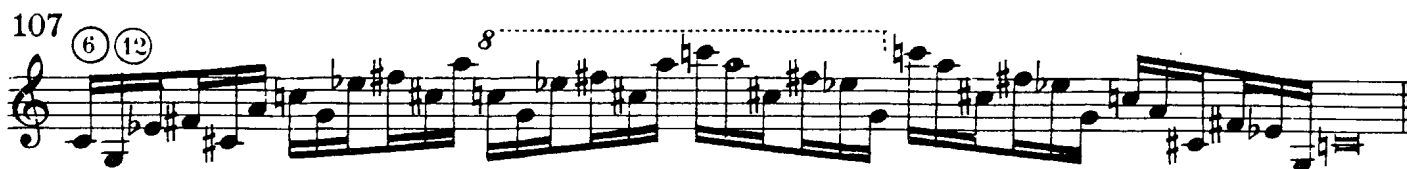
95 (1) (7)

96 (3) (9)



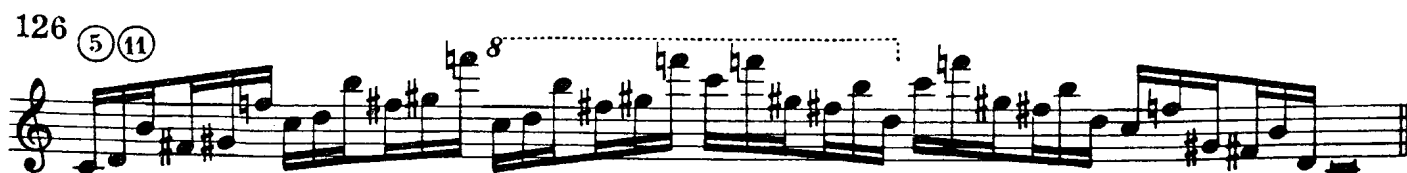
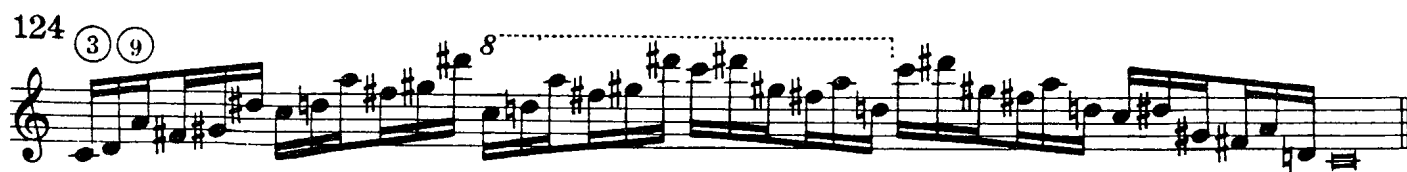
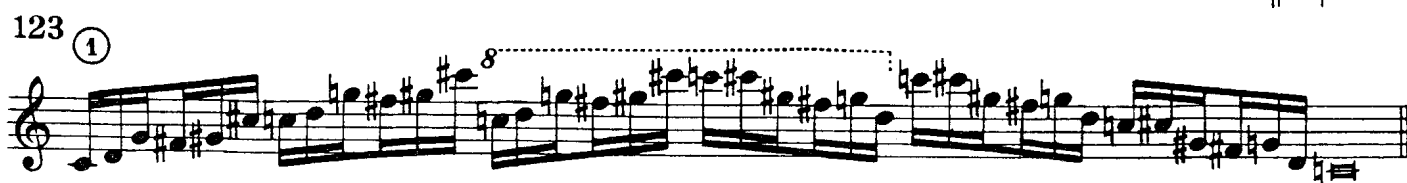
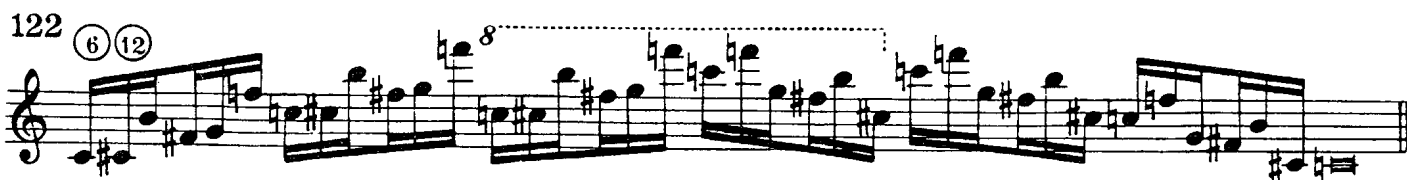
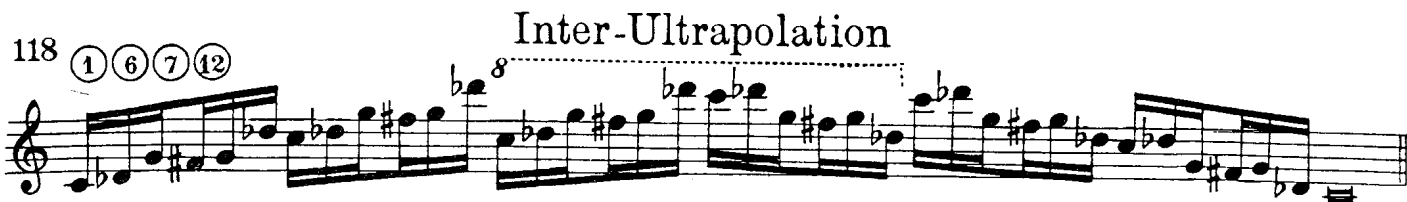
Infra-Interpolation





Infra-Ultrapolation





127 (6 12) 8

128 (3 9) 8

129 (3 9) 8

130 (6 12) 8

131 (1 7) 8

132 (1 3 5 7 9 11) 8

133 (3 9) 8

134 (1 3 5 7 9 11) 8

135 (5 11) 8

136 (6 12) 8

137 (5 11) 8



Infra-Inter-Ultrapolation





159 (4) (10)

160 (1) (7)

161 (1) (3) (5) (7) (9) (11)

162 (3) (9)

163 (4) (10)

164 (3) (9)

165 (3) (9)

166 (1) (7)

167 (1) (3) (5) (7) (9) (11)

168 (3) (9)

169 (5) (11)

170 (5) (11)

171 (10)

172 (6) (12)

173 (6) (12)

174 (12)

175 (3) (9)

176 (6) (12)

177 (3) (9)

178 (7)

179 (3) (9)

180 (3) (9)

This musical score consists of ten staves, each representing a measure from 170 to 180. Each staff begins with a treble clef and a key signature of one flat (B-flat). The notation is complex, featuring many beamed sixteenth and thirty-second notes, as well as various accidentals (sharps, flats, and naturals). Above each staff, there are two circled numbers: (5) (11) for measure 170, (10) for 171, (6) (12) for 172, (6) (12) for 173, (12) for 174, (3) (9) for 175, (6) (12) for 176, (3) (9) for 177, (7) for 178, (3) (9) for 179, and (3) (9) for 180. The music concludes with a double bar line at the end of measure 180.

Ditone Progression

Equal Division of One Octave into Three Parts



Interpolation of One Note

181



182



Interpolation of Two Notes

183



Two staves of music. The first staff is in treble clef and the second in bass clef. The key signature has two flats (B-flat and E-flat). The first measure contains a melodic line in the treble and a bass line in the bass. The second measure contains a block of chords in both staves.

184 [Scale of A. Tcherepnin]

Two staves of music. The first staff is in treble clef and the second in bass clef. The key signature has two flats. The first measure contains a melodic line in the treble and a bass line in the bass. The second measure contains a block of chords in both staves. The third measure contains a melodic line in the treble and a bass line in the bass. The fourth measure contains a block of chords in both staves.

Two staves of music. The first staff is in treble clef and the second in bass clef. The key signature has two flats. The first measure contains a melodic line in the treble and a bass line in the bass. The second measure contains a block of chords in both staves. The third measure contains a melodic line in the treble and a bass line in the bass. The fourth measure contains a block of chords in both staves.

185

Two staves of music. The first staff is in treble clef and the second in bass clef. The key signature has two flats. The first measure contains a melodic line in the treble and a bass line in the bass. The second measure contains a block of chords in both staves. The third measure contains a melodic line in the treble and a bass line in the bass. The fourth measure contains a block of chords in both staves.

Two staves of music. The first staff is in treble clef and the second in bass clef. The key signature has two flats. The first measure contains a melodic line in the treble and a bass line in the bass. The second measure contains a block of chords in both staves. The third measure contains a melodic line in the treble and a bass line in the bass. The fourth measure contains a block of chords in both staves.

Ultrappolation of One Note

186 (5) (6) (11) (12)

187 (1) (3) (5) (7) (9) (11)

188 (1) (6) (7) (12)

189 (1) (3) (5) (7) (9) (11)

190 (3) (6) (9)

191 (1) (3) (5) (7) (9) (11)

192 (5) (6) (11) (12)

Ultrappolation of Two Notes

193 (5) (6) (11) (12)

194 (6) (12)

195 (5) (11)

196 (6) (12)

197 (5) (11)

198 (5) (11)

199 (1) (6) (7) (12)

200 (1) (3) (5) (7) (9) (11)

201 (3) (6) (9)

202 (1) (3) (5) (7) (9) (11)

203 (5) (6) (11) (12)

204 (1) (7)



205 (6) (12)



206 (1) (7)



207 (6) (12)



208 (3) (9)



209 (1) (3) (5) (7) (9) (11)



210 (5) (11)



211 (3) (9)



212 (6) (12)



213 (5) (11)



Ultrappolation of Three Notes



(6) (12)



222

(6) (12)



223

(1) (7)



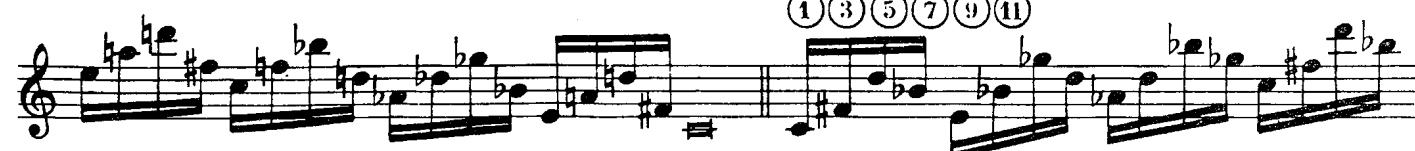
224

(3) (9)



225

(1) (3) (5) (7) (9) (11)



226

(5) (11)



227

(3) (9)



34



229



230



231 [Schoenberg: Ode to Napoleon]

Infrapolation of One Note



232 (1) (3) (5) (7) (9) (11)



233 (3) (6) (9) (12)



234 (1) (6) (7) (12)



235 (1) (3) (5) (7) (9) (11)



236 (5) (6) (11) (12)



Infrapolation of Two Notes

237 (5) (11)

238 (6) (12)

239 (5) (11)

240 (6) (12)

241 (5) (6) (11) (12)

242 (5) (6) (11) (12)

243 (3) (9)

244 (1) (3) (5) (7) (9) (11)

245 (1) (7)

246 (1) (3) (5) (7) (9) (11)

The image displays ten musical exercises, numbered 237 through 246, arranged vertically. Each exercise is written on a single staff in treble clef. The exercises are designed to demonstrate the 'Infrapolation of Two Notes', a technique where a sequence of notes is created by interpolating between two given notes. The exercises are grouped into pairs, with each pair sharing a common pair of starting notes indicated in parentheses above the first measure. The pairs are: (5, 11) for exercises 237 and 239; (6, 12) for exercises 238 and 240; (5, 6), (11), and (12) for exercises 241 and 242; (3, 9) for exercise 243; (1, 3), (5), (7), (9), and (11) for exercises 244 and 246; and (1, 7) for exercise 245. The notation includes various accidentals (sharps, flats, naturals) and note values (quarter, eighth, and sixteenth notes) to represent the specific intervals and rhythms of each exercise. The exercises show a progression of notes that gradually move from the starting notes towards a central point, illustrating the concept of infrapolation.

36

247 (5) (11)



248 (3) (9)



249 (6) (12)



250 (3) (6) (9) (12)



251 (6) (12)



252 (3) (9)



253 (9)



254 (1) (7)



255 (6) (12)



256 (1) (7)



257 (1) (6) (7) (12)



Intrapolation of Three Notes

[12 Tones]

258 (3) (6) (9) (12) *simile* *simile*

259 (5) (11) *simile* *simile*

260 (1) (7) *simile* *simile*

261 (5) (11) *simile* *simile*

262 (5) (11) *simile* *simile*

263 (3) (9) *simile* *simile*

264 (6) (12) *simile* *simile*

265 (2) (8) *simile* *simile*

266 (5) (11) *simile* *simile*

267 (6) (12) *simile* *simile*

268



269



270



271



272



273



274



275



276

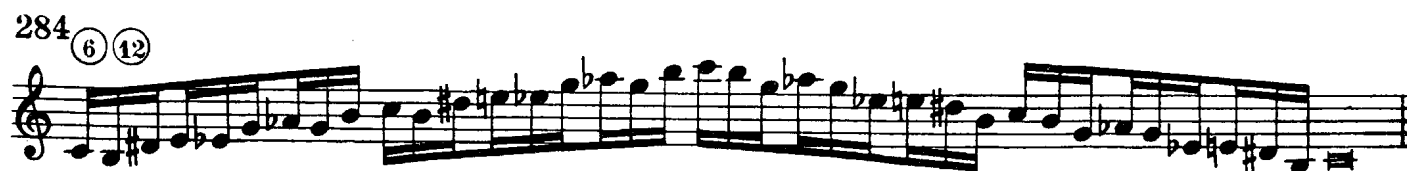
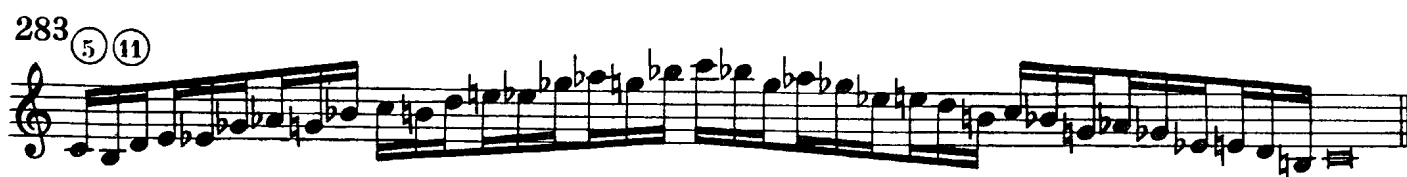


277





Infra-Interpolation



286 (3) (9)



287 (6) (12)



288 (3) (9)



289 (3) (6) (9) (12)



290 (1) (7)



291 (1) (3) (5) (7) (9) (11)



292 (3) (9)



293 (1) (6) (12)



294 (1) (7)



Infra-Ultrapolation

295 (5) (6) (11) (12)



42

304 ① ③ ⑤ ⑦ ⑨ ⑪



305 ③ ⑨



306 ⑥ ⑫



307 ③ ⑥ ⑨ ⑫



308 ⑥ ⑫



309 ③ ⑨



310 ⑤ ⑪



311 ⑤ ⑪



312 ① ⑦



313 ⑥ ⑫



314 (1) (6) (7) (12)



315 (5) (6) (11) (12)



Inter-Ultrapolation

316 (6) (12)



317 (6) (12)



318 (1) (6) (7) (12)



319 (1)



320 (6) (12)



321 (1) (7)



322 (6) (12)



323 (5) (11)



324 (1) (3) (5) (7) (9) (11)



325 (1) (7)



326 (1) (3) (5) (7) (9) (11)



327 (3) (9)



328 (1) (3) (5) (7) (9) (11)



329 (5) (11)



330 (6) (12)



331 (3) (6) (9) (12)



332 (6) (12)



333 (3) (9)



334 (3) (6) (9) (12)



335 (3) (9)

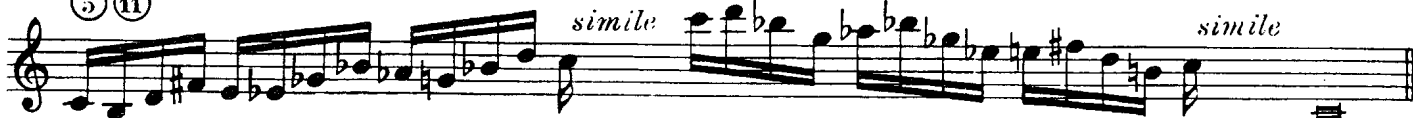


336 (6) (12)

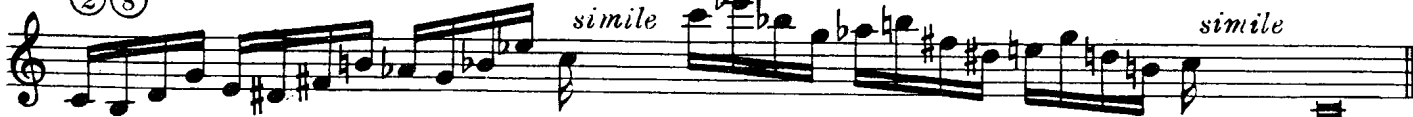


Infra-Inter-Ultraposition

337 (5) (11)



338 (2) (8)



339 (5) (11)



340 (2) (8)



341 (5) (11)





352 ① ③ ⑤ ⑦ ⑨ ⑪

353 ① ⑦

353 ① ⑦

simile *simile*

354 ① ③ ⑤ ⑦ ⑨ ⑪

355 (3) (9)

355 **(3)** **(9)**

simile *simile*

356 ③ ⑨

357 (4) (10)

358 (3) (9)

359¹² Tones
 (3) (0)

359 3 9



simile

360 (6) (12)

361 (6) (12)

362 (6) (12) *simile* *simile*

363 (6) *simile* *simile*

364 (8) *simile* *simile*

365 (1) *simile* *simile*

366 (1) (7) *simile* *simile*

367 (1) (3) (5) (7) (9) (11) *simile* *simile*

368 (1) (7) *simile* *simile*

369 (6) (12) *simile* *simile*

370 [12 Tones] (1) (6) (7) (12) *simile* *simile*

371 [12 Tones] (5) *simile* *simile*

49

372 [Dominant Seventh Chords]

(3) *simile*

The musical notation for exercise 372 is written on a single staff. It begins with a treble clef and a key signature of one flat (B-flat). The exercise is marked with a circled number 3. The notation consists of a series of eighth and sixteenth notes, with some notes beamed together. There are two instances of the word "simile" written above the staff. The exercise concludes with a double bar line.

