JAMES MATHEWS.

1. 3.

12

The Theory and Practice of fingering the VIOLONCELLO

Containing

RULES & PROGRESSIVE LESSONS

for attaining the Knowledge & Command of the Whole compass of the Instrument

by

John Gunn

Teacher of the Violoncello.

O decus Phoebi, et dapibus supremi
Grata testudo Jovis, ô laborum
Dulce lenimen, mihi cunque salve
Rite vocanti.

——— ac precor, integra
Cum mente, nec turpem Senectam
Degere, nec Cithará carentem. Hor.

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London. Printed for & Sold by the Author at № 71. Bennet Street Rathbone Place, where may be also had Forty favorite Scotch Airs, for the Violoncello, Violin or German flute, having the phrases & fingering for the former, markd Pr. 7/6.

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THE muſical ſtudent, if a beginner on the inſtrument, will derive the information moſt ſuited to his circumſtances, that this treatiſe contains, in the beginning of the ſecond part, or the practice of fingering; after which, the theory contained in the firſt part will be better underſtood: but if any difficulty ſhould occur in that, which can only ariſe from the ſigns made uſe of in explaining it, this will be entirely done away by peruſing the fourth chapter, on the general rules of fingering. The author having obſerved, in the courſe of his teaching, the greateſt uncertainty and embarraſſment to ariſe, from his pupils having been taught different methods of fingering, by different maſters they had been under, and that the perplexity ariſing from the equipoiſe of authorities led them generally to conclude that fingering was directed by caprice rather than by principle;—the author, ſenſible that every thing that depends on numbers and extended ſpace, can be ſubjected to a better criterion than the *authority* of any man, however reſpectable attempted to inveſtigate the principle on which fingering, avowedly ſuperior to every other method, and adopted by the beſt maſters, was founded; and he hopes he has not been unſucceſsful.—The ſtudent, therefore, whatever his reſpect for authorities may be, need not be alarmed at the ſeeming hypothetical foundation of our method, as it is nothing but the principle of the beſt fingering known in practice, extended, and made univerſal; and, inſtead of complication, and diverſity of fingering, he will be ſurpriſed to find the ſimplicity and uniformity that prevails throughout. A complete analyſis of the finger-board, in aſcending and deſcending ſcales, and rules of fingering of general application, have never been before attempted; and the novelty of the ſubject is the beſt apology the author can make for any imperfections or repetitions there may be in the explanations, as well as for inaccuracies in language and arrangement; the difficulties of which, in a firſt attempt, might not have been entirely overcome by perſons greatly ſuperior to the author in attainments.

The diſſertation on the origin and improvements of ſtringed inſtruments, down to thoſe now in uſe, will not, it is hoped, be thought improper to precede a treatiſe of this kind, as it is chiefly meant as a ſhort account of the former ſtate of the art, and may ſerve as an introduction to a more complete hiſtory of the art and ſcience of muſic, to many into whoſe hands this treatiſe may fall, who may not have an opportunity of conſulting the original, or larger works on the ſubject:—There will be found in it ſeveral circumſtances, which the author has been content to glean, after the more fortunate and conſiderable harveſt of his predeceſſors in the field of muſical hiſtory; and the author's peculiar hypotheſis on the origin of many of the inſtruments and their improvements, is ſubmitted with all due deference to ſuperior learning and abilities. He has generally given the words of the original authors, at the foot of the page, merely to prevent the learned reader from recurring to a multiplicity of books, and by no means to make an oſtentatious diſplay of the little knowledge the author has been able to attain of the learned languages, in the courſe of a very few years, by his own unaſſiſted efforts, in the intervals of his ſtudy of the Violoncello, and of the duties of his profeſſion.

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CONTENTS.

DISSERTATION

ON THE

ORIGIN OF THE VIOLONCELLO;

&c.

SECTION I.

Of the Invention and rude State of Muſical Inſtruments.

THE Mechanic Arts have, by the accumulated experience of a long ſucceſſion of ages, and by the aſſiſtance received from the Sciences, arrived at their preſent high degree of perfection from the rudeſt beginnings. Thoſe branches of knowledge that we dignify by the name of the Sciences, have themſelves ſprung from the Arts and their ſucceſſive improvements. Maxims and rules of the Arts have, by continued obſervation and reflection, been gradually matured and refined into principles and theory, and thus have become the elements of the Sciences: Hence the near relation that ſubſiſts between the Arts and the Sciences, and the reciprocal advantages they confer on each other.