373 ⑥ *simile*



374 ⑨



simile

simile

375 ^① *simile* *simile*

376 [Six-five chords]
①

simile

simile

377 3 *simile* *simile*

378 ⑥ *simile* *simile*

379 ⁽⁹⁾ *simile* *simile*

380 [Six-four-three chords] 9

simile *simile*

381 ①

simile

simile



Sesquitone Progression

Equal Division of One Octave into Four Parts

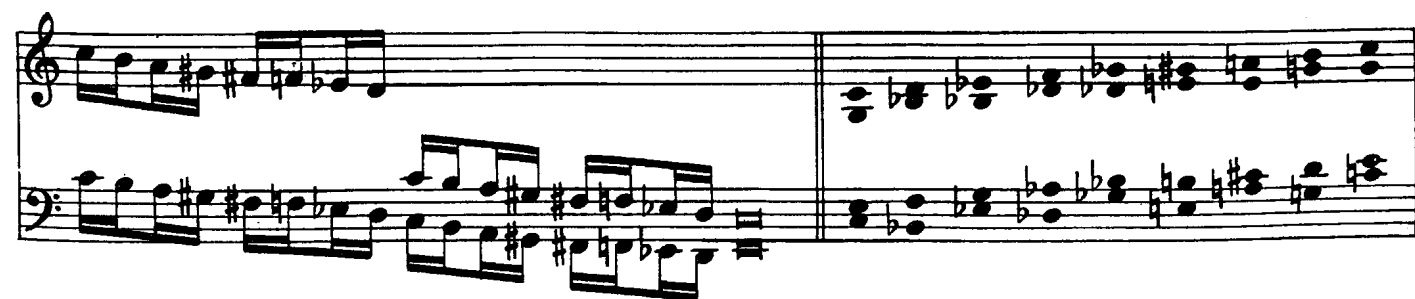


Interpolation of One Note

392 Alternating Semitones and Whole Tones



393 Alternating Whole Tones and Semitones



394 (1) (3) (5) (7) (9) (11)

Ultrapolation of One Note



395 (5) (6) (11)



396 (1) (6) (12)



397 (5) (11)



398 (1) (3) (5) (7) (9) (11)



399 (5) (6) (11) (12)



400 (1) (6) (12)



401 (1) (3) (5) (7) (9) (11)



Ultrapolation of Two Notes

402 (5) (11)



403 (1) (3) (5) (7) (9) (11)



404 (1)



410 ①



411 (3) (9)



412 (6)



413 (6)



414 (3) (9)



415 [12 Tones]

415 (5) (11)





416 ① ③ ⑤ ⑦ ⑨ ⑪



417 [12 Tones]

418 ⑤ ⑪



418 ⑤ ⑥



419 ⑤ ⑥



420 ⑥



Ultrapolation of Three Notes

421 (5) (11) *simile* *simile*

422 (5) *simile* *simile*

423 (1) (3) (5) (7) (9) (11) *simile* *simile*

424 (1) *simile* *simile*

425 (1) *simile* *simile*

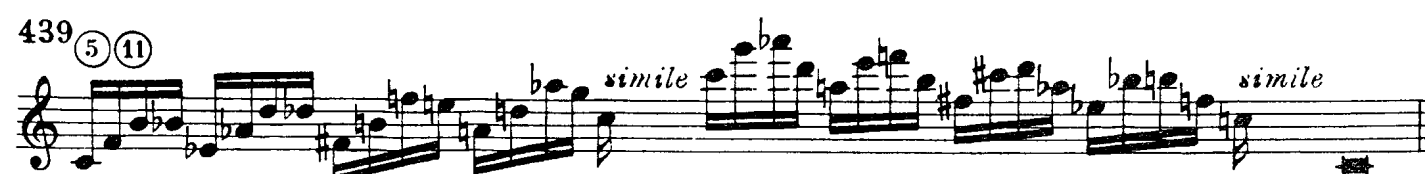
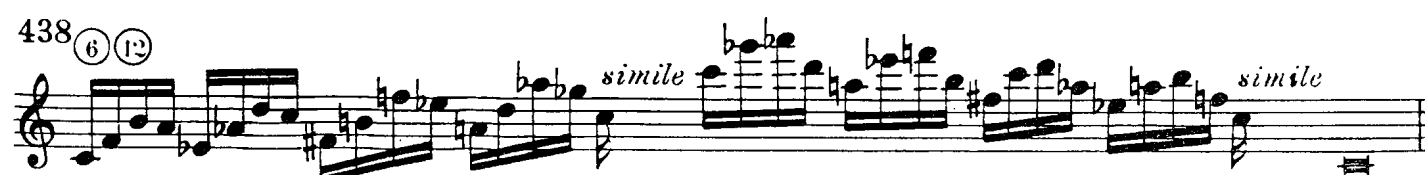
426 (5) (11) *simile* *simile*

427 (5) *simile* *simile*

428 (5) *simile* *simile*

429 (5) *simile* *simile*

The image displays a musical score for a piece titled "Ultrapolation of Three Notes". It consists of nine staves, numbered 421 through 429. Each staff begins with a treble clef and a key signature of one flat (B-flat). The notation is complex, featuring many accidentals (sharps, flats, naturals) and slurs. Above the first few notes of each staff are circled numbers: (5) (11) for 421, (5) for 422, (1) (3) (5) (7) (9) (11) for 423, (1) for 424, (1) for 425, (5) (11) for 426, (5) for 427, (5) for 428, and (5) for 429. The word "simile" is written above the staff in two locations on each line, indicating that the subsequent musical phrases should be played similarly to the preceding ones. The notation includes various note values, including eighth and sixteenth notes, and rests.



58

440

(1) (3) (5) (7) (9) (11)



441

(5) (11)



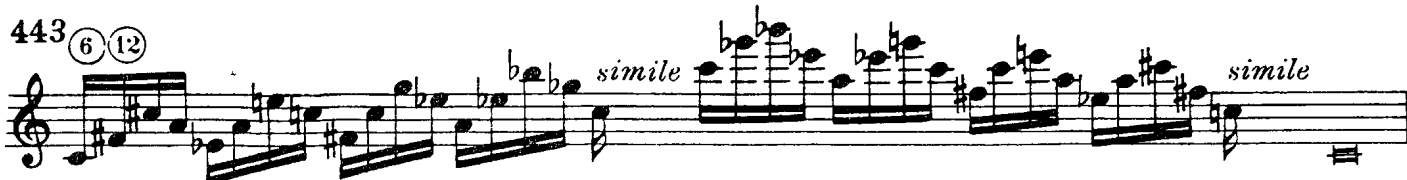
442

(6) (12)



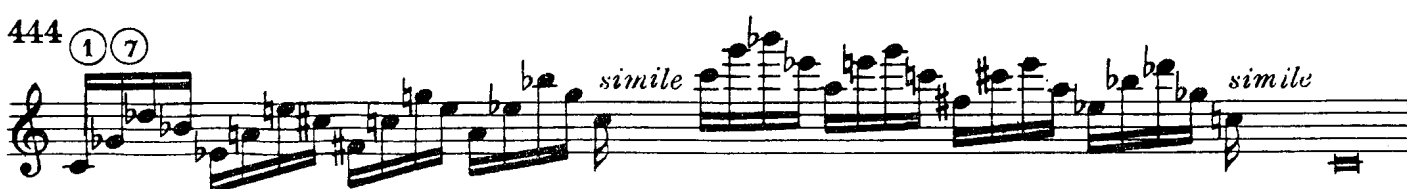
443

(6) (12)



444

(1) (7)



445

(1) (3) (5) (7) (9) (11)



446

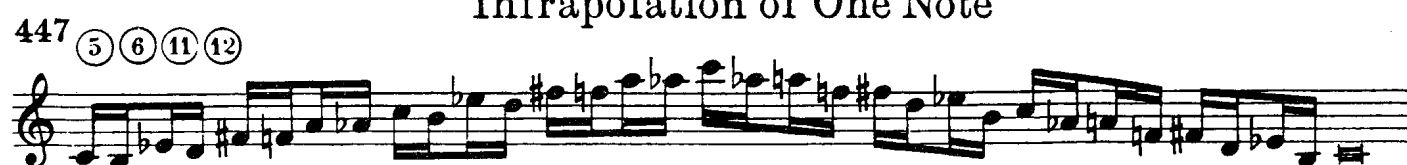
(5) (11)



Infrapolation of One Note

447

(5) (6) (11) (12)



448

(1) (3) (5) (7) (9) (11)



449 (1) (3) (5) (7) (9) (11)



450 (1) (6) (12)



451 (5) (6) (11)



452 (1) (3) (5) (7) (9) (11)



Infraposition of Two Notes

453 (5) (11)



454 (6) (9) (12)



455 (5) (11)

456 [12 Tones]
(6) (12)

457 (5) (6) (11) (12)

458 (3) (9)

459 (1) (3) (5) (7) (9) (11)

460 (1) (7)

461 (1) (3) (5) (7) (9) (11)

462 (3) (9)

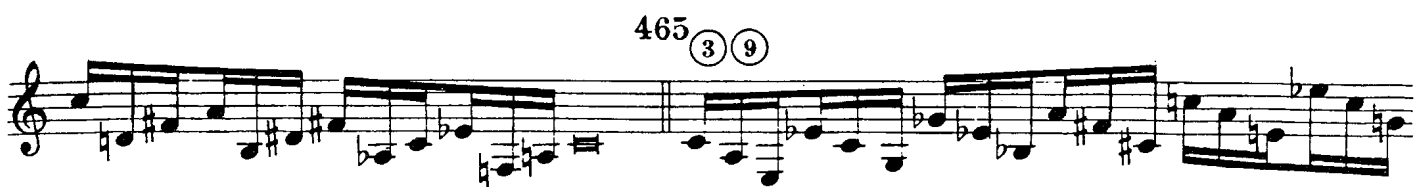
463 (6) (12)



464 (6)



465 (3) (9)



466 ①



467 (1) (3) (5) (7) (9) (11)



468 (5) (11)



469 (1) (3) (5) (7) (9) (11)



470 ⑨

471 ①

472 ⑥ ⑫

Infraposition of Three Notes

473 ⑤ ⑪

474 ①

475 ⑨

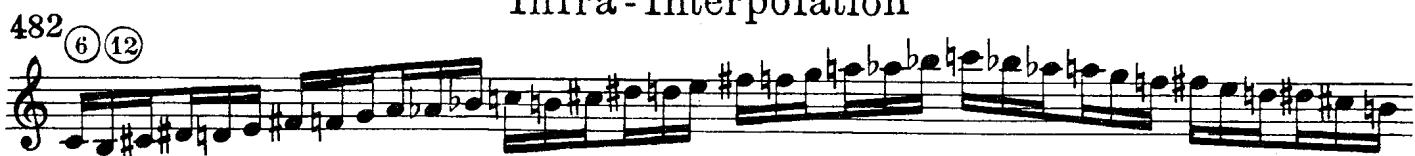
476 ⑥ ⑫

477 ② ⑧

[Rimsky-Korsakov; Battle Scene from the Opera *Kitezh*]

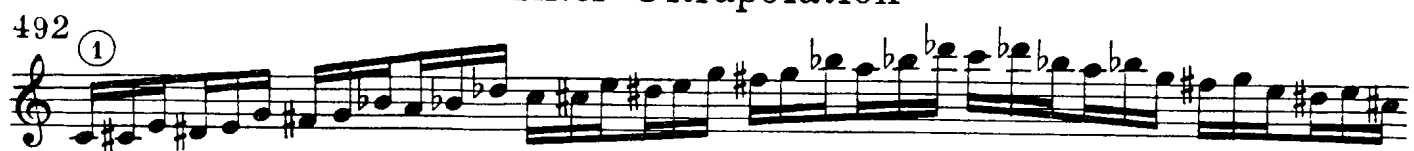


Infra - Interpolation





Inter-Ultrapolation





494 (1) (6) (12)



495 (1)



496 [Shostakovitch: Prelude №2]



497 (5) (11)



498 (1) (3) (5) (7) (9) (11)



499 (1)



Infra-Ultrapolation

500 [12 Tones]
(5)

501 (5) (6) (11) (12)



502 (5) (6) (11) (12)

503 [12 Tones]
(6) (12)

504 (1) (3) (5) (7) (9) (11)

505 [12 Tones]
(5) (11)

506 (1) (3) (5) (7) (9) (11)





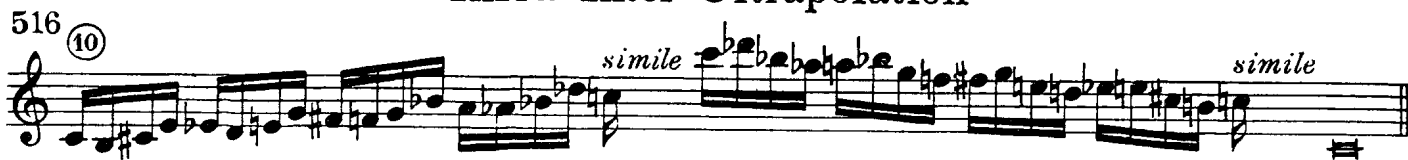
514 ① ③ ⑤ ⑦ ⑨ ⑪



515 ①



Infra-Inter-Ultrapolation







Miscellaneous Patterns

543 ⁽¹⁰⁾

simile

simile

544 ^③

simile

545 ⁽²⁾

simile *simile*

546

① ③ ⑤ ⑦ ⑨ ⑪

simile

simile

547 (5) (11) *simile* *simile*

548 ①

simile

simile

549 ⁽¹⁰⁾

simile

[illegible]

551 ⁽⁶⁾ *simile* *simile*

552 ⁽⁹⁾ *simile* *simile*

553 ⁽¹⁾ *simile* *simile*

554 [Six-five chords] ⁽¹⁾ *simile* *simile*

555 ⁽³⁾ *simile* *simile*

556 ⁽⁶⁾ *simile* *simile*

557 ⁽⁹⁾ *simile* *simile*

558 [Six-four-three chords] ⁽⁹⁾ *simile* *simile*

559 ⁽¹⁾ *simile* *simile*

560 ⁽³⁾ *simile* *simile*

561 ⁽⁶⁾ *simile* *simile*

562 [Six-four-two chords]



565 ⑦ [Spiral]

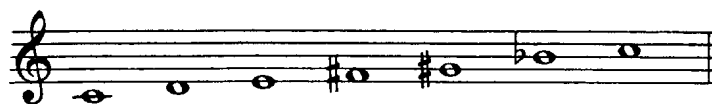


[Ravel: Jeux d'eau]



Whole-Tone Progression

Equal Division of One Octave into Six Parts



569



Harmonizations



Ultrappolation of One Note

570



571



572



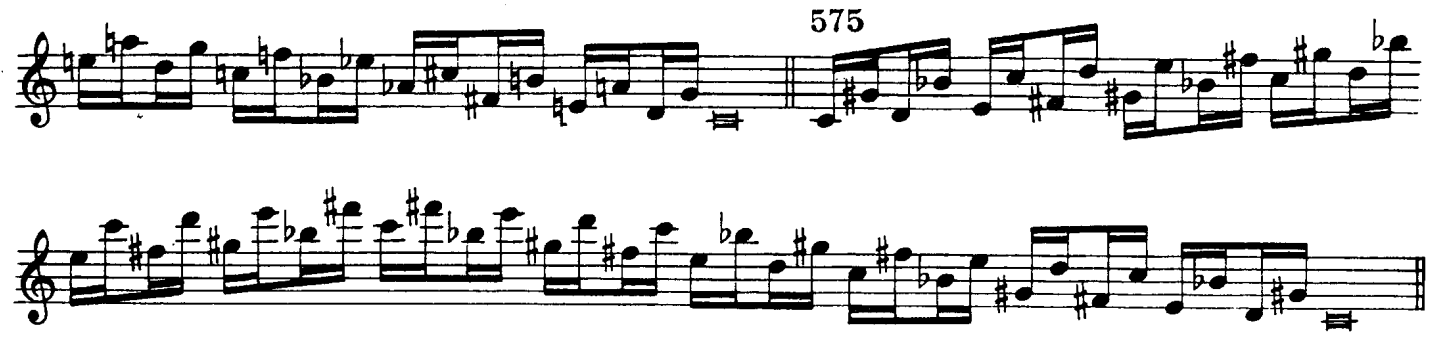
573



574



575



576



577



578



Infrapolation of One Note

579

B - A - C - H



580



581



582



583



584



585



586



587



Infra-Interpolation

588



589



590



591



592



593



594



595

simile

simile

Musical staff 595: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

596

simile

simile

Musical staff 596: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

Infra-Ultrapolation

597

simile

simile

Musical staff 597: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

598

simile

simile

Musical staff 598: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

599

simile

simile

Musical staff 599: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

600

simile

simile

Musical staff 600: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

601

simile

simile

Musical staff 601: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

602

simile

simile

Musical staff 602: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

603

simile

simile

Musical staff 603: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

604

simile

simile

Musical staff 604: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.



Inter-Ultrapolation



Infra-Inter-Ultrapolation

81

624



simile 631

simile

simile 632 simile

simile 633

simile

simile 634 simile

simile 635

simile

simile 636

simile simile

Semitone Progression

Equal Division of One Octave into Twelve Parts



Harmonizations



Permutations

637



Harmonization

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 8/8. The music consists of a sequence of chords and single notes, primarily using the notes F#, G, A, B, C, and D.

638

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 8/8. The music consists of a sequence of chords and single notes, primarily using the notes F#, G, A, B, C, and D.

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 8/8. The music consists of a sequence of chords and single notes, primarily using the notes F#, G, A, B, C, and D.

Harmonization

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 8/8. The music consists of a sequence of chords and single notes, primarily using the notes F#, G, A, B, C, and D.

639

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 8/8. The music consists of a sequence of chords and single notes, primarily using the notes F#, G, A, B, C, and D.

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 8/8. The music consists of a sequence of chords and single notes, primarily using the notes F#, G, A, B, C, and D.

Harmonization



640



Harmonization



641



Harmonization

Harmonization

First system of musical notation. The top staff is a treble clef with a key signature of one flat (B-flat). The bottom staff is a bass clef with a key signature of one flat (B-flat). The notation includes various chords and melodic lines. The word "or" appears above the bottom staff, indicating an alternative harmonic choice.

Second system of musical notation. The top staff is a treble clef with a key signature of one flat (B-flat). The bottom staff is a bass clef with a key signature of one flat (B-flat). The notation includes various chords and melodic lines. The word "or" appears above the bottom staff, indicating an alternative harmonic choice.

642

Measure 642. The notation is complex, featuring multiple staves with various chords and melodic lines. The key signature is one flat (B-flat). The notation includes various chords and melodic lines.

Harmonization

First system of musical notation for exercise 643. It consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and single notes, including a prominent octave 8 in the first measure.

643

Second system of musical notation for exercise 643. It continues the melodic and harmonic lines from the first system. The notation includes many accidentals and complex rhythmic patterns. The system ends with a double bar line.

Harmonization

etc.

etc.

Third system of musical notation for exercise 643. It shows the continuation of the harmonic accompaniment in the bass staff, with chords and single notes. The treble staff continues the melodic line. The system ends with a double bar line.

644

First system of musical notation for exercise 644. It consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals. The bass staff contains a harmonic accompaniment with chords and single notes, including a prominent octave 8 in the first measure.

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first. The word "or" is written below the first system, indicating an alternative version of the accompaniment.

645

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first. The word "or" is written below the first system, indicating an alternative version of the accompaniment.

Harmonization

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first.

646

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first.

8

First system of music, measures 645-646. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The music is in a key with one flat (B-flat major or D minor). The upper staff begins with a measure marked with an '8' and a dotted line, indicating an eighth note. The melody is composed of eighth and sixteenth notes. The lower staff provides a harmonic accompaniment with eighth and sixteenth notes.

647

Second system of music, measures 647-648. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The music continues in the same key and style as the previous system. The upper staff begins with a measure marked with an '8' and a dotted line. The melody and accompaniment continue with eighth and sixteenth notes.

Third system of music, measures 649-650. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The music continues in the same key and style. The upper staff begins with a measure marked with an '8' and a dotted line. The melody and accompaniment continue with eighth and sixteenth notes.

Harmonization

Fourth system of music, measures 651-652. The system consists of three staves. The top staff is in treble clef and contains a single melodic line. The middle and bottom staves are in bass clef and contain harmonic accompaniment. The music is in the same key. The system is divided into two measures by a double bar line. The word "or" is written below the bottom staff in the first measure, indicating an alternative harmonic option.

90

648



649



650



651



652



653



654



655



656

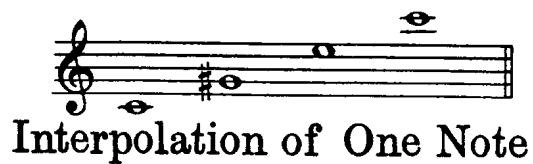


657



Quadritone Progression

Equal Division of Two Octaves into Three Parts



658



659



660



661



662



663



Interpolation of Two Notes

664



665



666



667



668



669



670



671



672





Interpolation of Three Notes

683

684

685

686

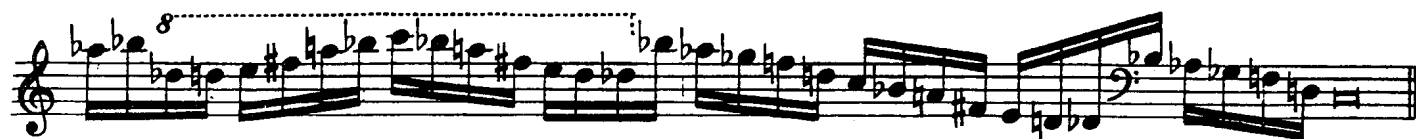
687

688

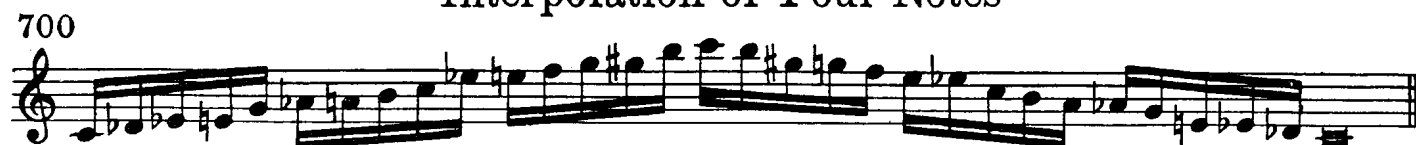
689

The image displays a musical score for a piece titled "Interpolation of Three Notes". The score is written for two staves, with the left staff in bass clef and the right staff in treble clef. The key signature is one flat (B-flat). The score is divided into measures, with measure numbers 683, 684, 685, 686, 687, 688, and 689 indicated. The notation includes various note values, accidentals, and slurs. A bracket with the number "8" is placed above the first staff in measures 683, 684, 685, 686, 687, 688, and 689, indicating an eighth-note rhythm. The score is presented in a clear, black-and-white format.





Interpolation of Four Notes



705



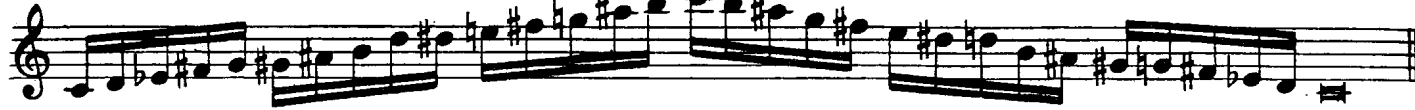
706



707



708



709



710



711



Ultrappolation of One Note

712



713



714



715



716



717



Infrapolation of One Note

[Rimsky-Korsakov: *Coq d'or*,
Scene II]

718 719

720 721 722 723

Detailed description: This block contains six staves of musical notation, numbered 718 through 723. Each staff consists of a pair of staves (treble and bass clef). The notation shows a sequence of notes with various accidentals (sharps, flats, naturals) and rests. The key signature changes from one sharp (F#) to one flat (Bb) between measures 720 and 721. The notes are connected by beams, indicating eighth or sixteenth notes. The overall texture is a single melodic line with some harmonic support in the lower register.

Inter-Infrapolation

724 725 726 727

Detailed description: This block contains four staves of musical notation, numbered 724 through 727. Each staff consists of a pair of staves (treble and bass clef). The notation shows a sequence of notes with various accidentals and rests. The key signature changes from one flat (Bb) to one sharp (F#) between measures 726 and 727. The notes are connected by beams, indicating eighth or sixteenth notes. The overall texture is a single melodic line with some harmonic support in the lower register.

Ultra-Interpolation

728

Detailed description: This block contains one staff of musical notation, numbered 728. The staff consists of a pair of staves (treble and bass clef). The notation shows a sequence of notes with various accidentals and rests. The key signature changes from one sharp (F#) to one flat (Bb) between measures 727 and 728. The notes are connected by beams, indicating eighth or sixteenth notes. The overall texture is a single melodic line with some harmonic support in the lower register.

729

730

731

732

Inter-Infra-Ultrapolation

733

734 [12 tones]

735 [12 tones]

736 [12 tones]

Sesquiquadritone Progression

Equal Division of Three Octaves into Four Parts



Interpolation of One Note

737

738

739

740

741

742

743

744

A sequence of musical notation across four staves, labeled 737 through 744. Each staff contains a series of notes, primarily eighth and sixteenth notes, with various accidentals (sharps, flats, naturals) indicating a chromatic or diatonic progression.

Interpolation of Two Notes

745

746

747

748

749 [12 tones]

A sequence of musical notation across four staves, labeled 745 through 749. The notation is more complex than the previous section, featuring a wider range of notes and accidentals, including a key signature change to three flats in measure 749, which is labeled "[12 tones]".



Interpolation of Three Notes



761



762



763



764



765



766



767



768



769



770



771



Interpolation of Four Notes

772



773



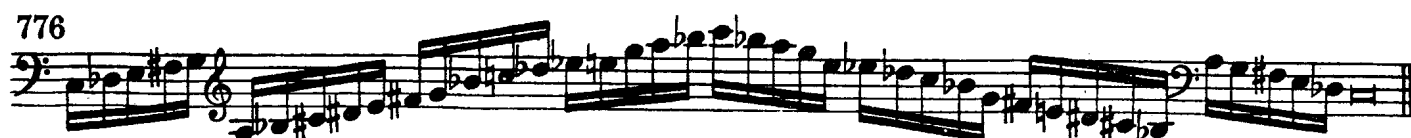
774



775



776



777



778



779



780



781

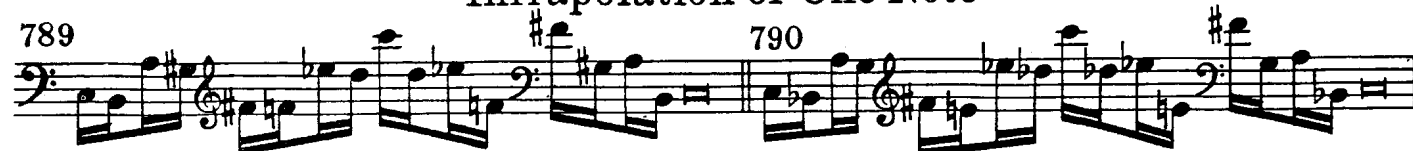




Ultrapolation of One Note



Infrapolation of One Note



Infra-Ultrapolation



Inter-Infrapolation

105

796

797

798

799

This section contains four measures of music, numbered 796 through 799. Each measure is written on a grand staff with a bass clef on the left and a treble clef on the right. The music features a complex sequence of notes and accidentals, including sharps, flats, and naturals, creating a dense and intricate melodic line.

Inter-Infra-Interpolation

800

801

802

803

This section contains four measures of music, numbered 800 through 803. The notation continues on grand staves, showing a continuation of the complex melodic and harmonic patterns established in the previous section, with various intervals and chromatic movements.

Ultra-Infra-Interpolation

804

This section contains one measure of music, numbered 804. It follows the same grand staff notation as the previous sections, maintaining the high level of complexity and technical difficulty.

Inter-Ultrapolation

805

This section contains one measure of music, numbered 805. It concludes the piece with a final, complex musical phrase on the grand staff.

Quinquetone Progression

Equal Division of Five Octaves into Six Parts



Interpolation of Two Notes

806

807

808

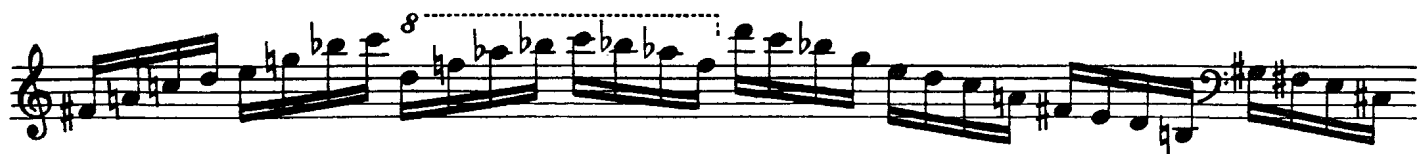
809

810

811



Interpolation of Three Notes



818

819

820

821

This section contains four staves of musical notation. The first staff (818) is a grand staff with a bass clef on the left and a treble clef on the right. The second staff (819) is a grand staff with a treble clef on the left and a bass clef on the right. The third staff (820) is a grand staff with a bass clef on the left and a treble clef on the right. The fourth staff (821) is a grand staff with a treble clef on the left and a bass clef on the right. The notation includes various musical symbols such as notes, rests, and accidentals, with some measures marked with an '8' and a dashed line.

Ultrapolation of One Note

822

823

This section contains two staves of musical notation. The first staff (822) is a grand staff with a bass clef on the left and a treble clef on the right. The second staff (823) is a grand staff with a bass clef on the left and a treble clef on the right. The notation includes various musical symbols such as notes, rests, and accidentals, with some measures marked with an '8' and a dashed line.

Infrapolation of One Note

824

825

This section contains two staves of musical notation. The first staff (824) is a grand staff with a bass clef on the left and a treble clef on the right. The second staff (825) is a grand staff with a bass clef on the left and a treble clef on the right. The notation includes various musical symbols such as notes, rests, and accidentals, with some measures marked with an '8' and a dashed line.

Diatessaron Progression

109

Equal Division of Five Octaves into Twelve Parts



Interpolation of One Note

826



827



8



828



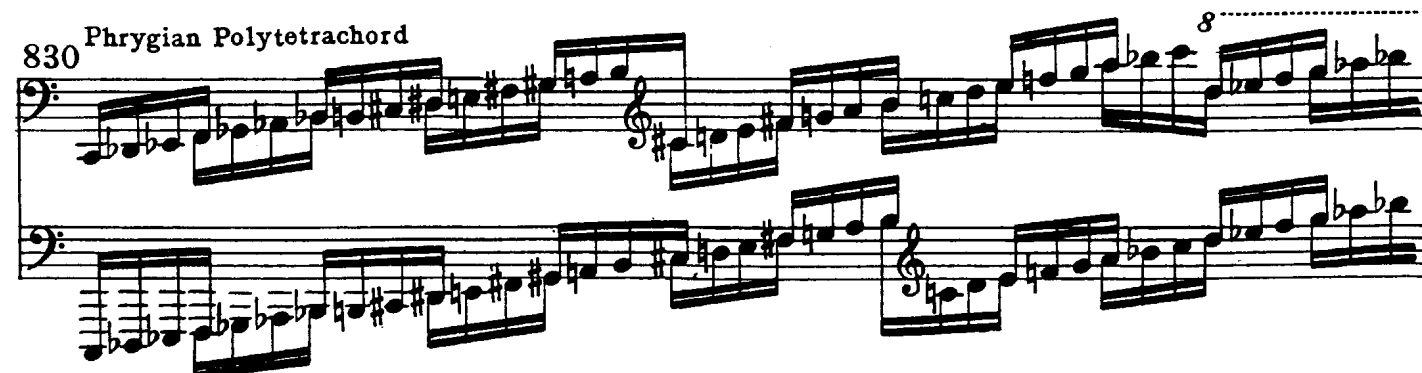
829



Interpolation of Two Notes

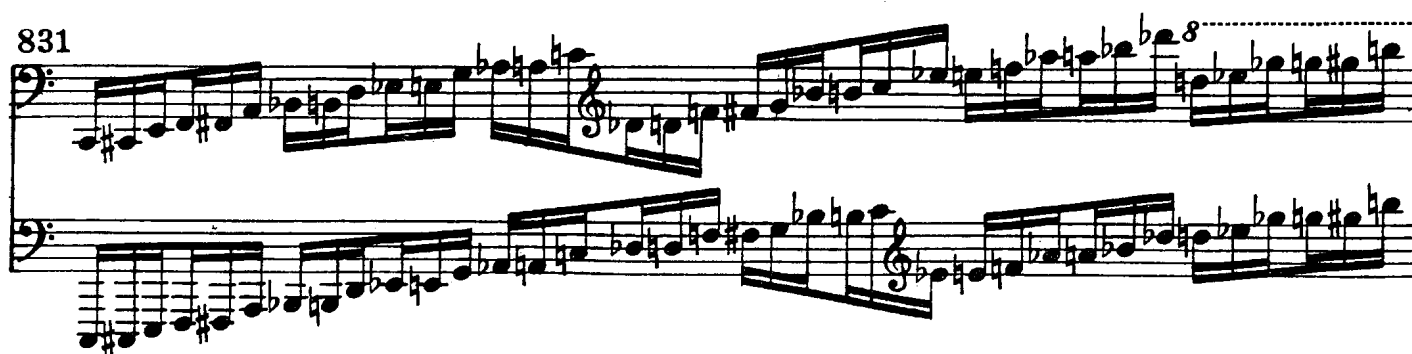
830

Phrygian Polytetrachord



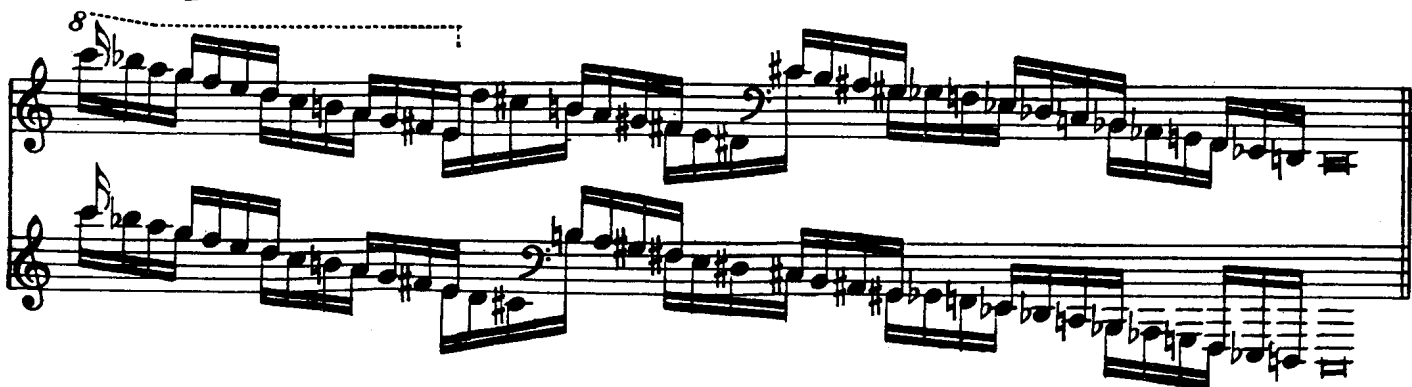


831



832

Minor Polytetrachord



833 Major Polytetrachord

Exercise 833, titled "Major Polytetrachord", is a musical exercise consisting of two systems of four staves each. The first system uses two bass staves and two treble staves. The second system uses two treble staves and two bass staves. The music is written in a key with one flat (B-flat) and a 2/4 time signature. It features a complex, chromatic melodic line that moves through various intervals, including octaves, as indicated by the "8" marking above the first staff of the second system. The exercise is designed to explore the relationships between different tetrads within a major scale.

834

Exercise 834 is a musical exercise consisting of two systems of four staves each. The first system uses two bass staves and two treble staves. The second system uses two treble staves and two bass staves. The music is written in a key with one flat (B-flat) and a 2/4 time signature. It features a complex, chromatic melodic line that moves through various intervals, including octaves, as indicated by the "8" marking above the first staff of the second system. The exercise is designed to explore the relationships between different tetrads within a major scale.

835

Exercise 835 consists of eight measures of music. The first four measures are written in bass clef, and the last four are in treble clef. The key signature has one sharp (F#). The melody is a continuous eighth-note scale. A dotted line with an '8' above it spans measures 5 through 8, indicating an eighth-note scale. The notation includes various accidentals (sharps and flats) to maintain the scale's integrity across the key change.

836

Exercise 836 consists of eight measures of music. The first four measures are written in bass clef, and the last four are in treble clef. The key signature has one sharp (F#). The melody is a continuous eighth-note scale. A dotted line with an '8' above it spans measures 5 through 8, indicating an eighth-note scale. The notation includes various accidentals (sharps and flats) to maintain the scale's integrity across the key change.

837

Exercise 837 is a musical exercise consisting of two systems of staves. The first system has two staves, both in bass clef, with a key signature of one flat (B-flat). The second system has two staves, both in treble clef, with a key signature of one flat. The music features complex rhythmic patterns, including eighth and sixteenth notes, and various accidentals (sharps, flats, and naturals). A dotted line with an '8' above it indicates an eighth-note pattern in the first staff of the second system.

Ultrapolation of One Note

838

Exercise 838 is a musical exercise consisting of a single staff in bass clef, with a key signature of one flat. The music features complex rhythmic patterns, including eighth and sixteenth notes, and various accidentals. A dotted line with an '8' above it indicates an eighth-note pattern.

839

Exercise 839 is a musical exercise consisting of two systems of staves. The first system has two staves, both in treble clef, with a key signature of one flat. The second system has two staves, both in treble clef, with a key signature of one flat. The music features complex rhythmic patterns, including eighth and sixteenth notes, and various accidentals. A dotted line with an '8' above it indicates an eighth-note pattern in the first staff of the second system.

840

841

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Ultrapolation of Two Notes

846

847

848

849



Ultrapolation of Three Notes



856



857



8



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859



8



860



861



8



862



863





Infrapolation of One Note

871

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Infrapolation of Two Notes

876

877

878



Infrapolation of Three Notes



120

887



888



889



Infra-Interpolation.

890



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893



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895



896



897

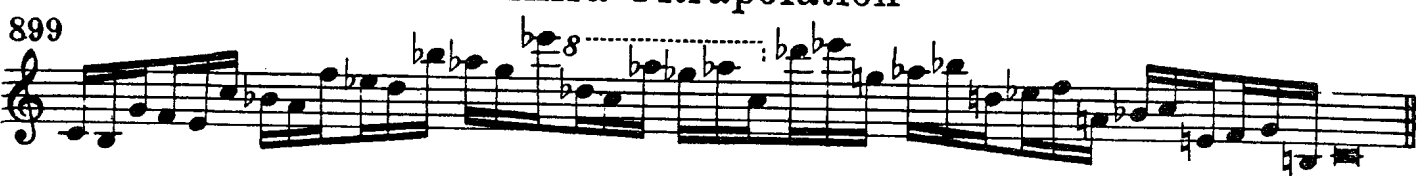


898



Infra-Ultrapolation

899



900



901



Inter-Ultrapolation

902

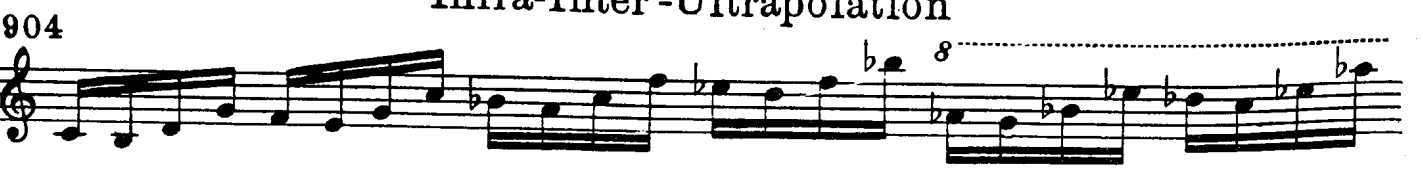


903



Infra-Inter-Ultrapolation

904



905

First staff of music for measure 905. It begins with a treble clef and a key signature of one flat (B-flat). The melody consists of eighth and sixteenth notes, with a dotted quarter note at the end. A slur with an '8' is placed over the final two notes.

Second staff of music for measure 906. It continues the melody from the previous staff, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Third staff of music for measure 907. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Fourth staff of music for measure 908. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Fifth staff of music for measure 909. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

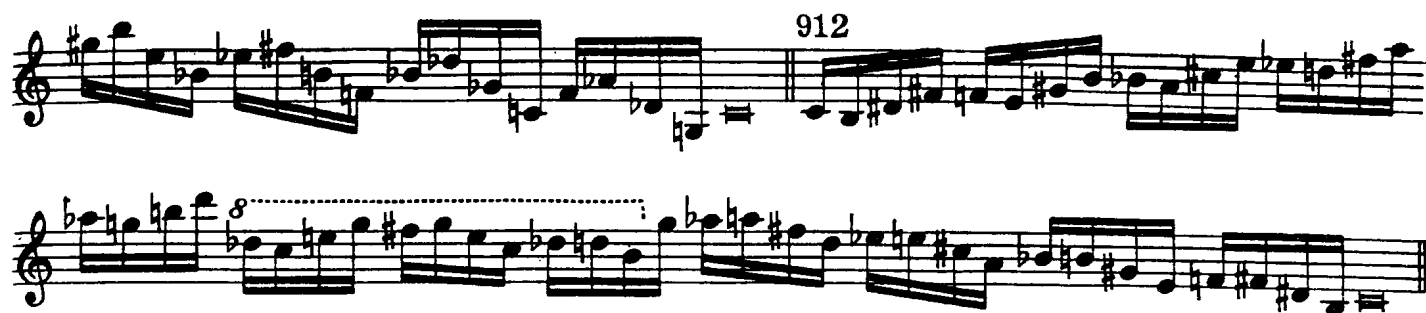
Sixth staff of music for measure 910. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Seventh staff of music for measure 911. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Eighth staff of music for measure 912. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Ninth staff of music for measure 913. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.

Tenth staff of music for measure 914. It continues the melody, featuring a treble clef and a key signature of one flat. The notation includes eighth and sixteenth notes, with a final dotted quarter note.