Muſic therefore, conſidered either as a practical Art or a Science, muſt have had its infancy; and the firſt attempts in its practice were undoubtedly awkward and artleſs,

The ſinging of birds may have ſuggeſted to mankind the firſt idea of Muſic, and the whiſtling reeds perhaps the firſt notion of a muſical inſtrument(*a*). Such materials as Nature herſelf had formed, were long made uſe of, and were the only inſtruments before the manual arts had made any progreſs. An oaten ſtalk, a reed, or cane, ſerved for a pipe or flute; and the ſhin-bone and horns of animals anſwered a ſimilar purpoſe. The trumpets ſounded by the Hebrew prieſts at the ſiege of Jericho are expreſsly mentioned to have been rams-horns(*b*): and the repreſentations of the Μονανλος, or ſingle pipe, in the Sculpture of the Ancients, ſhow theſe inſtruments to have been the horns of dead animals(*c*).

Inſtruments of theſe and ſuch like materials ſeem to have been invented and uſed by every nation at a certain period of its progreſs from barbariſm to refinement. The inhabitants of the newly-diſcovered iſlands of the Pacific Ocean have in common uſe among them inſtruments ſimilar to thoſe uſed in remote ages by the Egyptians, Jews, and Greeks. An inſtrument compoſed of a number of reeds of different lengths, tied together, and exactly like the ſyrinx or Pan's pipe of the ancients, is uſed by the natives of New Amſterdam; and Garcilaſſo de la Vega informs us, that the natives of Peru had among them a ſimilar inſtrument made of canes of different lengths glued together. Flutes, drums, and trumpets, have been found in common uſe in Otaheite and New Zealand. The flute of Otaheite conſiſts of one joint of cane, and differs in this particular from any of the flutes of antiquity, that it is ſounded by breath iſſuing from one of the noſtrils, the other being ſtopt by the thumb of the performer; at leaſt it was in that manner Omai, a native of the iſland, played on the Otaheite flute in the library of Trinity college, Cambridge.

It is therefore beyond a doubt that inſtruments reſembling each other in conſtruction and properties have been invented in different ages by nations ſo remote from each other in ſituation, that it is ſcarcely poſſible there could have been the leaſt communication between them.

Notwithſtanding this, we find the Greeks, ever fond of attributing to their own nation, as well the nobleſt inventions as the moſt ancient origin, have alſo claimed the merit of being the parents of Muſic. They not only boaſt that they were προσεληνοι and αυτοχθονες, (that is, that they exiſted before the Moon, and ſprung from the ſoil they inhabit,) but by making Greece the native ſoil of many of their Gods, who were ſaid to be the inventors of ſeveral muſical inſtruments, have artfully aſſumed to themſelves the credit of their inventions.

To Apollo has been attributed the invention of Muſic itſelf, of the Lyre or Cithara, and of the flute(*d*); to Pan, the invention of the Syrinx, already mentioned(*e*.) Ovid has accounted very ingeniouſly for the origin of this inſtrument and its name(*f*). To Minerva has been given the invention of the flute with equidiſtant foramina or holes(*g*); an improvement on the Syrinx; as the

(*a*) At liquidas avium voces imitarier ore
Ante fuit multò, quam lævia carmina cantu
Concelebrare homines poſſent, aureiſque juvare
Et Zephyri cava per calamorum ſibila primum
Agreſteis docuere cavas inflare cicutas.
LUCRETIUS, Lib. V.

(*b*) Joſhua, c. vi. v. 4, 5, & 6.

(*c*) Dr. Burney's Gen. Hiſt. of Muſic, Vol. I. p. 213.

(*d*) Ἡμεις δ'ουκ ανδρασι τοις παριλαβομεν ευρετην των της μουσικης αγαθων, αλλα τον πασαις ταις αρεταις κεκοσμημενον Θεον, Απολλωνα, ουτε γαρ Μαρσυν, η Ολυμπον, η Ὑαγνιδα (ως τινες οιονται) ευρημα ὁ αυλος· ου μονη δε κιθαρα Απολλωνος, αλλα και αυλητικης και κιθαριστικης ευρετης ὁ Θεος.
PLUT. de Muſica, ed. Xyland. v. ii. p. 1135.