Miscellaneous Patterns



Septitone Progression

Equal Division of Seven Octaves into Six Parts



Interpolation of Two Notes



Interpolation of Three Notes



[Béla Bartók: Mikrokosmos, No. 143]



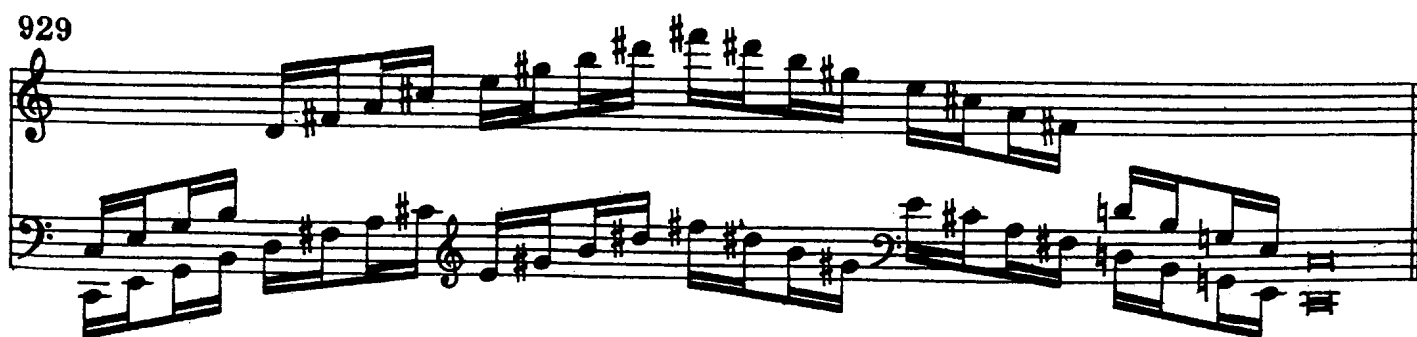
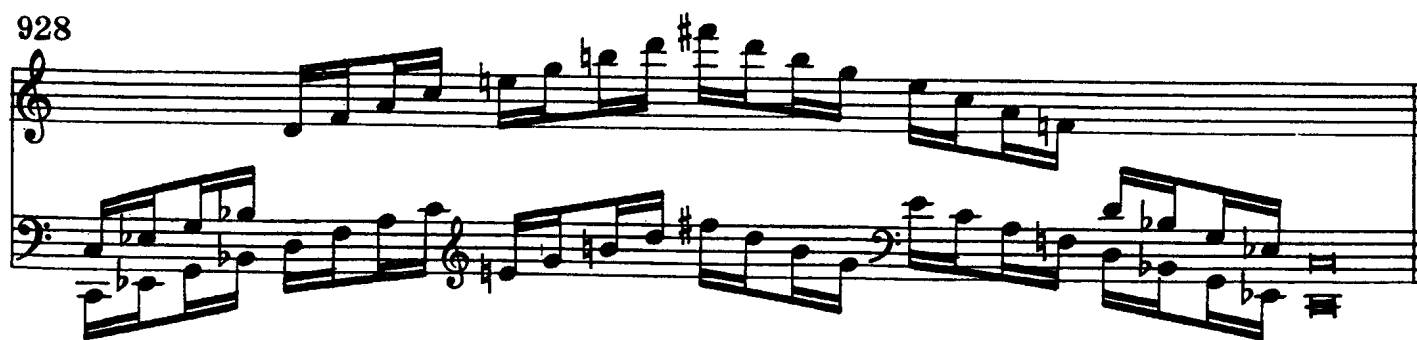
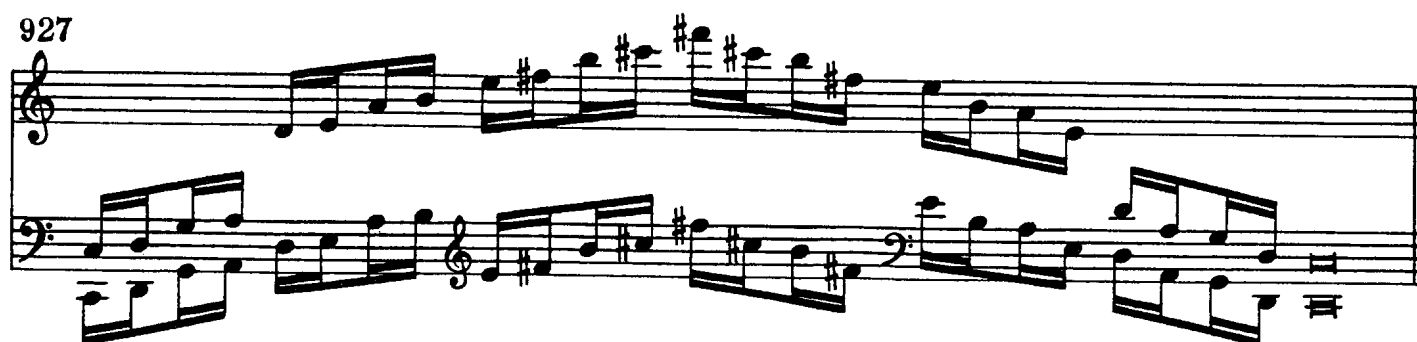
Diapente Progression

125

Equal Division of Seven Octaves into Twelve Parts

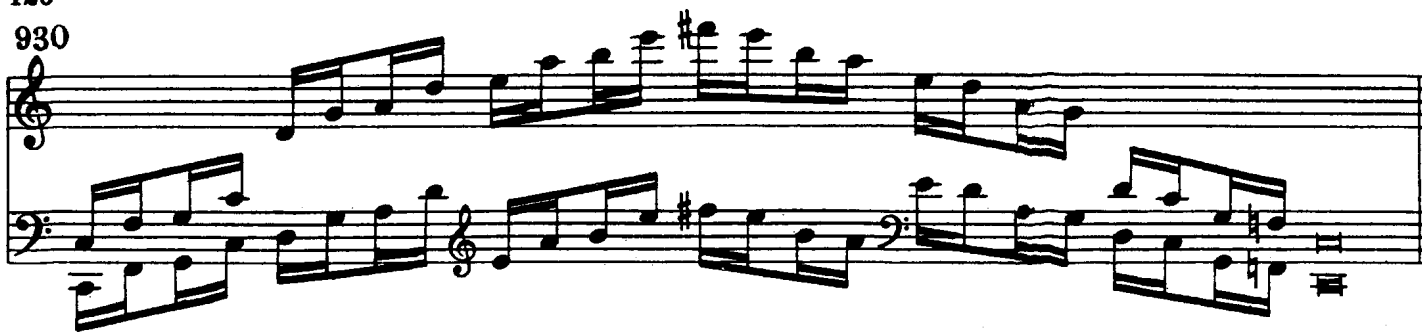


Interpolation of One Note



126

930



931



Interpolation of Two Notes

932



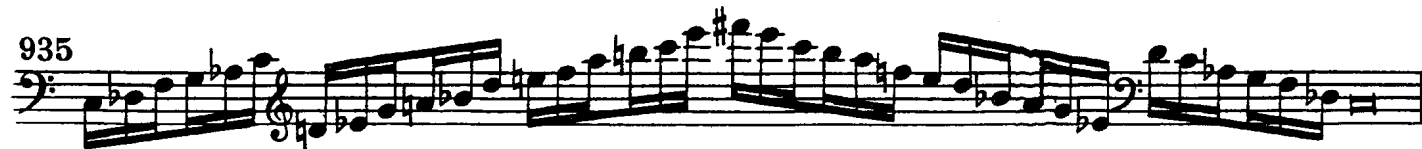
933



934



935

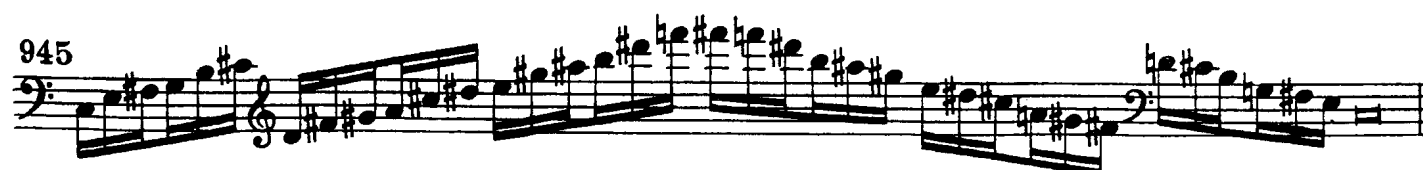
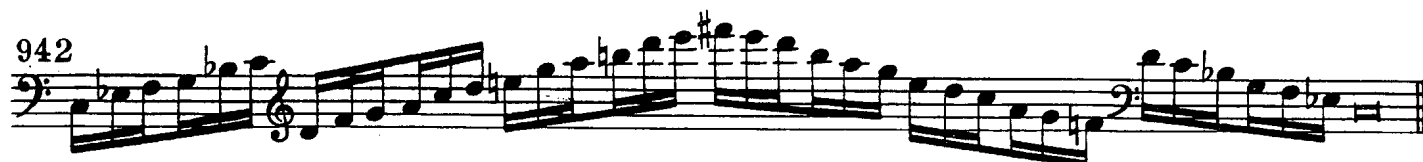
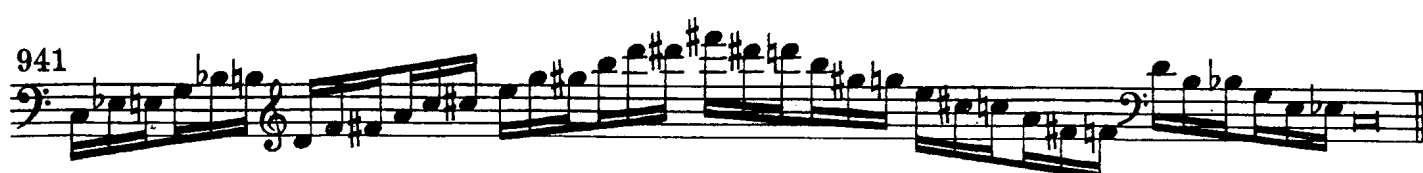
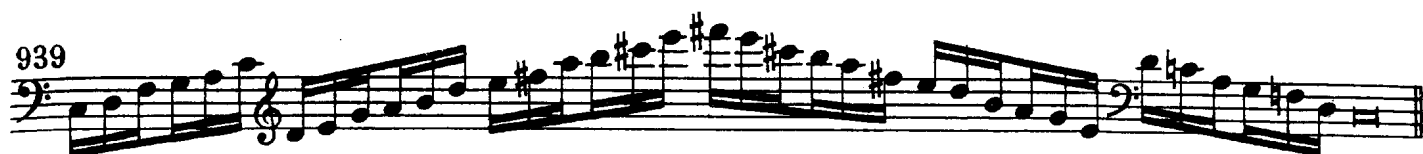


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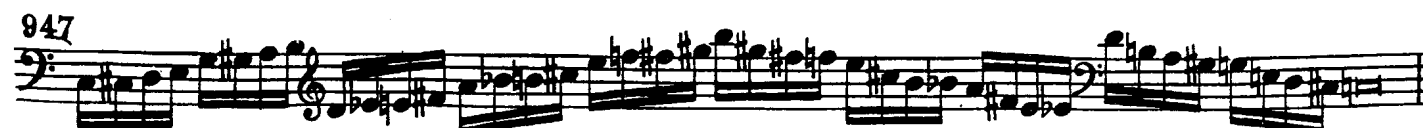


937





Interpolation of Three Notes



948



949



950



951 Disjunct Phrygian Polytetrachord



952



953



954



955



956 Disjunct Minor Polytetrachord



957



Disjunct Major Polytetrachord

958



Disjunct Lydian Polytetrachord

959



960



961



962



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964



Ultrapolation of One Note

965



966



967





Ultrapolation of Two Notes

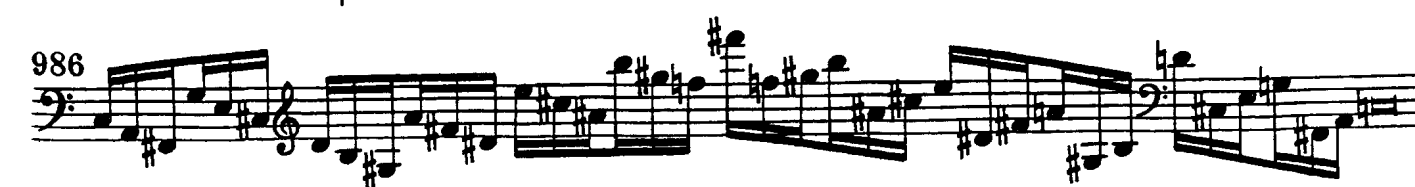
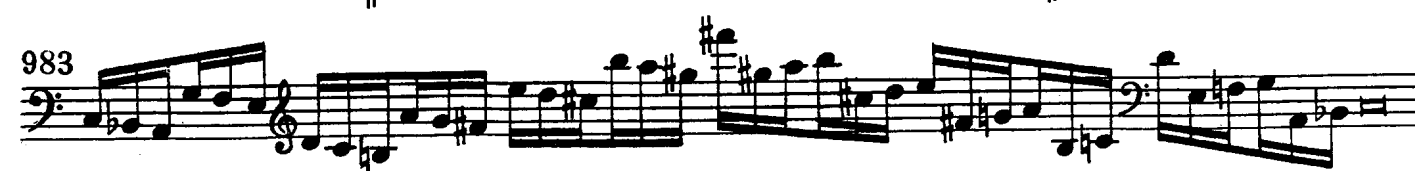


Infrapolation of One Note



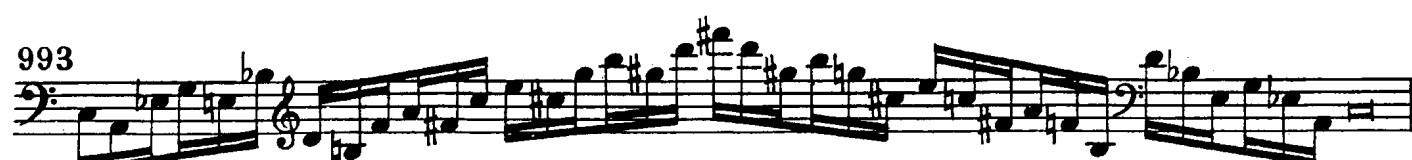
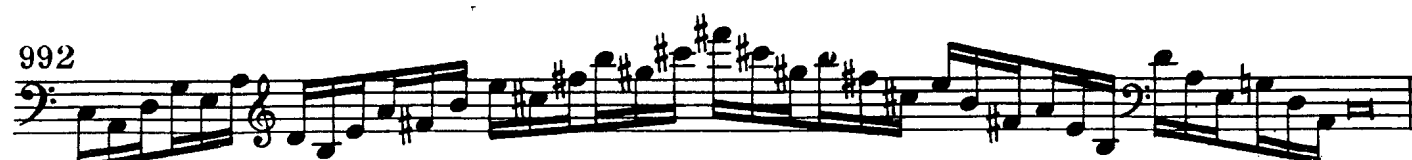
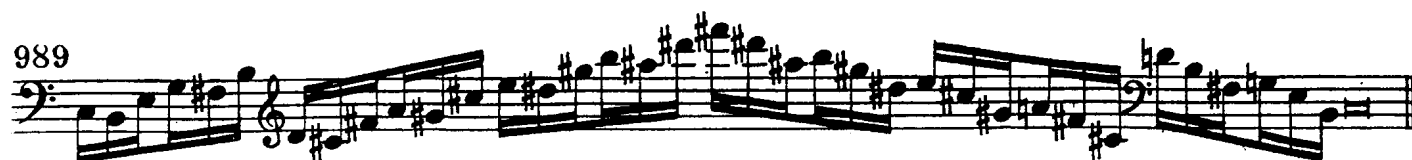


Infrapolation of Two Notes



Infra-Interpolation

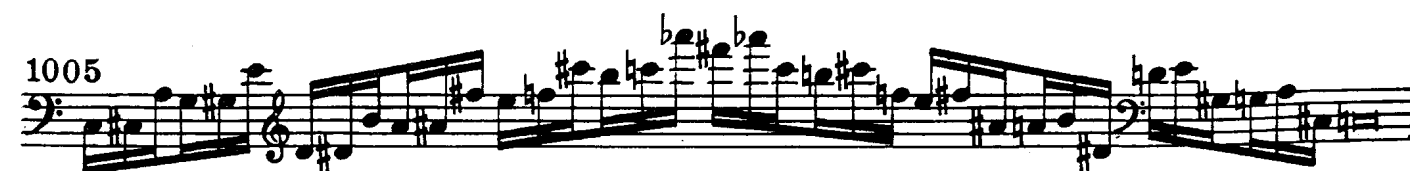




Infra-Ultrapolation



Inter-Ultrapolation



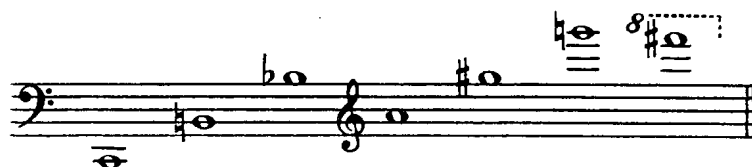


Infra-Inter-Ultrapolation



Sesquiquinquetone Progression

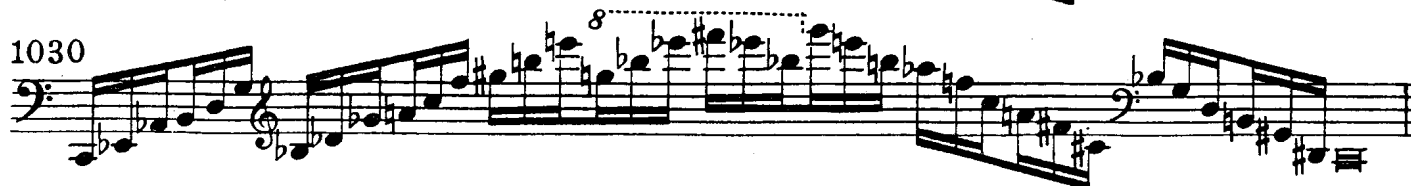
Equal Division of Eleven Octaves into Twelve Parts



Interpolation of One Note



Interpolation of Two Notes



Heptatonic Scales

137

1034

Scale 1034 is a natural major scale. The notation shows the scale ascending and descending in both treble and bass staves, followed by a block chord progression in the right hand.

1035

Locrian

Scale 1035 is a Locrian mode. The notation shows the scale ascending and descending in both treble and bass staves, followed by a block chord progression in the right hand.

1036

Phrygian

Scale 1036 is a Phrygian mode. The notation shows the scale ascending and descending in both treble and bass staves, followed by a block chord progression in the right hand.

138
1037



1038



1039



1040

Aeolian

Two systems of musical notation for the Aeolian mode. Each system consists of a treble and bass staff. The first system shows a continuous melodic line in both staves. The second system shows a melodic line in the treble staff and a more complex, multi-measure bass line with some rests and accidentals.

1041

Dorian

Two systems of musical notation for the Dorian mode. Each system consists of a treble and bass staff. The first system shows a continuous melodic line in both staves. The second system shows a melodic line in the treble staff and a more complex, multi-measure bass line with some rests and accidentals.

1042

Minor Melodic

Two systems of musical notation for the Minor Melodic mode. Each system consists of a treble and bass staff. The first system shows a continuous melodic line in both staves. The second system shows a melodic line in the treble staff and a more complex, multi-measure bass line with some rests and accidentals.

140

1043



1044

Mixolydian



1045

Major



1046

[Howard Hanson: Symphony No 4]

141

Two systems of musical notation for measures 1046 and 1047. Each system consists of a treble and bass staff. Measure 1046 features a melodic line in the treble and a more active line in the bass. Measure 1047 shows a continuation of the melodic theme in the treble, while the bass staff has a more rhythmic, dotted pattern. The key signature has one flat (B-flat).

1047

Lydian

Two systems of musical notation for measures 1047 and 1048. The notation continues from the previous system. Measure 1047 shows a melodic line in the treble and a more active line in the bass. Measure 1048 shows a continuation of the melodic theme in the treble, while the bass staff has a more rhythmic, dotted pattern. The key signature has one flat (B-flat).

1048

Two systems of musical notation for measures 1048 and 1049. The notation continues from the previous system. Measure 1048 shows a melodic line in the treble and a more active line in the bass. Measure 1049 shows a continuation of the melodic theme in the treble, while the bass staff has a more rhythmic, dotted pattern. The key signature has one flat (B-flat).

1049

A musical score for the song 'The Rose Tree'. The score is written for voice and piano. The voice part is in the upper staff, and the piano accompaniment is in the lower staff. The key signature is one sharp (F#), and the time signature is 4/4. The score consists of two systems. The first system has two staves. The second system has two staves. The piano accompaniment features a prominent arpeggiated figure in the right hand, which is a characteristic feature of the song. The melody is simple and catchy, with a clear refrain. The score is presented in a clear, legible format, suitable for a music book or a teaching resource.

Heptatonic Scales with an Augmented Second

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1051

1051

This musical score is for the song 'The Rose Tree'. It is written for a voice and piano accompaniment. The key signature has one flat (B-flat), and the time signature is 4/4. The score consists of two systems. The first system has a vocal line and a piano accompaniment. The piano part features a prominent triplet in the right hand. The second system continues the vocal line and piano accompaniment, ending with a double bar line. The piano part includes a triplet in the right hand and a triplet in the left hand.

1052

143

Exercise 1052 consists of two systems of music. The first system contains measures 1 and 2, and the second system contains measures 3 and 4. Each system is written for a grand staff with a treble and bass clef. The key signature has one sharp (F#). The melody in the treble clef is primarily eighth-note runs, while the bass clef provides a steady eighth-note accompaniment. Measure 4 concludes with a double bar line and repeat signs.

1053

Exercise 1053 consists of two systems of music. The first system contains measures 1 and 2, and the second system contains measures 3 and 4. Each system is written for a grand staff with a treble and bass clef. The key signature has two flats (Bb, Eb). The melody in the treble clef features eighth-note runs with some descending intervals. The bass clef provides a steady eighth-note accompaniment. Measure 4 concludes with a double bar line and repeat signs.

1054

Exercise 1054 consists of two systems of music. The first system contains measures 1 and 2, and the second system contains measures 3 and 4. Each system is written for a grand staff with a treble and bass clef. The key signature has two flats (Bb, Eb). The melody in the treble clef features eighth-note runs with some descending intervals. The bass clef provides a steady eighth-note accompaniment. Measure 4 concludes with a double bar line and repeat signs.

144
1055

Musical score for measures 1055 and 1056. The score is written for two staves (treble and bass clef) and includes a grand staff system. The key signature is one flat (B-flat). The melody is primarily eighth-note based. Measure 1055 shows a complex rhythmic pattern with many beamed eighth notes. Measure 1056 continues this pattern, ending with a double bar line. The bass line provides a steady accompaniment with eighth notes.

1056

Musical score for measures 1057 and 1058. The score is written for two staves (treble and bass clef) and includes a grand staff system. The key signature is one flat (B-flat). The melody continues with eighth-note patterns. Measure 1057 shows a continuation of the melodic line. Measure 1058 ends with a double bar line. The bass line continues with eighth-note accompaniment.

1057

Musical score for measures 1059 and 1060. The score is written for two staves (treble and bass clef) and includes a grand staff system. The key signature is one flat (B-flat). The melody continues with eighth-note patterns. Measure 1059 shows a continuation of the melodic line. Measure 1060 ends with a double bar line. The bass line continues with eighth-note accompaniment.

1058

Exercise 1058 is a complex chromatic scale exercise. It consists of two systems of two staves each. The first system shows a treble staff with a melodic line and a bass staff with a supporting line. The second system continues the exercise, ending with a double bar line. The key signature is one flat (B-flat), and the time signature is 4/4. The exercise involves a series of chromatic intervals, including half steps and whole steps, across the entire range of the staves.

1059

"Enigmatic Scale" of Verdi

Exercise 1059, titled "Enigmatic Scale" of Verdi, is a complex chromatic scale exercise. It consists of two systems of two staves each. The first system shows a treble staff with a melodic line and a bass staff with a supporting line. The second system continues the exercise, ending with a double bar line. The key signature is one flat (B-flat), and the time signature is 4/4. The exercise involves a series of chromatic intervals, including half steps and whole steps, across the entire range of the staves.

1060

Exercise 1060 is a complex chromatic scale exercise. It consists of two systems of two staves each. The first system shows a treble staff with a melodic line and a bass staff with a supporting line. The second system continues the exercise, ending with a double bar line. The key signature is one flat (B-flat), and the time signature is 4/4. The exercise involves a series of chromatic intervals, including half steps and whole steps, across the entire range of the staves.

146

1061



1062



1063



1064

Exercise 1064 is a two-staff piece in 2/4 time. The key signature has one flat (B-flat). The melody in the treble staff begins with a quarter rest, followed by eighth and sixteenth notes. The bass staff features a continuous eighth-note accompaniment. The piece concludes with a double bar line and a repeat sign.

1065

Exercise 1065 is a two-staff piece in 2/4 time. The key signature has one flat (B-flat). The melody in the treble staff starts with a quarter rest, followed by eighth and sixteenth notes. The bass staff has a steady eighth-note accompaniment. The exercise ends with a double bar line and a repeat sign.

1066

Exercise 1066 is a two-staff piece in 2/4 time. The key signature has two flats (B-flat and E-flat). The melody in the treble staff begins with a quarter rest, followed by eighth and sixteenth notes. The bass staff features a continuous eighth-note accompaniment. The piece concludes with a double bar line and a repeat sign.

148
1067

Two systems of musical notation for measures 1067 and 1068. Each system consists of a treble and bass staff. The notation is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The music features a complex, flowing melody with many accidentals (flats and naturals) and a dense harmonic accompaniment. The first system (1067) ends with a double bar line, and the second system (1068) continues the piece.

1068

Two systems of musical notation for measures 1068 and 1069. Each system consists of a treble and bass staff. The notation is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The music features a complex, flowing melody with many accidentals (flats and naturals) and a dense harmonic accompaniment. The first system (1068) ends with a double bar line, and the second system (1069) continues the piece.

1069

Two systems of musical notation for measures 1069 and 1070. Each system consists of a treble and bass staff. The notation is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The music features a complex, flowing melody with many accidentals (flats and naturals) and a dense harmonic accompaniment. The first system (1069) ends with a double bar line, and the second system (1070) continues the piece.

1070

System 1070 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Both staves contain a series of eighth and sixteenth notes, mostly with flat accidentals. The system concludes with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) and a final chord.

1071

System 1071 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Both staves contain a series of eighth and sixteenth notes, mostly with flat accidentals. The system concludes with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) and a final chord.

1072

System 1072 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Both staves contain a series of eighth and sixteenth notes, mostly with flat accidentals. The system concludes with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) and a final chord.

150
1073

Two systems of musical notation for measures 1073 and 1074. Each system consists of a treble and bass staff. The notation includes eighth and sixteenth notes, rests, and various accidentals (flats and naturals). Measure 1074 concludes with a double bar line and a key signature change to two flats.

1074

Two systems of musical notation for measures 1074 and 1075. Each system consists of a treble and bass staff. The notation includes eighth and sixteenth notes, rests, and various accidentals (flats and naturals). Measure 1075 concludes with a double bar line and a key signature change to two flats.

1075

Two systems of musical notation for measures 1075 and 1076. Each system consists of a treble and bass staff. The notation includes eighth and sixteenth notes, rests, and various accidentals (flats and naturals). Measure 1076 concludes with a double bar line and a key signature change to two flats.

1076

Two systems of musical notation for measure 1076. Each system consists of a treble and bass staff. The first system shows a melodic line in the treble and a bass line in the bass, both featuring eighth and sixteenth notes with various accidentals. The second system continues the melody and bass line, with the treble staff ending in a double bar line and the bass staff continuing into the next measure.

1077

Two systems of musical notation for measure 1077. The notation is similar to the previous measure, with a treble and bass staff. The first system shows a melodic line in the treble and a bass line in the bass. The second system continues the melody and bass line, with the treble staff ending in a double bar line and the bass staff continuing into the next measure.

1078

Minor Harmonic

Two systems of musical notation for measure 1078. The notation is similar to the previous measures, with a treble and bass staff. The first system shows a melodic line in the treble and a bass line in the bass. The second system continues the melody and bass line, with the treble staff ending in a double bar line and the bass staff continuing into the next measure.

152

1079

Major Harmonic

Major Harmonic scale, measures 1079-1080. The notation shows the scale ascending and descending in both treble and bass staves, with a final chordal representation of the scale in measure 1080.

Heptatonic Scales with Two Augmented Seconds

1080

Heptatonic Scales with Two Augmented Seconds, measures 1080-1081. The notation shows the scale ascending and descending in both treble and bass staves, with a final chordal representation of the scale in measure 1081.

1081

Heptatonic Scales with Two Augmented Seconds, measures 1081-1082. The notation shows the scale ascending and descending in both treble and bass staves, with a final chordal representation of the scale in measure 1082.

1082

Two systems of musical notation for measures 1082 and 1083. Each system consists of a treble and bass staff. The notation includes various note values, rests, and accidentals (flats and naturals). Measure 1083 ends with a double bar line, followed by a key signature change to one flat (B-flat) and a common time signature.

1083

Two systems of musical notation for measures 1084 and 1085. Each system consists of a treble and bass staff. The notation includes various note values, rests, and accidentals (flats and naturals). Measure 1085 ends with a double bar line, followed by a key signature change to one flat (B-flat) and a common time signature.

1084

Two systems of musical notation for measures 1086 and 1087. Each system consists of a treble and bass staff. The notation includes various note values, rests, and accidentals (flats and naturals). Measure 1087 ends with a double bar line, followed by a key signature change to one flat (B-flat) and a common time signature.

154
1085

Two systems of musical notation for measures 1085 and 1086. Each system consists of a treble and bass staff. The notation includes various note values, accidentals (sharps, flats, naturals), and slurs. The key signature has one flat (B-flat). The first system (1085) shows a complex melodic line in the treble and a more rhythmic bass line. The second system (1086) continues the melodic development in the treble and features a more active bass line with many sixteenth notes.

1086

Two systems of musical notation for measures 1087 and 1088. Each system consists of a treble and bass staff. The notation includes various note values, accidentals, and slurs. The key signature has one flat (B-flat). The first system (1087) continues the melodic line in the treble and the active bass line. The second system (1088) shows a more complex melodic line in the treble and a bass line with many sixteenth notes.

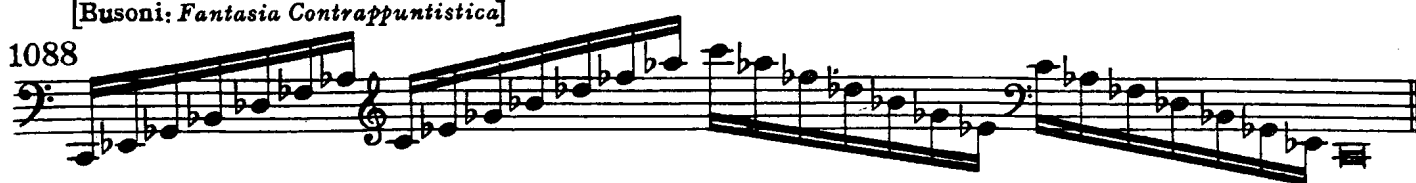
1087

Two systems of musical notation for measures 1089 and 1090. Each system consists of a treble and bass staff. The notation includes various note values, accidentals, and slurs. The key signature has one flat (B-flat). The first system (1089) continues the melodic line in the treble and the active bass line. The second system (1090) shows a more complex melodic line in the treble and a bass line with many sixteenth notes.

Heptatonic Arpeggios

[Busoni: *Fantasia Contrappuntistica*]

1088



1089 Locrian



1090 Phrygian



1091



1092



1093



1094 Aeolian



1095 Dorian



1096 Minor Melodic



1097



Mixolydian

1098

Major

1099 Major

1

1100

Lydian

1101 Lydian

2

1102

3

1103

1

1104

5

1105

6

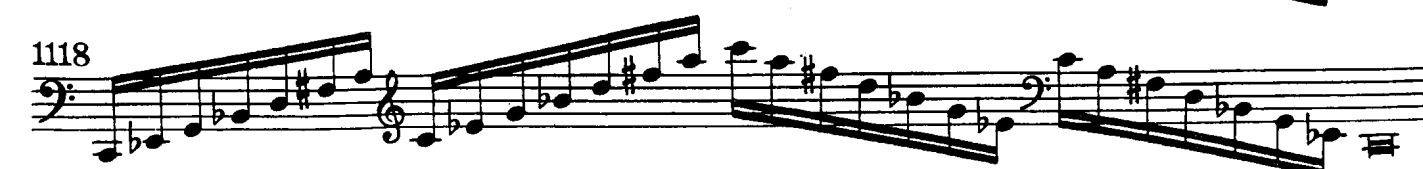
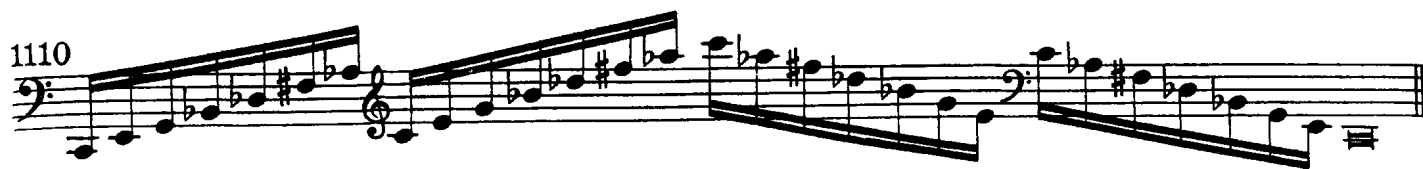
1106

7

1107

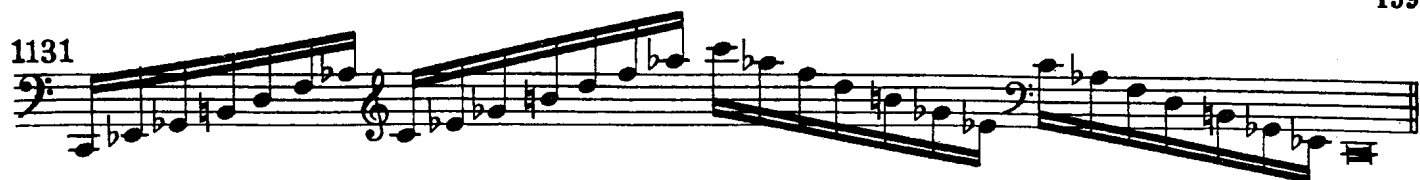
8

1108





1131



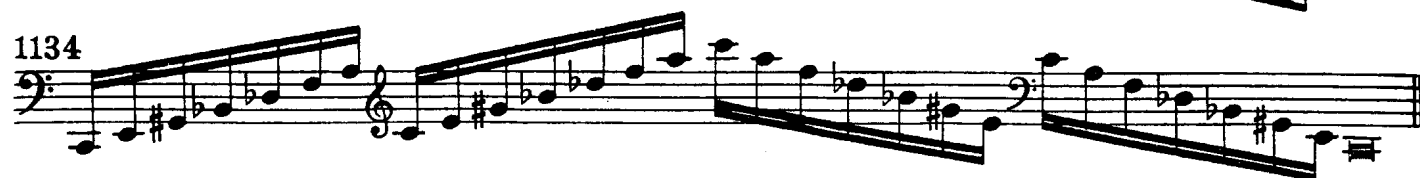
1132 Minor Harmonic



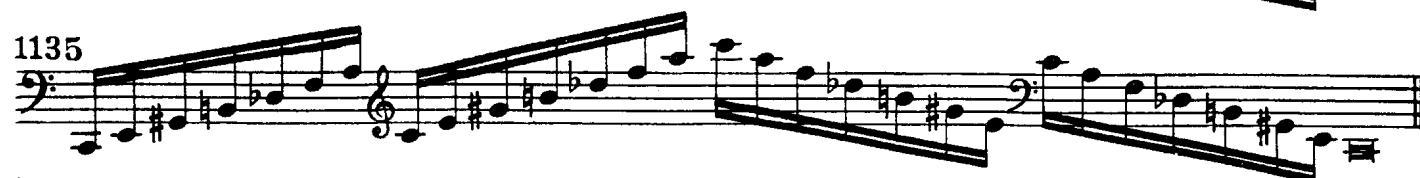
1133 Major Harmonic



1134



1135



1136



1137



1138



1139



1140



1141



Pentatonic Scales

1142



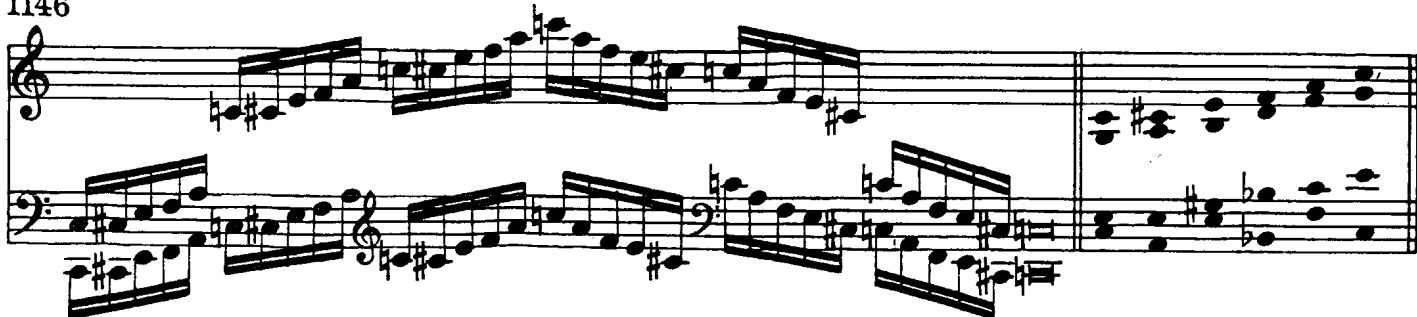
1143

1144 Javanese *Pelog* Scale

1145



1146



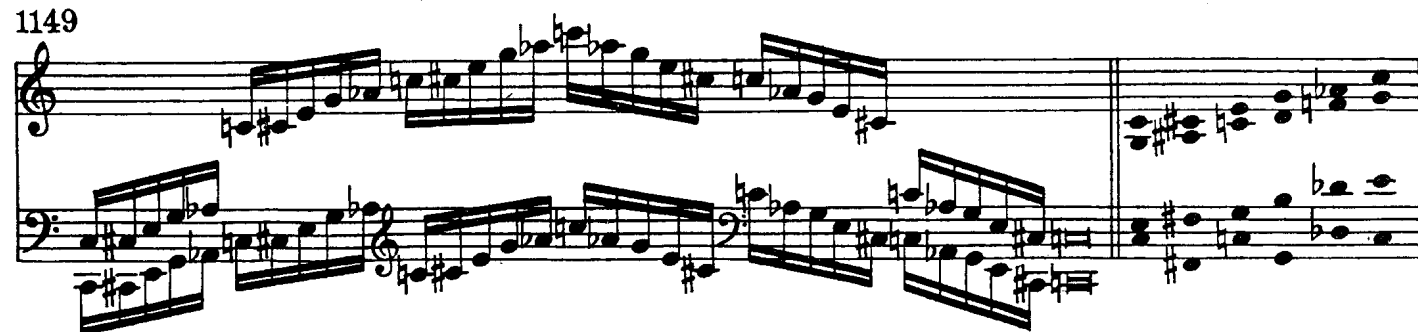
1147



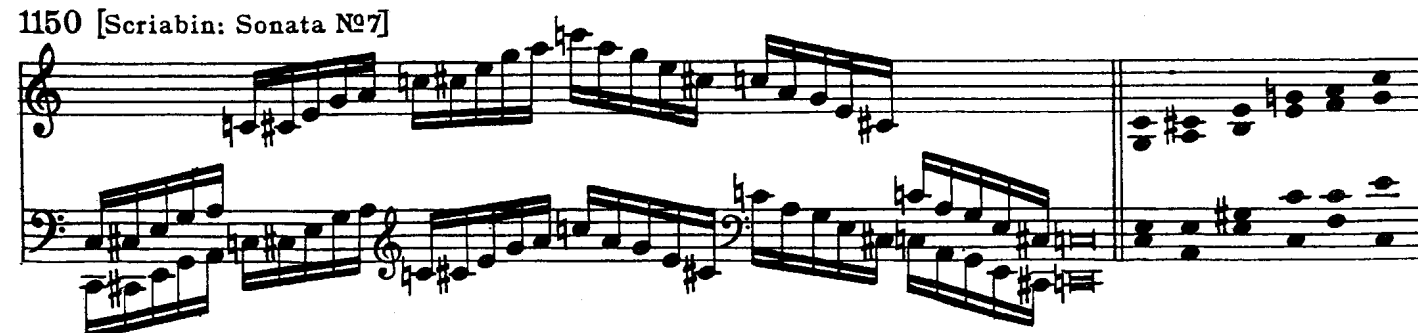
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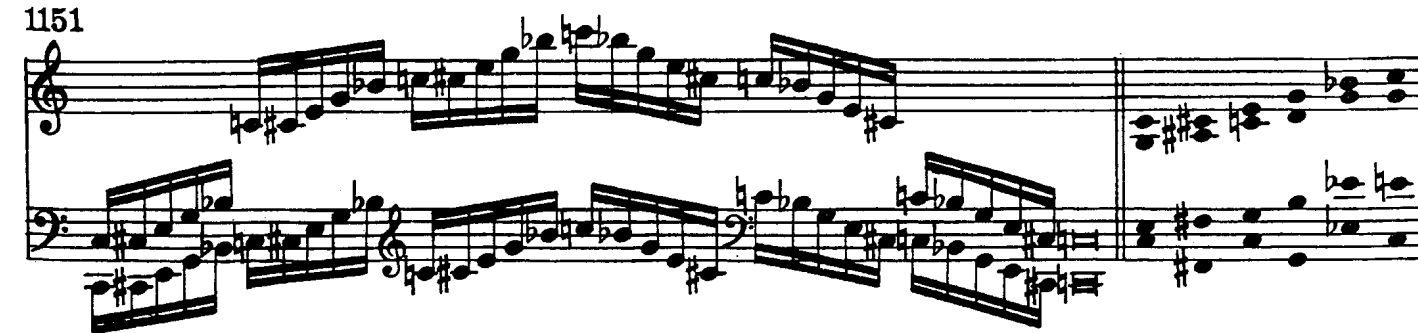
1149



1150 [Scriabin: Sonata №7]



1151



1152

1153 Japanese *Hira-Joshi* Scale

1154



1155



1156



1157

This block contains the musical notation for measures 1157 through 1160. The notation is written on four staves. The first staff uses a treble clef and the second a bass clef. The third and fourth staves use a treble clef and a bass clef, respectively. The music is in a key with three flats (B-flat, E-flat, and A-flat) and a 4/4 time signature. The notation includes various note values, rests, and bar lines. The first measure (1157) is a full measure. The second measure (1158) is a half measure. The third measure (1159) is a half measure. The fourth measure (1160) is a full measure.

1158



Musical score for "The Rose Tree" (1158). The score is in 2/4 time and features a treble and bass staff. The melody is in G major (one sharp) and the bass line is in D minor (two flats). The piece consists of two measures. The first measure has a treble staff with a melody of eighth and sixteenth notes and a bass staff with a similar melody. The second measure has a treble staff with a melody of eighth and sixteenth notes and a bass staff with a similar melody. The piece ends with a double bar line.

1158

Musical score for measures 1158-1161. The score is in 2/4 time and B-flat major. It features a piano accompaniment with a descending eighth-note pattern in the right hand and a more active bass line in the left hand. The melody is in the right hand, consisting of eighth and sixteenth notes. The key signature has two flats (B-flat and E-flat).

1160

1161

1162

1161

Musical score for measures 1161-1162. The score is written for two staves, Treble and Bass. Measure 1161 contains a complex melodic line in the Treble staff and a more rhythmic line in the Bass staff. Measure 1162 continues the melodic line in the Treble staff and features a more active Bass staff. The key signature has one flat (B-flat) and the time signature is 4/4.

164

1162

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

1163

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

1164

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

1165

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

1166

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

1167

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with some rests. The key signature has one flat (B-flat).