(*e*) Pan primus calamos cerâ conjungere plures
Inſtituit. VIRG. Ec. II. 22.

(*f*) ——— Arcadiæ gelidis in montibus
Inter Hamadryadas celeberrima Nonacrinas
Naias una fuit, &c. Metam. Lib. I.

(*g*) Prima terebrato per rara foramina buxo
Ut daret, effeci*, tibia longa ſonos.
OVID. Faſt. Lib. VI. 697.

* Minerva loquitur.

the ſame variety of notes were now produced by a ſingle pipe, as was before done by a number of pipes tied together. And, laſtly, to Mercury has been aſcribed the invention of the flute and the lyre.

To any one who does not with the celebrated Thomas Aquinas believe that the Arts and Sciences were communicated all at once by the Deity to mankind in their full perfection, the excluſive claims of theſe divinities to the different inventions above mentioned will appear doubtful, and ought by no means to be ſet up againſt the juſt pretenſions of any other claimants. By this deduction of their origin, however, is ſhown the ſenſe the Ancients entertained of the Art, and of its high antiquity.

SECTION II.

Of the Lyre of the Greeks.

THE Lyre is the parent of almoſt all the inſtruments of the fidicinal kind. There is certainly more ingenuity and art diſcoverable in the invention of this inſtrument, than in that of any of the others before mentioned. It is true that the materials of which it was originally conſtructed, the ſhell of a tortoiſe, and the horns of an animal, required little art in the preparation; yet to have produced three or four different notes from the like number of ſtrings by different degrees of tenſion, diſcovers more knowledge of the nature of muſical ſounds, and a greater ſtep made towards the diſcovery of the principles of the Science, than to have given any form to the Flute which it had in early times aſſumed (*b*). Tubes of different dimenſions, ſuch as reeds or oaten ſtalks, would immediately give notes differing proportionally with the ſizes of the pipes; but to make ſtrings produce that variety by different degrees of tenſion, muſt have required ſome preconceived notion that this effect would neceſſarily follow that cauſe.

The preſent enquiry has for its end, the inveſtigation of the principles that have led to the invention, conſtruction, and uſe, of the Violoncello; and this cannot be effected otherwiſe than by tracing the firſt ſtate of ſtringed inſtruments, and the ſubſequent alterations and improvements that have been made on them.

The accounts delivered down to us by the Ancients of the origin and improvement of the Lyre, merit particular attention, not only becauſe the fidicinal inſtruments now in uſe appear to have ariſen from ſucceſſive alterations and reformations of the Lyre, but alſo on account of its having, by the tenſion and tuning of the ſtrings, ſuggeſted the firſt ideas of a ſyſtem of Muſic, and led to the diſcovery that the principles of Muſic are founded in geometrical truth and in the general laws of nature.

The

(*b*) Ovid's authority for giving ſo very early and honourable an origin to the improved flute with foramina, may very reaſonably be called in queſtion. Although he is very ſparing of the number of holes (foramina rara), yet the circumſtance of its having been made of box-wood, ſuppoſes the art of boring flutes to have been then known; and that the mechanic arts arrived in a ſhort time at that progreſs, is extremely improbable. A very curious book, quoted by Sir John Hawkins in his Hiſtory of Muſic, Vol. I. p. 457. called the Book of St. Alban's, written by Dame Julyans Bernes, prioreſs of the nunnery of Sopwell, near St. Alban's, deſcribes the method of making an angling-rod in the year 1496. The mechanics of that time, it ſeems, thought the neateſt method of hollowing a ſtick for that purpoſe, was the burning it through with a red-hot ſpit.—How were they to manage without a ſpit, and before the metals were in uſe?