1168



1169



1170



1171



1172



1173



1174



1175



1176



1177



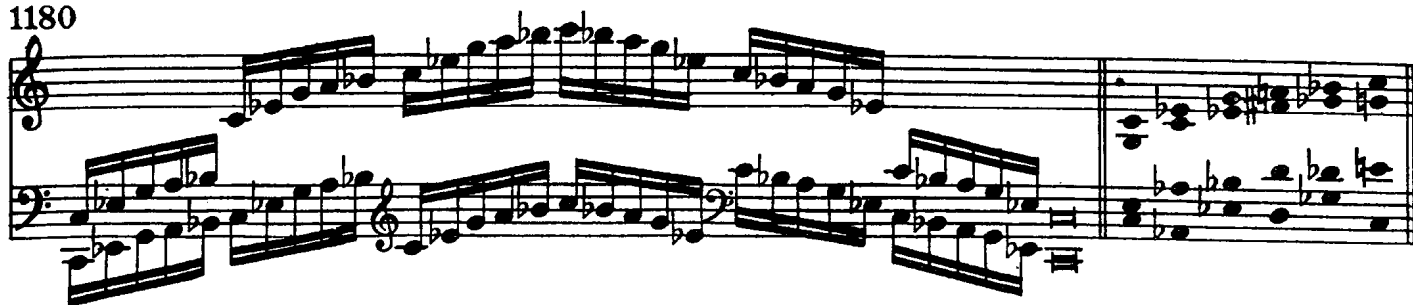
1178



1179



1180



1181



1182



1183



1184



1185



1186



1187



1188



1189

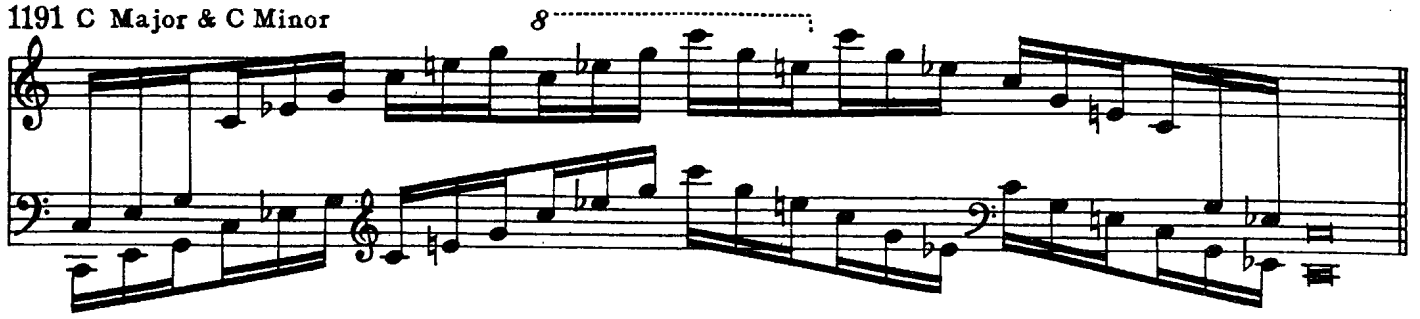


1190



Bitonal Arpeggios

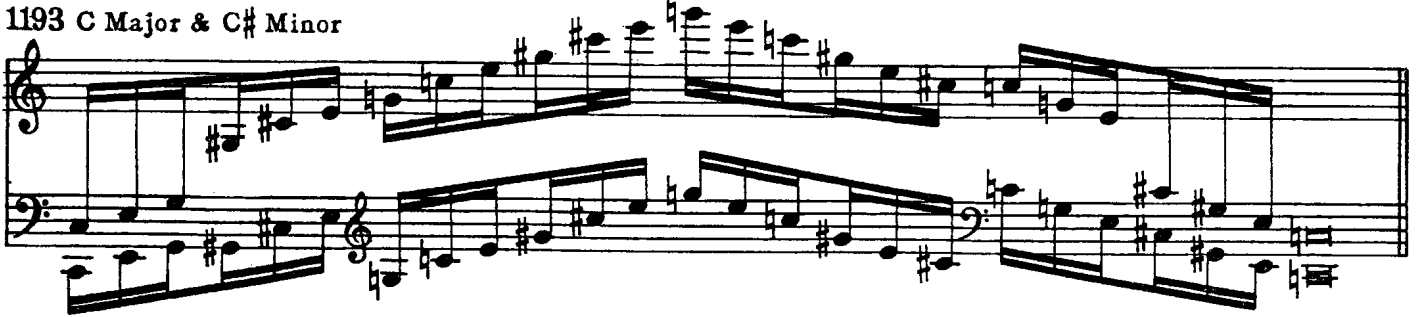
1191 C Major & C Minor



1192 C Major & Db Major



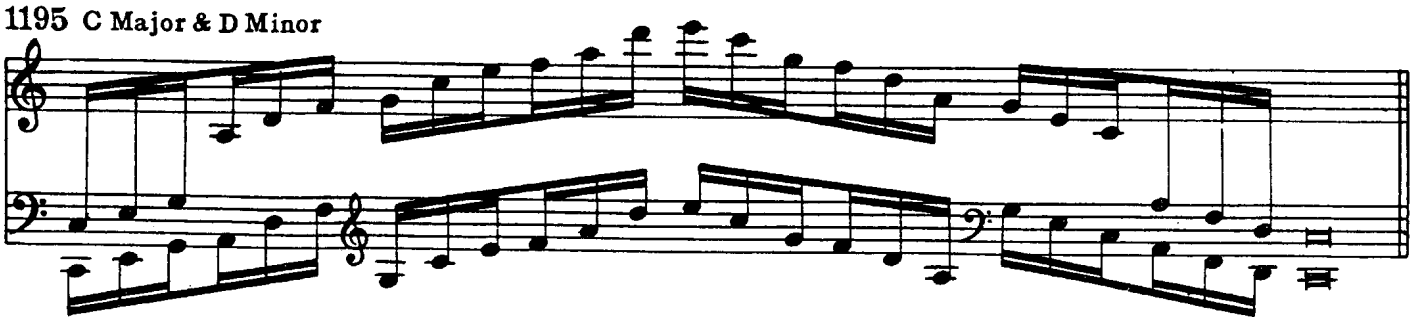
1193 C Major & C# Minor



1194 C Major & D Major



1195 C Major & D Minor



170

1196 C Major & Eb Major

Exercise 1196 is a two-staff musical piece in C Major and Eb Major. The melody in the treble clef features a sequence of eighth notes: C4, D4, E4, F4, G4, A4, Bb4, C5, Bb4, A4, G4, F4, E4, D4, C4. The bass line consists of a steady eighth-note accompaniment: C3, D3, E3, F3, G3, A3, Bb3, C4, Bb3, A3, G3, F3, E3, D3, C3. A dotted line with an '8' above it spans the first six notes of the melody.

1197 C Major & Eb Minor

Exercise 1197 is a two-staff musical piece in C Major and Eb Minor. The melody in the treble clef features a sequence of eighth notes: C4, D4, E4, F4, G4, A4, Bb4, C5, Bb4, A4, G4, F4, E4, D4, C4. The bass line consists of a steady eighth-note accompaniment: C3, D3, E3, F3, G3, A3, Bb3, C4, Bb3, A3, G3, F3, E3, D3, C3. A dotted line with an '8' above it spans the first six notes of the melody.

1198 C Major & E Major

Exercise 1198 is a two-staff musical piece in C Major and E Major. The melody in the treble clef features a sequence of eighth notes: C4, D4, E4, F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. The bass line consists of a steady eighth-note accompaniment: C3, D3, E3, F#3, G3, A3, B3, C4, B3, A3, G3, F#3, E3, D3, C3. A dotted line with an '8' above it spans the first six notes of the melody.

1199 C Major & E Minor

Exercise 1199 is a two-staff musical piece in C Major and E Minor. The melody in the treble clef features a sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass line consists of a steady eighth-note accompaniment: C3, D3, E3, F3, G3, A3, B3, C4, B3, A3, G3, F3, E3, D3, C3. A dotted line with an '8' above it spans the first six notes of the melody.

1200 C Major & F Major

Exercise 1200 is a two-staff musical piece in C Major and F Major. The melody in the treble clef features a sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass line consists of a steady eighth-note accompaniment: C3, D3, E3, F3, G3, A3, B3, C4, B3, A3, G3, F3, E3, D3, C3. A dotted line with an '8' above it spans the first six notes of the melody.

1201 C Major & F Minor

Exercise 1201 is a two-staff musical piece in C Major and F Minor. The melody in the treble clef features a sequence of eighth notes: C4, D4, E4, F4, G4, Ab4, Bb4, C5, Bb4, Ab4, G4, F4, E4, D4, C4. The bass line consists of a steady eighth-note accompaniment: C3, D3, E3, F3, G3, Ab3, Bb3, C4, Bb3, Ab3, G3, F3, E3, D3, C3. A dotted line with an '8' above it spans the first six notes of the melody.

1202 C Major & F# Major



1203 C Major & F# Minor



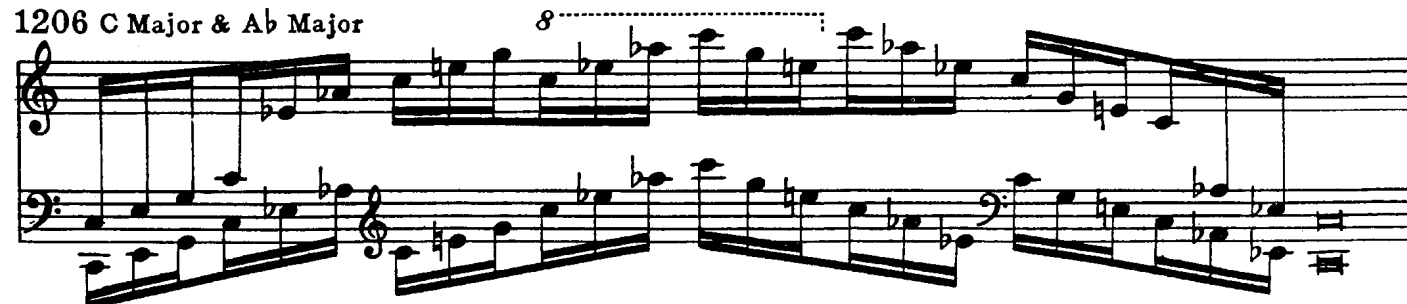
1204 C Major & G Major



1205 C Major & G Minor



1206 C Major & A♭ Major



1207 C Major & G# Minor



172

1208 C Major & A Major

Exercise 1208 is a two-part musical exercise. The first part is in C Major, featuring a treble and bass staff with a melody of eighth and sixteenth notes. The second part is in A Major, indicated by two sharps (F# and C#) in the key signature. The melody continues with similar rhythmic patterns.

1209 C Major & A Minor

Exercise 1209 is a two-part musical exercise. The first part is in C Major. The second part is in A Minor, indicated by one sharp (F#) and one flat (C) in the key signature. A dotted line with the number '8' above it indicates an eighth-note rest in the treble staff.

1210 C Major & Bb Major

Exercise 1210 is a two-part musical exercise. The first part is in C Major. The second part is in Bb Major, indicated by two flats (Bb and Eb) in the key signature. The melody features a mix of eighth and sixteenth notes.

1211 C Major & Bb Minor

Exercise 1211 is a two-part musical exercise. The first part is in C Major. The second part is in Bb Minor, indicated by two flats (Bb and Eb) and one sharp (F#) in the key signature. The melody continues with eighth and sixteenth notes.

1212 C Major & B Major

Exercise 1212 is a two-part musical exercise. The first part is in C Major. The second part is in B Major, indicated by two sharps (F# and C#) in the key signature. The melody features a mix of eighth and sixteenth notes.

1213 C Major & B Minor

Exercise 1213 is a two-part musical exercise. The first part is in C Major. The second part is in B Minor, indicated by two sharps (F# and C#) and one flat (B) in the key signature. The melody continues with eighth and sixteenth notes.

Twelve-Tone Patterns

Dodecaphonic

173

1214a Thirds

1214b[Retrograde Pattern]



1215a Fourths

1215b



1216a

1216b



1217a

1217b



1218a

1218b



1219a

1219b



1220a Fifths

1220b



1221a

1221b



1222a

1222b



1223a Sixths



1223b



1224a



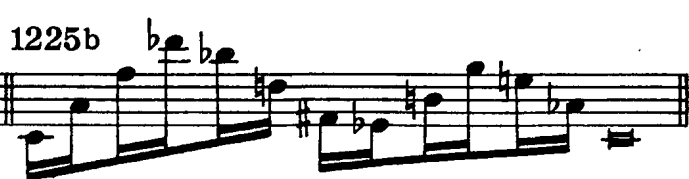
1224b



1225a



1225b



1226a Minor Sevenths



1226b



1227a



1227b



1228a



1228b



Major Sevenths

1229a



1229b



1230a



1230b



1231a



1231b



Twelve-Tone Spirals

175

1232a

1232b



1233a

1233b



1234a

1234b



1235a

1235b



1236a Converging and Diverging Whole-Tone Scales

1236b



1237a

1237b



1238a

1238b



1239a

1239b



1240a

1240b



Mutually Exclusive Diminished-Seventh Chords

1241a 1241b

Mutually Exclusive Augmented Triads

1242a 1242b

Crossing Intervals

Crossing Sixths

1243a 1243b

1244a 1244b

Crossing Fifths

1245a 1245b

Crossing Fourths

1246a 1246b

1247a Crossing Thirds

1247b



1248a

1248b



1249a

1249b



1250a Crossing Seconds

1250b

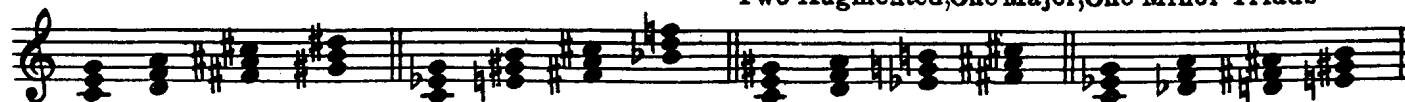


Division of Twelve Tones into Four Mutually Exclusive Triads

Two Major and Two Minor Triads



Two Augmented, One Major, One Minor Triads



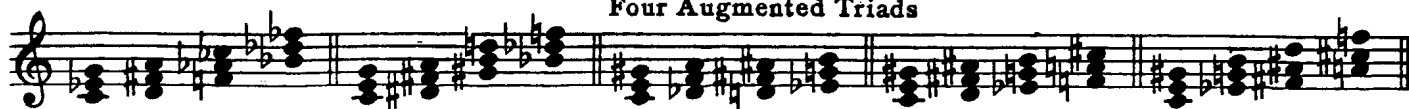
Augmented, Major, Minor, Diminished Triads



Two Diminished, One Major, One Minor Triads



Four Augmented Triads



Quadritonal Arpeggios

1251



1252



1253



1254

1255 [Slonimsky: *Moto Perpetuo*]

1256



1257



1258



1259



1260



1261



1262



1263



1264



1265



1266



1267



1268



1269



1270



1271



Inversions

1272



1273



1274



1275



1276



1277



1278



1279



1280



1281



1282



1283



1284



1285



182

1286



1287



1288



1289



1290



1291



1292



Miscellaneous Dodecaphonic Patterns

1293 Two Major Hexachords



1294



1295



1296



1297



1298



1299



1300



Invertible Dodecaphonic Progressions

With All Different Intervals

(Figures indicate number of semitones)

1301

1302

Inversion 10

Inversion 6

1303

Inversion 9

On a Minor Triad

1304

Inversion 10

On a Major Sixth-Chord

1305

Inversion 4

On a Major Triad

1306

Inversion 10

On a Minor Sixth-Chord

On a Minor Six-Four Chord


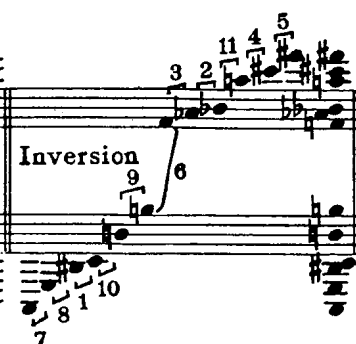
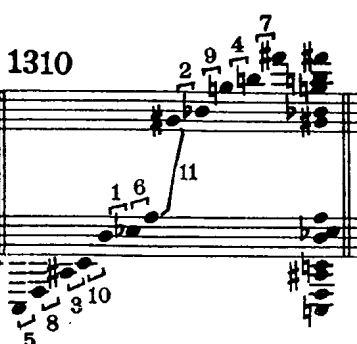
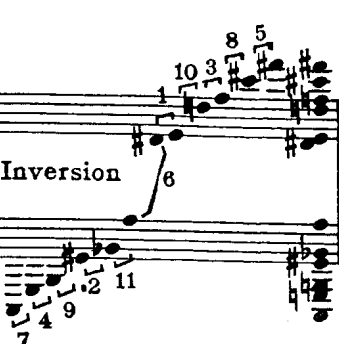
1307

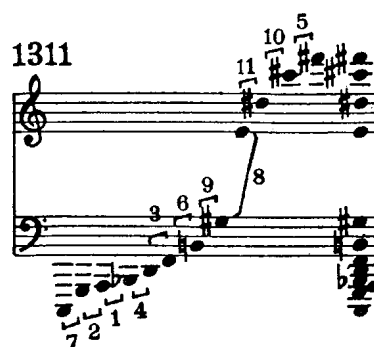
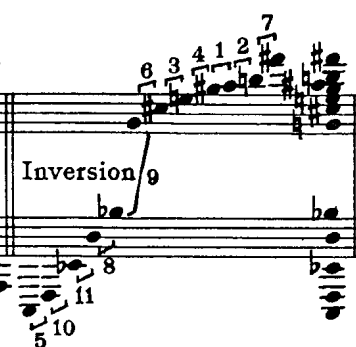
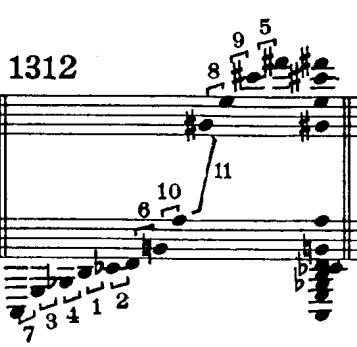
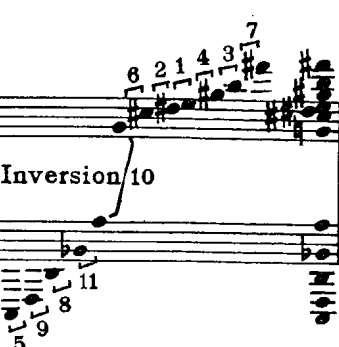
Inversion 6

1308

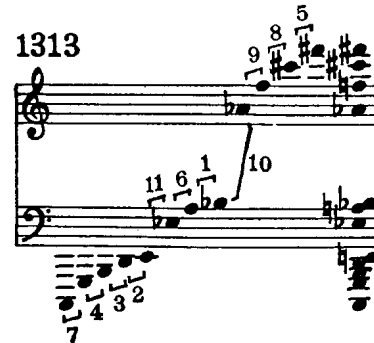
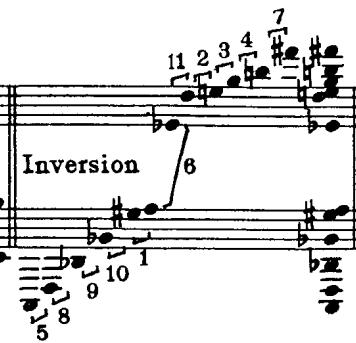


Inversion 6

On a Major Six-Four Chord

1309  1310  1311  1312 


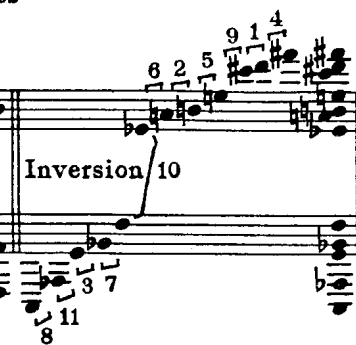
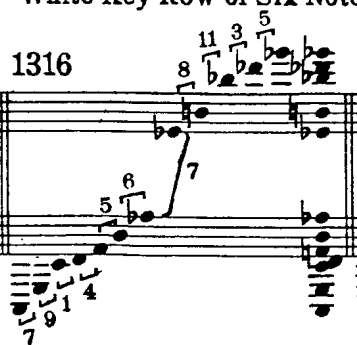
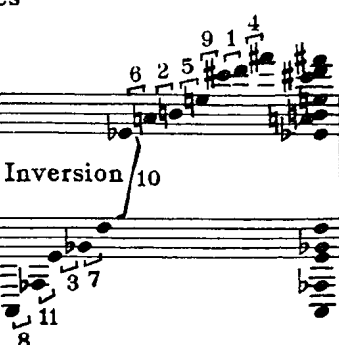
1313  1314  1315  1316 

White-Key Row of Six Notes

1317  1318  1319  1320 

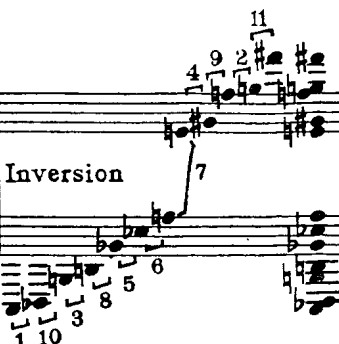
White-Key Row of Six Notes

White-Key Row of Six Notes

1321  1322  1323  1324 

Mother Chord

Grandmother Chord

1325  1326  1327  1328 

Intervallic Series

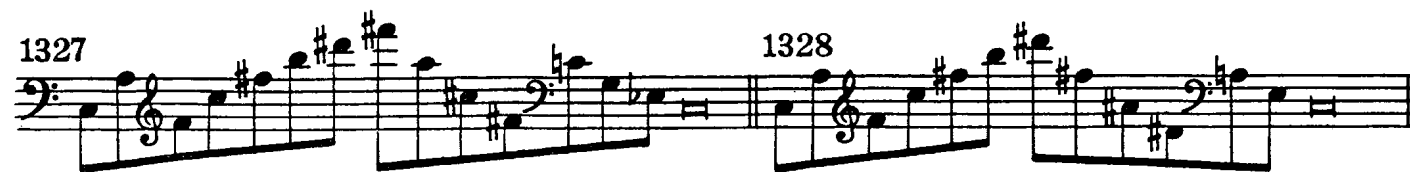
Increasing and Diminishing Intervals



1322



1324



1328



1330

Mirror Interval Progressions

187

Scales №1 and №4



Scales №10 and №7



№21 and №15



№53 and №80



№80 and №53



№117 and №111



№156 and its Melodic Inversion



№306 and №297



№543 and its Melodic Inversion



Complementary Scales

C Major and Pentatonic



Mutually Exclusive Whole-Tone Scales



№7



№9



№10



№11



№12



Permutations

Scale №12



Permutations





Harmonization

Harmonization of the melodic line. The top staff shows the melody with dynamic markings *pp* and *p*. The bottom staff shows the piano accompaniment, consisting of sustained chords and moving lines. The section concludes with a *rit.* (ritardando) marking.