The Greek writers are almoſt unanimous in aſcribing the invention of this inſtrument to the Grecian Mercury, ſon of Jupiter and Maia. In the hymn to Mercury aſcribed to Homer(*i*), Mercury is ſaid to have found a tortoiſe feeding at the entrance of a cave in Mount Cyllene in Arcadia, the place of his nativity; having killed the animal and prepared the ſhell, he formed it into a Lyre of ſeven ſtrings(*k*), which he immediately played upon with a plectrum. Apollodorus Athenienſis(*l*) gives nearly the ſame account of the invention, and differs from the hymn, chiefly in ſaying that the ſtrings were made of the inteſtines of ſome of the bulls belonging to Apollo which Mercury had ſtolen, and he makes no mention of the number of ſtrings; whereas in the hymn to Mercury the ſeven ſtrings are ſaid to have been of ſheeps inteſtines(*m*), which are the very materials that ſtrings for violins and ſeveral other inſtruments are made of at this day, and not of catgut, as it is commonly thought. In the hymn alſo the Lyre is ſaid to have been invented before the bulls were ſtolen; but according to the relation of Apollodorus it was after Mercury had ſtolen the bulls that he invented the Lyre(*n*).

The authenticity of the hymn to Mercury has been doubted by the learned; and the circumſtance of the Lyre of Mercury having ſeven ſtrings, is contradictory to the account of the firſt ſtate of that inſtrument as given by others of the Ancients, who contend that it had but three, or at moſt four ſtrings(*o*).

The additions to this number are variouſly accounted for. According to Suidas and others it remained a tetrachord or four-ſtringed inſtrument till the time of Terpander, who by the addition of three more ſtrings changed it into a heptachord; and this account is confirmed by a couple of verſes ſaid to have been written by Terpander himſelf, quoted by Euclid in the introduction to his Harmonics(*p*).

Diodorus Siculus, after relating the muſical conteſt of Apollo with Marſyas, adds, "that the "former immediately repenting of the cruel manner in which he had treated Marſyas, broke the "ſtrings

(*i*) V. 25.

(*k*) Pauſanias in a very few words corroborates the ſame account: Εχεται δε αλλος ορος Κυλληνης Χελυδωρια, ενθα ευρων χελωνην Ερμης, εκδειραι τον θηριον, και απ' αυτης λιγεται ποιησασθαι λυραν. Pauſan. in Arcad. And as the Lyre was by many attributed to Apollo, there ſeems to have been a contention between him and Mercury for the honour of the invention; for, according to Pauſanias, there was a ſtatue on Mount Helicon, repreſenting them contending for the Lyre: Και Απολλων χαλκους εστιν εν Ελικωνι και Ερμης μαχομενοι περι λυρας. Pauſan. in Bœot. And this conteſt ſeems to have been ſettled by giving the invention of the Lyre to Mercury, and that of the Cithara to Apollo, μετα δε τουτον, ſays Pauſanias in another place, Απολλωνος και Ερμου βωμος εστιν εν κωμη, ενθα Ερμου λυρας, Απολλωνα δε κιθαρα εστιν ειδαφας. Pauſan. p. 314. Ed. Xyland.

(*l*) L. III. c. 10. §. 3.

(*m*) Επτα δε συμφωνους ωιδην επτατονους χορδας. V. 51.

(*n*) The firſt day of Mercury's life was full of buſineſs. Born in the morning, at noon he conſtructed and learned to play on the lyre, and in the evening ſtole the bulls of Apollo from the Pierian mountains.

Ηος γενετην, μεσω ημαρ εγκιθαριζεν
Εσπερος βους κλεπτεν εκηβολου Απολλωνος.

Hymn. in Merc. v. 18.

(*o*) Nicomachus, a Pythagorean, and one of the Greek writers on Muſic in the collection of Meibomius, is among thoſe who give ſeven ſtrings to the Mercurean lyre. He gives the following account of the matter in the beginning of his ſecond book. "The Lyre made of a tortoiſe is ſaid "to have been the invention of Mercury; having prepared "it, and given it ſeven ſtrings, he communicated the "knowledge of it to Orpheus, who taught it to Thamyris "and Linus; Linus taught it to Hercules, by whom he was "killed." (The latter was extremely dull and obſtinate, and Linus being once provoked to ſtrike him, the hero ſeized his lyre, and beat out his brains). "Hercules taught "it to Amphion, who built Thebes with ſeven gates to the "ſeven ſtrings of his lyre. Orpheus being killed by the "Thracian women, they are ſaid to have thrown his lyre "into the ſea: it was caſt on ſhore at Antiſſa, a city of "Leſbos, and being found by fiſhermen, was brought to "Terpander, who carried it into Egypt exquiſitely improved, "and ſhowed it to the Egyptian prieſts as his own invention; "and thus Terpander has been ſaid to be the inventor of "the Lyre. Others again give the invention to Cadmus, "ſon of Agenor."