Scale №21

Scale №21, written in G major (one sharp). The scale is presented in a single staff, showing the ascending and descending chromatic scale.

Permutations

Five staves of musical notation, each showing a different permutation of the scale. The permutations are written in a single staff, showing the ascending and descending chromatic scale.



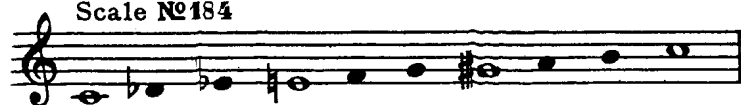
Scale №183



Permutation



Scale №184



Permutation



Scale №185



Permutation



Pattern №343



Permutations



Pattern №525



Permutations



Pandiatonic Progressions

The image displays a page of musical notation titled "Pandiatonic Progressions". The page number "192" is in the top left corner. The title is centered at the top. The notation consists of 12 staves, each containing three measures of music. The music is written in treble clef and features various rhythmic values (quarter, eighth, and sixteenth notes) and rests. The notation is organized into three groups of four staves each, with each group containing a similar progression of notes and rests. The notation is black on a white background.

Conjugate Pandiatonic Progressions

193

Inversion

Retrograde

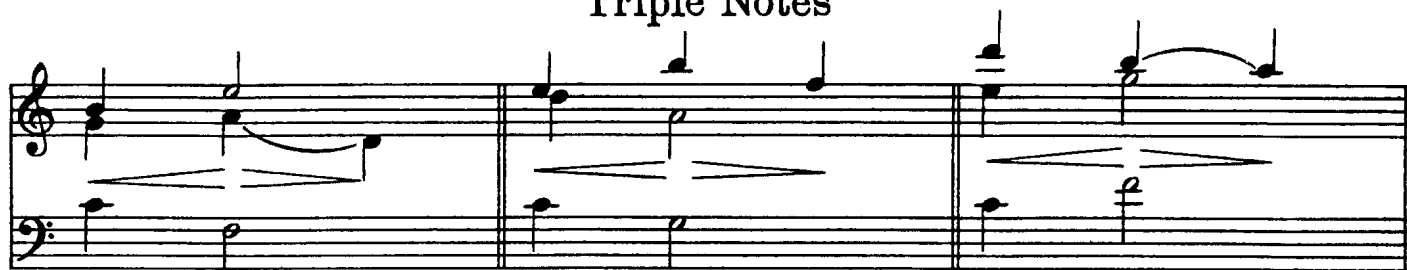
Retrograde Inversion

Ten staves of musical notation, each containing four measures. The first measure of each staff shows a pandiatonic scale (C, D, E, F, G, A, B, C) with various note heads (half, quarter, eighth, and sixteenth notes). The subsequent three measures show the Inversion, Retrograde, and Retrograde Inversion of the scale, respectively. The notes are arranged in a way that demonstrates the conjugate relationship between these transformations.

Double Notes

Two staves of musical notation. The first staff shows a sequence of double notes (dyads) in a pandiatonic scale. The second staff shows the same sequence of double notes, but with some notes marked with a 'p' (piano) dynamic marking.

Triple Notes



Pandiatonic Counterpoint



Pandiatonic Cadences



Pandiatonic Harmony in Four Parts

Lento *Andante*

pp *rit.* *p* *espr.*

Andantino *Allegretto* *Allegro*

mp *sf* *mf* *sf*

Pandiatonic Harmony in Five Parts

Pandiatonic Harmony in Six Parts

Pandiatonic Harmony in Seven Parts

[Roy Harris:
Slumber]

Double Notes

Tritone Progression

(5)

(6)

(7)

(8)

(9)

(10)

(11)

(12)

(13)

(14)

(15)

(16)

(17)

(18)

(19)

(20)

(21)

(32)

(33)

Numbers in parentheses refer to patterns from which the double notes are derived.

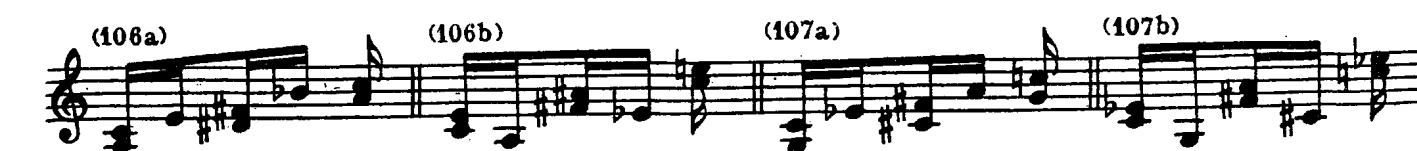
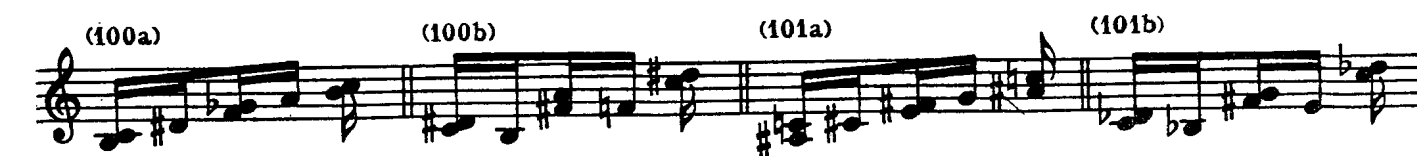


(41 to 58) *simile*



This musical score is written for a single melodic line on a treble clef staff. It consists of 26 measures, each labeled with a measure number and a letter (a or b). The key signature is one sharp (F#), and the time signature is 4/4. The notation includes eighth and sixteenth notes, rests, and various accidentals (sharps, flats, and naturals). The measures are arranged in seven rows of five measures each, with the final row containing only two measures. The sequence of measures is as follows:

- Row 1: (65a), (65b), (66a), (66b), (67a)
- Row 2: (67b), (68a), (68b), (69a), (69b)
- Row 3: (70a), (70b), (71a), (71b), (72a)
- Row 4: (72b), (72c), (73a), (73b), (73c)
- Row 5: (74a), (74b), (74c), (75a), (75b)
- Row 6: (75c), (76a), (76b), (76c), (77a)
- Row 7: (77b), (77c), (78a), (78b), (78c)
- Row 8: (79a), (79b), (79c), (80 to 84) *simile*, (85a), (85b)
- Row 9: (86a), (86b), (87a), (87b), (88a)
- Row 10: (88b), (89a), (89b), (90a), (90b)



This musical score is for guitar, spanning measures 108a to 130b. It is written on a single staff in treble clef. The key signature is one flat (B-flat), and the time signature is 4/4. The score is divided into measures by double bar lines. Measures 108a and 108b are the first two measures. Measures 109a and 109b are the next two. Measures 110a and 110b are the next two. Measures 111a and 111b are the next two. Measures 112a and 112b are the next two. Measures 113a and 113b are the next two. Measures 114a and 114b are the next two. Measures 115a and 115b are the next two. Measures 116a and 116b are the next two. Measures 117a and 117b are the next two. Measures 118a and 118b are the next two. Measures 119a and 119b are the next two. Measures 120a and 120b are the next two. Measures 121a and 121b are the next two. Measures 122a and 122b are the next two. Measures 123a and 123b are the next two. Measures 124a and 124b are the next two. Measures 125a and 125b are the next two. Measures 126a and 126b are the next two. Measures 127a and 127b are the next two. Measures 128a and 128b are the next two. Measures 129a and 129b are the next two. Measures 130a and 130b are the final two measures. The notation includes various musical symbols such as notes, rests, accidentals, and bar lines.

(108a) (108b) (109a) (109b) (110a)

(110b) (111a) (111b) (112a) (112b)

(113a) (113b) (114a) (114b) (115a)

(115b) (116a) (116b) (117a) (117b)

(118a) (118b)

(119a) (119b) (120a) (120b) (121a)

(121b) (122a) (122b) (123a) (123b)

(124a) (124b) (125a) (125b) (126a)

(126b) (127a) (127b) (128a) (128b)

(129a) (129b) (130a) (130b)

(131a) (131b) (132a) (132b)

(133a) (133b) (134a) (134b)

(135a) (135b) (136a) (136b)

(137a) (137b) (138a) (138b)

(139a) (139b) (140a) (140b)

(141a) (141b) (141c)

(142a) (142b) (142c) (143a) (143b)

(143c) (144a) (144b) (144c) (145a)

(145b) (145c) (146a) (146b) (146c)

(147a) (147b) (147c) (148a) (148b)

The image displays a page of musical notation for guitar, featuring 20 numbered exercises (131a-148b) arranged in 10 rows of 4 or 5 measures each. The exercises are written on a single staff with a treble clef and a key signature of one sharp (F#). The notation includes various rhythmic patterns, accidentals, and dynamic markings. The exercises are organized into groups of four or five measures each, with some measures containing multiple measures of music. The page number 201 is in the top right corner.

(148c) (149a) (149b) (149c) (150a)

(150b) (150c) (151a) (151b) (151c)

(152a) (152b) (152c) (153a) (153b)

(153c) (154a) (154b) (154c) (155a)

(155b) (155c) (156a) (156b) (156c)

(157a) (157b) (157c) (158a) (158b)

(158c) (159a) (159b) (159c) (160a)

(160b) (160c) (161a) (161b) (161c)

(162a) (162b) (162c) (163a) (163b)

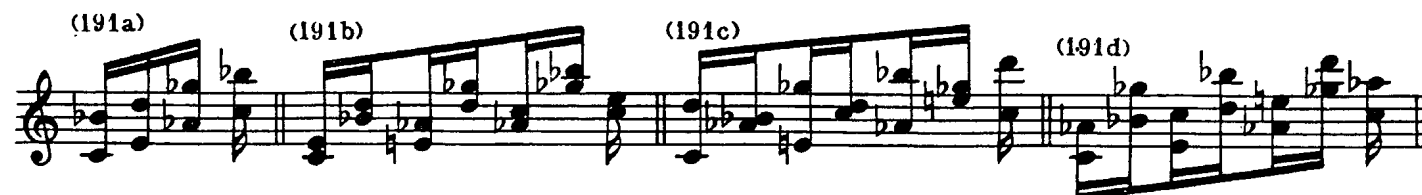
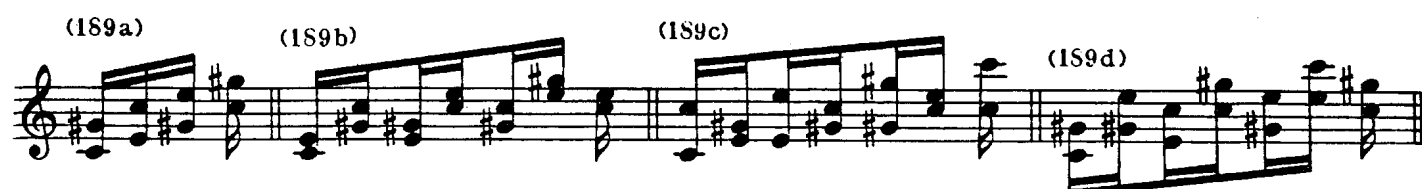
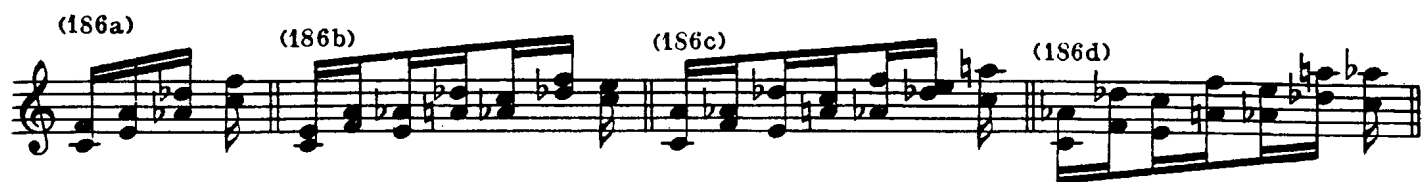
(163c) (164a) (164b) (164c) (165a)

This musical score is for a piano piece, spanning measures 165b to 180c. It is written on a single staff in treble clef. The key signature is B-flat major (two flats: B-flat and E-flat). The time signature is 4/4. The music consists of a continuous sequence of eighth and sixteenth notes, often beamed together in groups of four or six. The notation includes various accidentals (sharps, flats, naturals) and repeat signs. The measures are labeled as follows:

- Row 1: (165b), (165c), (166a), (166b), (166c)
- Row 2: (167a), (167b), (167c), (168a), (168b)
- Row 3: (168c), (169a), (169b), (169c), (170a)
- Row 4: (170b), (170c), (171a), (171b), (171c)
- Row 5: (172a), (172b), (172c), (173a), (173b)
- Row 6: (173c), (174a), (174b), (174c), (175a)
- Row 7: (175b), (175c), (176a), (176b), (176c)
- Row 8: (177a), (177b), (177c), (178a)
- Row 9: (178b), (178c), (179a), (179b)
- Row 10: (179c), (180a), (180b), (180c)

Ditone Progression





(196a) (196b) (197a) (197b)

(198a) (198b) (199a) (199b)

(200a) (200b) (201a) (201b)

(202a) (202b) (203a) (203b)

(204a) (204b) (205a) (205b)

(206a) (206b) (207a) (207b)

(208a) (208b) (209a) (209b)

(210a) (210b) (211a) (211b)

(212a) (212b) (213a) (213b)

(214a) (214b) (214c)





(231 to 236) *simile*





Sesquitone Progression



(393d) (393e) (393f)

(394a)

(394b)

(394c) (394d) (394e)

(394f) (395a) (395b)

(396a) (396b) (397a)

(397b) (398a) (398b)

(399a) (399b) (400a)

(400b) (401a) (401b)

(402a)



(402b)

(403-428) *simile*

(429a)



(429b)

(430-446) *simile*

(447a)



(447b)

(448-458) *simile*

(459a)



(460-484) *simile*



(486-491) *simile*

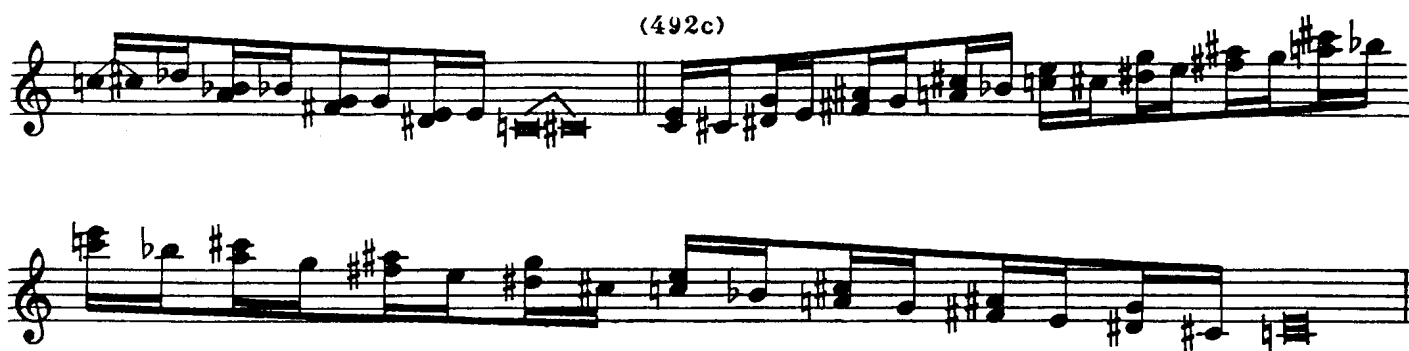
(492a)



(492b)



(492c)

(493-508) *simile*

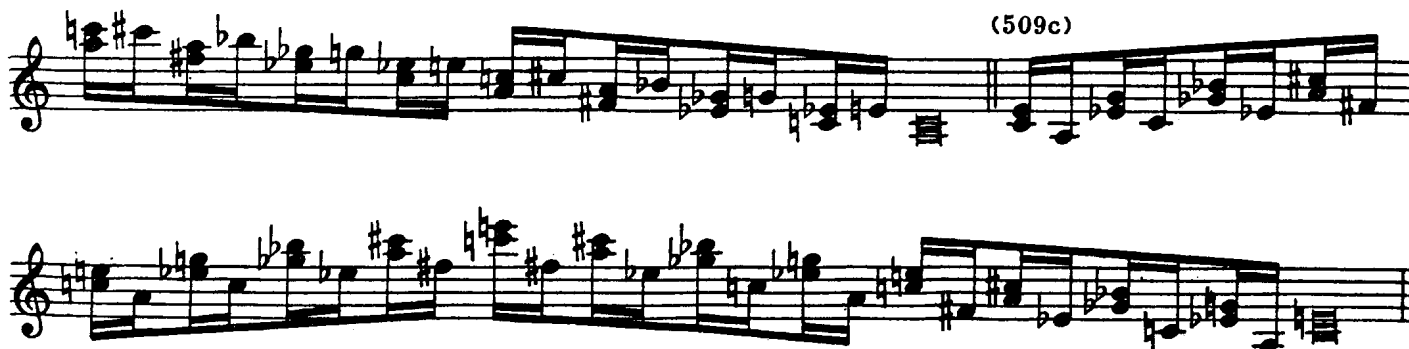
(509a)



(509b)



(509c)



Double Notes in Contrary Motion

215

(№7)

Exercise №7 is a musical exercise for piano, consisting of two systems of four staves each. The first system uses a grand staff (treble and bass clefs) and the second system uses two separate staves (treble and bass clefs). The exercise is written in a key signature of three sharps (F#, C#, G#) and a 2/4 time signature. It features a continuous sequence of eighth notes, with the right and left hands moving in contrary motion. The exercise is marked with a '3' in a circle, indicating a triplet of eighth notes. The notation includes various accidentals (sharps and naturals) to indicate the specific notes in the scale.

Whole-Tone Scale
(№36)

Exercise №36 is a musical exercise for piano, consisting of two systems of four staves each. The first system uses a grand staff (treble and bass clefs) and the second system uses two separate staves (treble and bass clefs). The exercise is written in a key signature of one flat (Bb) and a 2/4 time signature. It features a continuous sequence of eighth notes, with the right and left hands moving in contrary motion. The exercise is marked with a '3' in a circle, indicating a triplet of eighth notes. The notation includes various accidentals (flats and naturals) to indicate the specific notes in the scale.

(№182)

Exercise №182 is a musical exercise for piano, consisting of two systems of four staves each. The first system uses a grand staff (treble and bass clefs) and the second system uses two separate staves (treble and bass clefs). The exercise is written in a key signature of three sharps (F#, C#, G#) and a 2/4 time signature. It features a continuous sequence of eighth notes, with the right and left hands moving in contrary motion. The exercise is marked with a '3' in a circle, indicating a triplet of eighth notes. The notation includes various accidentals (sharps and naturals) to indicate the specific notes in the scale.

(№394)

This musical exercise, numbered 394, is written for piano and voice. It consists of two systems. The first system has two staves for piano accompaniment (treble and bass clef) and a vocal line in the treble clef. The second system also has two piano staves and a vocal line. The music is in a key with one flat (B-flat major or D minor) and a 4/4 time signature. The piano accompaniment features a steady eighth-note pattern in the right hand and a more complex, syncopated pattern in the left hand. The vocal line consists of a single melodic line with various intervals and rests.

(№393)

This musical exercise, numbered 393, is written for piano and voice. It consists of two systems. The first system has two staves for piano accompaniment (treble and bass clef) and a vocal line in the treble clef. The second system also has two piano staves and a vocal line. The music is in a key with one flat (B-flat major or D minor) and a 4/4 time signature. The piano accompaniment features a steady eighth-note pattern in the right hand and a more complex, syncopated pattern in the left hand. The vocal line consists of a single melodic line with various intervals and rests.

(Nº 397)

Two systems of musical notation for piece Nº 397. Each system consists of a grand staff with a bass clef on the left and a treble clef on the right. The music is written in a key with one flat (B-flat) and a common time signature. The notation includes various chords, arpeggios, and melodic lines. A first ending bracket with a repeat sign and a fermata is present at the end of the first system. A second ending bracket with a repeat sign and a fermata is present at the end of the second system.