(*p*) Ημεις τοι τετραχορδον αποστιξαντες αοιδην
Επτατονῳ φορμιγγι τιτυς κελαδησομεν ὑμνους.

" ſtrings of his Lyre, and ſtopt for ſome time the progreſs of the newly-invented inſtrument. " (*q*) The Muſes afterwards added the ſtring called *meſe*, Linus that of lichanos, and Orpheus (*r*) " and Thamyras the ſtrings named hypate and parhypate."

The note meſe anſwers to our A on the fifth line in the baſe, and was the acuteſt ſound of the firſt tetrachord of the Ancients; and this account implies that the Lyre which Apollo uſed had but three ſtrings, the tuning of which muſt have been E, F, G, correſponding to the Greek names hypate meſon, parhypate meſon, and meſon diatonos or lichanos meſon. Meſe being added will make the moſt ancient tetrachord, and the Lyre before the time of Terpander tuned to the notes E, F, G, A.

The ſtring lichanos being added, correſponding to our note D on the third line of the baſe, and the two ſtrings hypate and parhypate, anſwering to our B and C in the baſs, would make the heptachord B, C, D, E, F, G, A, making two conjoint tetrachords or fourths; namely, B, C, D, E, and E, F, G, A.

The account of Boëtius differs much from the above, and is unſupported by any other authority. He ſeems to think that the Lyre of Mercury had originally four ſtrings: the firſt or graveſt note being parhypate hypaton or C; the ſecond, parhypate meſon or F, a fourth more acute; the third, lichanos meſon or G, one tone higher than the ſecond; and the fourth trite or C, a fourth to the third, and octave to the firſt. He gives the invention of the fifth ſtring to Chorœbus, ſon of Atys, King of Lydia; the ſixth to Hyagnis, cotemporary with Erichthous, who lived 1500 years before the Chriſtian æra; the ſeventh to Terpander; and the eighth to Lychaon of Samos.

The account given by Nicomachus the Pythagorean of the ſtate of the heptachord is more particular, and appears more correct and deſerving of credit. According to this Author, the graver of the two tetrachords B, C, D, E, was not at this time a part of the ſyſtem; and the Lyre conſiſted of the other tetrachord E, F, G, A, which was probably the ancient tetrachord before the time of Terpander; and the notes parameſe, paranete, and nete, or B flat, C, and D, of our ſyſtem; forming the two conjoint tetrachords or fourths E, F, G, A, and A, B flat, C, D. This heptachord was by the addition of another note by Pythagoras, and regulating anew the intervals of the former acute tetrachord, changed into an octochord or octave; that is, by leaving the graver tetrachord E, F, G, A, in the ſame ſtate, and altering the acuter to the intervals B, C, D, E. Thus the octave of Pythagoras, like that of the moderns, conſiſts of two disjoint tetrachords or fourths, differing only in the ſituation of the ſemitone in each tetrachord; in the octave of the moderns, the ſemitone being the laſt note of each tetrachord, but in that of Pythagoras the ſecond note of each.

The manner in which Pythagoras made this addition, and his views in making it, are related by Nicomachus; and Mr. Stanley, in his Hiſtory of Philoſophy, gives the following tranſlation of the text of Nicomachus (*s*).

" Pythagoras,

(*q*) Ταχυ δε μεταμεληθεντα (Απολλωνα) και βαρεως επι τοις υπ' αυτου πραχθεισιν, επεγκαντα της κιθαρας εκπεσειν τας χορδας, και την ευρημενην αρμονιαν αφανισαι. Ταυτης δ' υστερον Μουσας μεν επευρειν την μεσην, Λινον δε τον λιχανον, Ορφεα δε και Θαμυριν υπατην και παρυπατην. Lib. III.