(Nº 343)

Two systems of musical notation for piece Nº 343. Each system consists of a grand staff with a bass clef on the left and a treble clef on the right. The music is written in a key with one flat (B-flat) and a common time signature. The notation includes various chords, arpeggios, and melodic lines. A first ending bracket with a repeat sign and a fermata is present at the end of the first system. A second ending bracket with a repeat sign and a fermata is present at the end of the second system.

Plural Scales and Arpeggios

Major

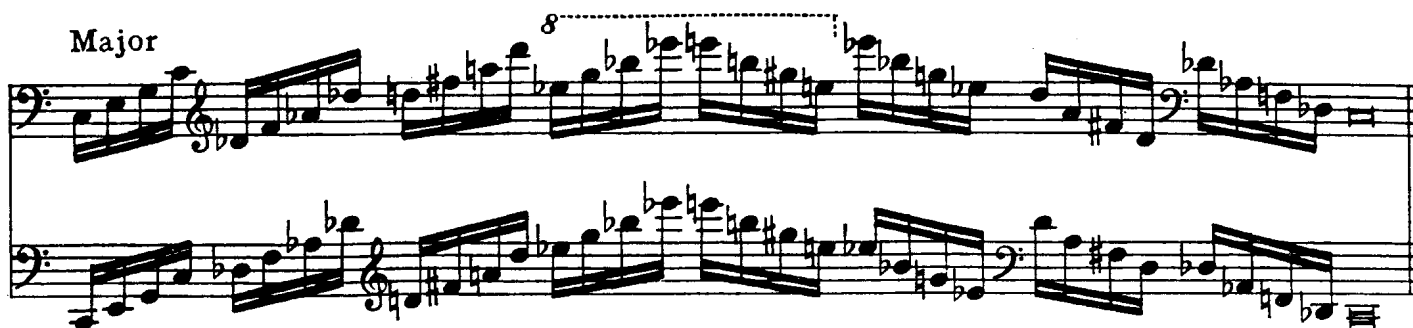
8

Minor

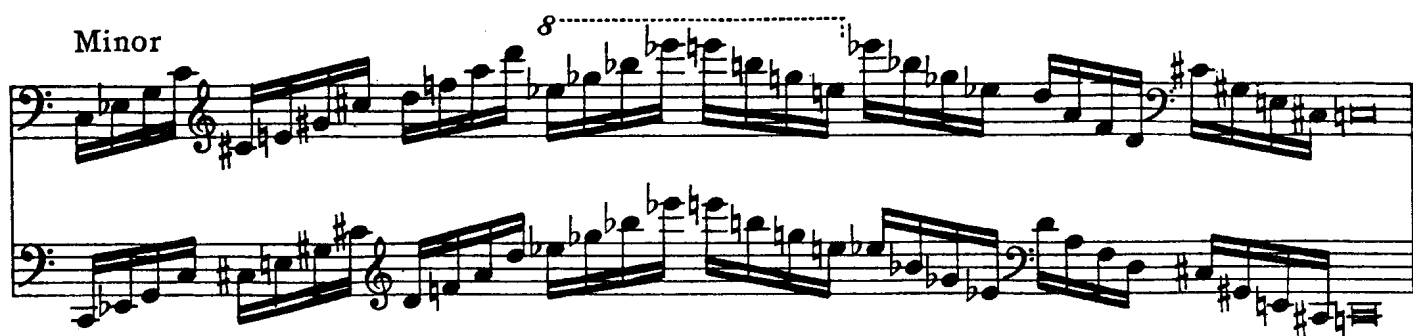
8

This musical score is divided into two main sections: 'Major' and 'Minor'. Each section contains two systems of music, each system consisting of a grand staff (treble and bass clefs). The 'Major' section begins with a treble clef and a key signature of one sharp (F#). The first system of the 'Major' section includes a measure marked with an '8' and a dotted line, indicating an eighth-note scale. The 'Minor' section begins with a bass clef and a key signature of one flat (Bb). It also includes a measure marked with an '8' and a dotted line. The notation features various accidentals (sharps, flats, naturals) and slurs to indicate the flow of the scales and arpeggios.

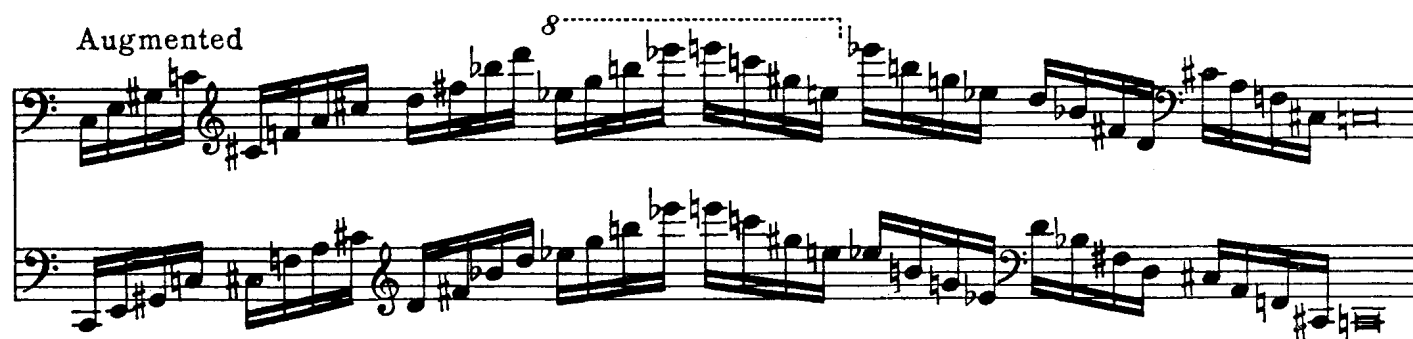
Major



Minor



Augmented



Diminished-Seventh



Polytonal Scales

E \flat Major and C Major

This musical score consists of two systems, each with a grand staff (treble and bass clefs). The first system shows the E \flat Major scale in the bass clef and the C Major scale in the treble clef. The second system continues the scales, with the E \flat Major scale in the bass clef and the C Major scale in the treble clef. The scales are written in a polytonal style, with the E \flat Major scale in the bass clef and the C Major scale in the treble clef. The notation includes various accidentals (flats and naturals) and a final double bar line at the end of the second system.

C Major and E \flat Major

This musical score consists of two systems, each with a grand staff (treble and bass clefs). The first system shows the C Major scale in the treble clef and the E \flat Major scale in the bass clef. The second system continues the scales, with the C Major scale in the treble clef and the E \flat Major scale in the bass clef. The scales are written in a polytonal style, with the C Major scale in the treble clef and the E \flat Major scale in the bass clef. The notation includes various accidentals (flats and naturals) and a final double bar line at the end of the second system.

E Major and C Major

E Major and C Major



The image shows two staves of musical notation. The top staff is in E Major, indicated by four sharps (F#, C#, G#, D#) in the key signature. It contains two measures of an ascending scale in the bass clef, followed by two measures of a descending scale in the treble clef. The bottom staff is in C Major, indicated by a natural sign for F in the key signature. It contains two measures of an ascending scale in the bass clef, followed by two measures of a descending scale in the treble clef.

A musical score for the song 'The Rose Tree'. It features two staves: a treble staff on top and a bass staff on the bottom. The treble staff begins with a treble clef and a key signature of one sharp (F#). The bass staff begins with a bass clef and a key signature of one flat (Bb). Both staves contain a melody of eighth and sixteenth notes, with some triplets indicated by a '3' over a group of notes. The piece concludes with a double bar line and repeat dots.

C Major and E Major

C Major and E Major

The image shows two staves of musical notation. The top staff is in C Major, starting with a treble clef and a key signature of one sharp (F#). It contains a scale of eighth notes: C4, D4, E4, F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. The bottom staff is in E Major, starting with a bass clef and a key signature of three sharps (F#, C#, G#). It contains a scale of eighth notes: E3, F#3, G#3, A#3, B4, C#5, D#5, E5, D#5, C#5, B4, A#3, G#3, F#3, E3. Both staves have a common time signature of 8/8.

A musical score for the song 'The Rose Tree'. The score is written on two staves, a treble staff on top and a bass staff on the bottom. The key signature has one sharp (F#), and the time signature is 2/4. The melody is written in the treble staff, starting with a treble clef and a key signature of one sharp. The bass staff provides a harmonic accompaniment, starting with a bass clef and the same key signature. The music consists of several measures, with some notes beamed together in groups. The score ends with a double bar line.

A Major and C Major



C Major and A Major



A \flat Major and C MajorC Major and A \flat Major

Polyrhythmic Scales

3: 2



4: 3



5:3



5:4



Polytonal Polyrhythmic Scales

E Major and C Major; 3:2



E Major and C Major; 4:3



E Major and C Major; 5: 3

Two systems of musical notation for E Major and C Major, 5: 3. Each system consists of two staves. The first system's top staff is in bass clef and the bottom staff is in bass clef. The second system's top staff is in treble clef and the bottom staff is in bass clef. The music features a sequence of eighth and sixteenth notes, with a repeat sign and a fermata over the final measure of the first system. The key signature is one sharp (F#) for E Major and one flat (Bb) for C Major.

E Major and C Major; 5: 4

Two systems of musical notation for E Major and C Major, 5: 4. Each system consists of two staves. The first system's top staff is in bass clef and the bottom staff is in bass clef. The second system's top staff is in treble clef and the bottom staff is in bass clef. The music features a sequence of eighth and sixteenth notes, with a repeat sign and a fermata over the final measure of the first system. The key signature is one sharp (F#) for E Major and one flat (Bb) for C Major.

C Major and E Major; 3: 2

The first system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' above it indicating an eighth-note rest. The lower staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

The second system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' above it indicating an eighth-note rest. The lower staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

C Major and E Major; 4: 3

The third system of musical notation consists of two staves. The upper staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' above it indicating an eighth-note rest. The lower staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

The fourth system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' above it indicating an eighth-note rest. The lower staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

C Major and E Major; 5:3

This musical score is for the 5:3 ratio in C Major and E Major. It consists of two systems of staves. The first system has a bass staff on the left and a treble staff on the right. The second system has a treble staff on the left and a bass staff on the right. The music is written in 5/8 time, featuring eighth-note patterns. The key signature has one sharp (F#) for C Major and two sharps (F# and C#) for E Major. A dashed line with an '8' above it indicates an eighth-note pattern. The score ends with a double bar line and repeat signs.

C Major and E Major; 5:4

This musical score is for the 5:4 ratio in C Major and E Major. It consists of two systems of staves. The first system has a bass staff on the left and a treble staff on the right. The second system has a treble staff on the left and a bass staff on the right. The music is written in 5/4 time, featuring eighth-note patterns. The key signature has one sharp (F#) for C Major and two sharps (F# and C#) for E Major. A dashed line with an '8' above it indicates an eighth-note pattern. The score ends with a double bar line and repeat signs.

Eb Major and C Major; 3: 2



Eb Major and C Major; 4: 3

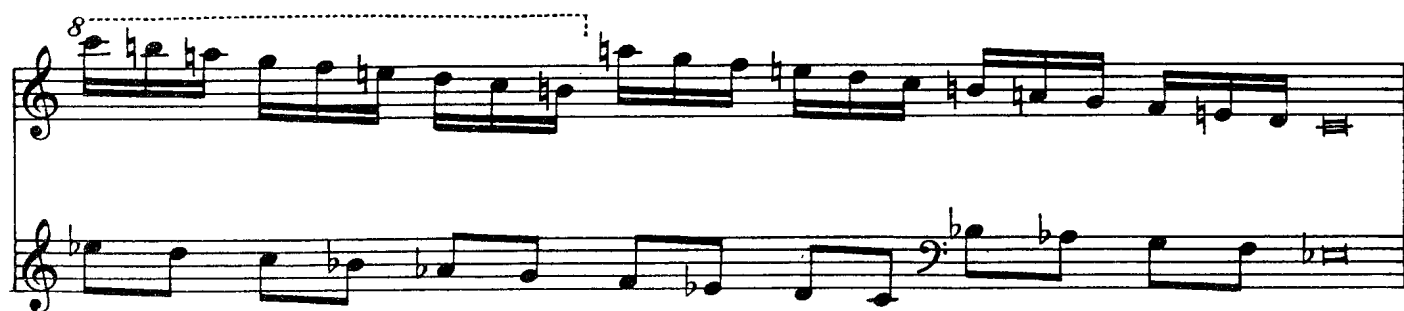


Eb Major and C Major; 5: 3



Eb Major and C Major; 5: 4



C Major and E \flat Major; 3:2C Major and E \flat Major; 4:3

C Major and E \flat Major; 5:3

Two systems of musical notation for the 5:3 ratio. Each system consists of two staves. The top staff of each system is a grand staff (treble and bass clefs) with a 5:3 ratio indicated by a bracket and the number 8. The bottom staff is a single bass clef staff. The music is written in C Major and E \flat Major. The first system shows a complex melodic line in the grand staff and a simpler bass line. The second system continues the melodic line with a repeat sign and a final cadence in the bass line.

C Major and E \flat Major; 5:4

Two systems of musical notation for the 5:4 ratio. Each system consists of two staves. The top staff of each system is a grand staff (treble and bass clefs) with a 5:4 ratio indicated by a bracket and the number 8. The bottom staff is a single bass clef staff. The music is written in C Major and E \flat Major. The first system shows a complex melodic line in the grand staff and a simpler bass line. The second system continues the melodic line with a repeat sign and a final cadence in the bass line.

Palindromic Canons

Bitonal Palindromic Canon: C Major and F# Major

Scale No 7 (In Six Parts)

This musical score for Scale No 7 is a bitonal palindromic canon in C Major and F# Major, presented in six parts. The notation is arranged in two systems of three staves each. The first system consists of three staves of music, and the second system consists of three staves of music. The music is written in treble clef and features a complex, interlocking melodic structure that is palindromic. The key signature is C Major and F# Major, indicated by the presence of natural notes for C and F#.

Bitonal Palindromic Canon: F Major and B Major

Scale No 12 (In Six Parts)

This musical score for Scale No 12 is a bitonal palindromic canon in F Major and B Major, presented in six parts. The notation is arranged in two systems of three staves each. The music is written in treble clef and features a complex, interlocking melodic structure that is palindromic. The key signature is F Major and B Major, indicated by the presence of natural notes for F and B.

Two Palindromic Canons on Pattern 72

In Three Parts

(Alternating Minor and Major Triads)

This musical score is written on a single staff with a treble clef. It consists of two systems of music. The first system contains two measures of music, each enclosed in a rectangular box. The second system contains two measures of music, also each enclosed in a rectangular box. The notes are black dots on the staff lines, with some accidentals (sharps and flats) indicating specific pitches. The overall structure is symmetrical, reflecting the palindromic nature of the canon.

In Three Parts

(Alternating Major and Minor Triads)

This musical score is written on a single staff with a treble clef. It consists of two systems of music. The first system contains two measures of music, each enclosed in a rectangular box. The second system contains two measures of music, also each enclosed in a rectangular box. The notes are black dots on the staff lines, with some accidentals (sharps and flats) indicating specific pitches. The overall structure is symmetrical, reflecting the palindromic nature of the canon.

Palindromic Canon on Pattern 141

In Four Parts

This musical score is written on a single staff with a treble clef. It consists of two systems of music. The first system contains four measures of music, each enclosed in a rectangular box. The second system contains four measures of music, also each enclosed in a rectangular box. The notes are black dots on the staff lines, with some accidentals (sharps and flats) indicating specific pitches. The overall structure is symmetrical, reflecting the palindromic nature of the canon.

Palindromic Canon on Pattern 186

In Four Parts

Palindromic Canon on Pattern 231

(Theme from Schoenberg: *Ode to Napoleon*)

In Four Parts

Palindromic Canon on Pattern 394

In Eight Parts

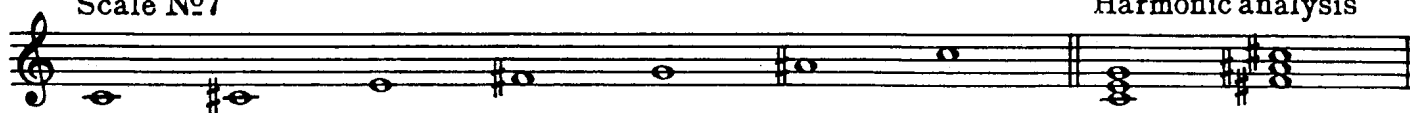
Palindromic Canon on Pattern 447

In Eight Parts

Autochordal Harmonization

Scale №7

Harmonic analysis

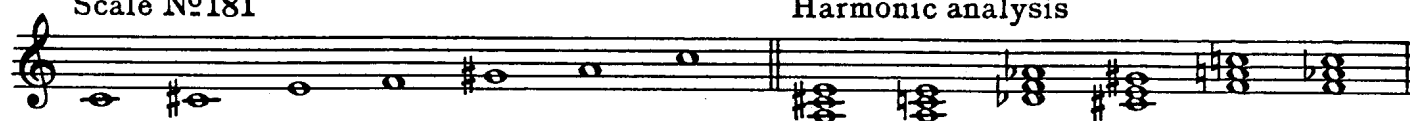


Bitonal



Scale №181

Harmonic analysis



Bitonal



Pedal points

Combinatory



Scale №393

Harmonic analysis



Bitonal Major



Bitonal Minor



Bitonal Major and Minor



Pedal Points



Combinatory



Harmonization in Major Triads

by Alternation of Octave, Tertian
and Quintan Positions

Melody Line



Octave Position



Tertian Position



Quintan Position



Harmonization in Seventh-Chords, Ninth-Chords and Whole-Tone Chords

Melody Line



Whole-Tone Chords



Major Ninth-Chords



Minor Ninth-Chords



Whole-Tone Chords



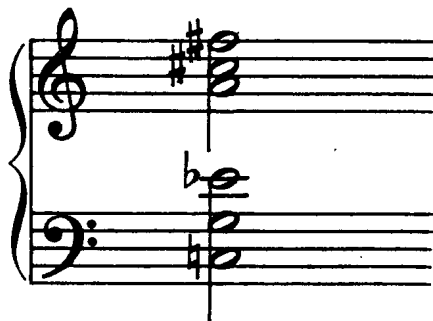
Dominant Seventh-Chords



Synopsis of Chords



Major
Bitonal Chord



Minor
Bitonal Chord



Whole-Tone
Chord



Prometheus
Chord

(Scriabin)



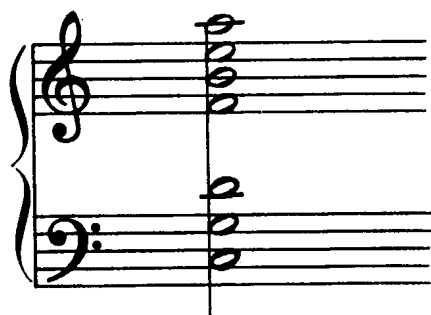
Quartal
Chord

Containing All Twelve
Chromatic Tones Ar -
ranged in Fourths



Chord
of the Minor 23rd

Containing All Twelve
Chromatic Tones and
Four Mutually Exclusive
Triads



Pandiatonic Chord

Containing All Seven
Diatonic Tones



Pandiatonic Tone-Cluster



Pentatonic Tone-Cluster



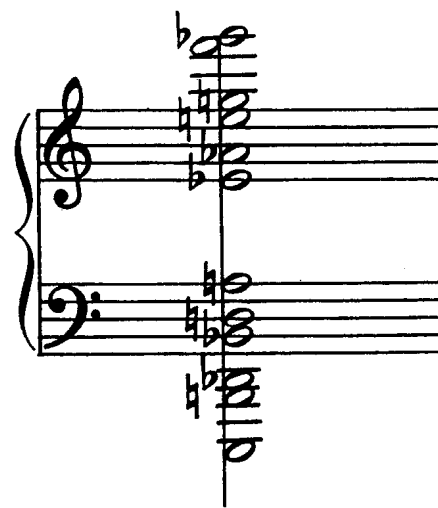
Pyramid Chord

Containing All Twelve
Intervals From an Octave
to a Semitone



Mother Chord

Containing All Twelve
Chromatic Tones and
Eleven Different Inter-
vals



Grandmother Chord

Containing All Twelve
Chromatic Tones and
Eleven Symmetrically
Invertible Intervals

Master Chords

Tritone Progression

Scales and Patterns 1-180

12 staves of musical notation for the Tritone Progression, numbered 1 to 12. Each staff shows a sequence of chords in bass and treble clefs, with various accidentals (sharps, flats, naturals) indicating the specific notes of the progression.

Master Chords

Ditone Progression

Scales and Patterns 181-391

12 staves of musical notation for the Ditone Progression, numbered 1 to 12. Each staff shows a sequence of chords in bass and treble clefs, with various accidentals (sharps, flats, naturals) indicating the specific notes of the progression.

Master Chords

Sesquitone Progression

Scales and Patterns 392-568

12 staves of musical notation for the Sesquitone Progression, numbered 1 to 12. Each staff shows a sequence of chords in bass and treble clefs, with various accidentals (sharps, flats, naturals) indicating the specific notes of the progression.