(*r*) Several writers aſſert that Orpheus added two ſtrings to the Lyre, which before had ſeven; but this is contradictory not only to the above account of Diodorus, but alſo to that of almoſt the whole of antiquity, who allow Pythagoras to have invented the octachord or eighth ſtring of the Lyre; and Virgil, who places Orpheus at the head of the legiſlators in Elyſium, alludes to the ſeven ſounds of his Lyre in the following verſes:

Nec non Threïcius longa cum veſte ſacerdos
Obloquitur numeris ſeptem diſcrimina vocum,
Jamque eadem digitis, jam pectine pulſat eburno.
Æn. VI. 645.

See ſome very well founded remarks of Dr. Burney on Dryden's and Pitt's tranſlations of the above verſes. Gen. Hiſt. of Muſic, I. 329.

(*s*) Ed. 1701. p. 387.

" Pythagoras, left the middle ſound by conjunction, being compared to the two extremes, " ſhould render the diateſſeron concent both to the nete and the hypate, and that we might have " a greater variety, the two extremes making the fulleſt concord to each other, that is to ſay, " a diapaſon, which conſiſts in duple proportion, inſerted an eighth ſound between the meſe and " the parameſe, placing it from the meſe a whole tone, and from the parameſe a ſemitone; ſo that " what was formerly the parameſe in the heptachord is ſtill the third from the nete both in name " and place, but that now inſerted is the fourth from the nete, and hath a concent to it of a " diateſſeron, which before the meſe had to the hypate; but the tone between theſe, that is the " meſe, and the tone inſerted, called the parameſe, inſtead of the former, to whichſoever tetrachord " it be added, whether to that which is at the hypate, being the lower, or to that of the nete, " being the higher, will render the concord of diapente; which is either way a ſyſtem, conſiſting " both of the tetrachord itſelf, and of the additional tone; and as the diapente proportion, viz. " the ſeſquialtera, is found to be a ſyſtem of ſeſquitertia and ſeſquioctava, the tone therefore is " ſeſquioctava. Thus the interval of four chords, and of five, and of both conjoined together, " called the diapaſon, with the tone inſerted between the two tetrachords, compleated the " octave." (*t*)

It appears, by this account of Nicomachus, that the proportions of the fifth, ſeſquialtera, of the fourth, ſeſquitertia, of the tone, ſeſquioctava, and of the octave or duple proportion, were perfectly known to Pythagoras. The diſcovery is attributed to him by the concurring teſtimony of the Ancients. The manner in which he is ſaid to have made it is related by Nicomachus, Gaudentius the philoſopher, another of the Greek writers on muſic, Jamblicus, Macrobius, and others, to the following purport.

Pythagoras (ſay theſe Authors) one day meditating on the ſubject of a rule to guide the ear, ſuch as had been uſed to help the other ſenſes, happened, as he paſſed by a blackſmith's ſhop, to obſerve that the iron hammers, which were ſtriking on the anvil, produced ſounds that were very harmonious, and in concord with one another. The hammers were four in number; he conſidered them attentively, and found their reſpective weights to be in the proportion of 6, 8, 9, and 12. On returning home, he ſuſpended four ſtrings, equal in length and thickneſs, and applying weights to them in the above proportions, found that they produced ſounds in the ſame proportions that the hammers had given, viz. the three ſtrings ſtretched by the weights 8, 9, and 12, were the fourth, fifth, and octave, to the graveſt tone or ſtring ſtretched by the weight 6.

The belief and propagation of this ſtory is a remarkable inſtance of eaſy credulity in ancients and moderns, as the truth of the relation never appears to have been called in queſtion before the laſt century. It is indiſputable, that in the caſe of an anvil and hammers, however different the latter may be in their weights, the ſound of the anvil will ever remain the ſame as to pitch or tune: and with reſpect to the tenſive powers of weights differing in the proportions of 6, 8, 9, and 12, it

(*t*) Πυθαγορας, δι παμπρωτος, ινα μη κατα συναφης ὁ μεσος φθογγος προς αμφοτερα τα ακρα ὁ αυτος συγκρινομενος, διαφερηται παραχη μοιην την δια τεσσαρων συμφωιαν, προς τε την ὑπατην, και προς την νητην· ποικιλωτεραν δε διαφορα ισχυειν, και των ακρων αυτων αλληλοις την κατακορεστατην συναποτελουντων συμφωιαν, τουτεστι την διαπασων, τον διπλασιον ἐχουσαν λογον· ὁπερ εκ των δυο τετραχορδων συμβηναι εκ εδυναται, παρεδηκεν ογδοον τινα φθογγον, μεταξυ μεσης και παραμεσης ειαψας· και αποτεμνας, απο μεν της μεσης ὁλον τονον· απο δε της παραμεσης, ἡμιτονιον· ὡστε την μεν προτεραν, εν τη ἑπταχορδῳ παραμεσην ουσαν, τριτην ετι απο νητης καλεισθαι τε και ειδει ὑπατον κεισθαι· την δε παρεντεθεισαν, τεταρτην μεν απο νητης ὑπαρχειν· συμφωειν δε προς αυτην την δια τεσσαρων συμφωιαν, ὑπερ και εξ αρχης μεση προς την ὑπατην ειχεν· ὁ δε μεταξυ αμφοτερων τονος, μεσης τε και της παρεντεθεισης, ονομασθεισης αιτι της προτερας παραμεσης, ὁποτερῳ αν τετραχορδῳ προστεθῃ· ειτε τῳ προς τη ὑπατη, νητοειδεστερος, ειτε προς τη νητη βαρυτερος, την δια πεντε συμφωιαν αποδειξει, συστημα ἑκατερωσε ὑπαρχουσαν, αυτε τε τω τετραχορδῳ, και τω προσγενομενῳ τονῳ· ὡσπερ και ὁ τε δια πεντε λογος, ὁ ἡμιολιος, συστημα ευρισκεται ἑπτετε τε ἁμα και εσογδω· ὁ αρα τονος εσογδοος· την δε κατ' αριθμον ποσοτητα ταυτην, ητε δια τεσσαρων χορδων αποτασις, ητε δια πεντε, και ἡ κατ' αμφοτερων συνοδος, διαπασων λεγομενη· και προσκειμενος μεταξυ των δυο τετραχορδων τονος, τρωτῳ τινι τοιουτῳ, ὡς τε Πυθαγορᾳ καταληφθεντα ἐχειν εβεβαιωθη.

Nicomachus, p. 9.

it is equally certain that inſtead of giving the concordant intervals above mentioned, they will produce intervals altogether different(*u*). The detection and formal refutation of this egregious miſtake was firſt made by the great Galileo(*x*): and from experiments made by him, and other writers ſince his time, and by the principles laid down by them, it is now made evident, that to produce the above conſonances, weights differing not as 6, 8, 9, and 12, but as the ſquare of theſe numbers, that is, 36, 64, 81, and 144, muſt be applied.

But however aſtoniſhing it may ſeem that ſo many philoſophers and ancient writers on muſic ſhould have blindly received this tradition on truſt, without putting it to the teſt of a very eaſy experiment, and however miſtaken the firſt Phythagoreans may have been in delivering this as the manner in which their maſter diſcovered the ratios of muſical ſounds, the honour of the diſcovery itſelf, and of making Muſic rank among the Sciences, can never be denied him.

The numbers ſo often mentioned above, although they do not juſtly expreſs the tenſive forces requiſite to produce the conſonances of the fourth, fifth, and octave, are nevertheleſs expreſſive of the ratios of their vibrations; and in the inverſe order to that in which they ſtand, they expreſs the different lengths of ſtrings of equal tenſion and thickneſs that will give the above intervals. It is therefore probable that the diſcovery of Pythagoras was that of the proportionate lengths of ſtrings; and that this was done by the monochord or harmonic canon, is evident from the account given by Gaudentius. After relating the ſtory of the anvil, hammers, and the ſtrings diſtended by weights, he adds, that Pythagoras, not ſatisfied by theſe experiments, divided a ſtring into twelve equal parts; that ſtriking it at the half or ſix parts, he found it give the octave or duple ratio, compared with the whole length; at the three fourths, the fourth to the grave ſound; and at two thirds, the fifth compared with the tone given by the whole length(*y*).

Pythagoras is accordingly allowed by ancients and moderns to have been the inventor of the Monochord. He is ſaid to have recommended the uſe of it on his death-bed(*z*), as the beſt method of aſcertaining every muſical interval with truth and exactneſs; and it appears to have been uſed for that purpoſe by the ancients after the time of Pythagoras. Thus the ſtrings of the Lyre, which before this æra of the diſcovery of principles in muſic, had been tuned by no other rule than what ſeemed agreeable to the ear, were henceforth aſcertained and fixed in their different ſituations in the new ſyſtem, and a proper criterion eſtabliſhed to regulate the voice, and the exact degree of intonation of each ſtring.

Accordingly the ſyſtem of Pythagoras is the baſis of all the ſucceeding theories of Euclid, Ptolomy, and other writers, on the principles of Muſic, both ancient and modern; but in reſpect to the number of ſtrings afterwards uſed on the Lyre, it does not appear that the Greek muſicians in their practice adhered ſtrictly to the number eſtabliſhed by this ſyſtem. His follower Nicomachus, however, diſapproves of the uſe of a greater number than eight, and ſays that thoſe

(*u*) Bontempî ſays, that the weights 12, 9, 8, 6, applied to ſtrings of equal length, produced the trihemitone inſtead of the fourth, the ditone inſtead of the fifth, the tritone inſtead of the octave, and the defective ſemitone inſtead of the tone.

(*x*) In a work of his, intitled, Diſcorſi e Dimoſtrazione matematiche intorno à due Nuove Scienzie, attenenti alla Mecanica, ed i Movimenti locali.

(*y*) Αλλ' ουδε εν τουτοις ετι μονη βασανιζει, τρεπον αλλον την μεθοδον· χορδην γαρ τεινας επι κανονος τινος, και τον κανονα διελων εις μερη ιϛ, πρωτον μεν πασαν κρουσας, ειτα το ημισυ αυτης, το των εξ μερων, συμφωνον ηυρισκε την πασαν τω ημισει, κατα διαπασων· οπερ και εν ταις πρωταις μεθοδοις εν διπλασιοις λογω κατελαμβανεν· επειτα πασαν και τα τρια μερη της πασης κρουσας το διατεσσαρων ισον συμφωνον· πασαν δε και δυο μερη της πασης κτυπησας, την δια πεντε συμφωνιαν ευρισκει, και τας αλλας ομοιως. Gaudent. ed. Meib. p. 14.

(*z*) Ariſtides Quintil.

thoſe who have added any to that number did not conform to any rule or ſyſtem, but were guided merely by their own caprice (*a*).

We find frequent complaints made in ancient authors of the many innovations that were made in their muſic. In ſome of the ſtates of Greece the public magiſtrates ſeem to have conſidered the refinements and innovations made in their muſic as dangerous to the morals of their youth; and the addition of any ſtrings above a limited number to the lyre, was taken public notice of, and puniſhed.

The poet Terpander appears to have been one of the firſt innovators; and although Plutarch relates of him (*b*), that on occaſion of a revolt at Sparta, he appeaſed the ſeditious, and brought them back to a ſenſe of their duty, by his perſuaſive ſtrains; yet the ſame author informs us, in another place (*c*), that he was fined by the Ephori of Sparta for his innovations; a circumſtance which is alſo taken notice of in the Oxford marbles.

Phrynis is alſo ſaid to have had two ſtrings cut off his lyre, by one of the Ephori, in order to reduce their number to ſeven (*d*), which was the eſtabliſhed number at Sparta; but it does not appear that the lyre was limited to that number of ſtrings in any of the other States: and, with reſpect to the nine-ſtringed lyre of Phrynis, it appears by the teſtimony of Athenæus (*e*) that ſuch an inſtrument was in common uſe in other parts of Greece.

There is extant a ſenatûs-conſultum (*f*) or decree of the Kings and Ephori of Sparta againſt Timotheus, the Mileſian, for introducing into their city a lyre of eleven ſtrings, for diſhonouring their ancient muſic, and corrupting the taſte of their youth. The Kings and Ephori paſs public cenſure on Timotheus, and order the four additional ſtrings to be cut from his lyre, leaving only the remaining ſeven; and, as a warning to others not to introduce improper cuſtoms into Sparta, they baniſh Timotheus (*g*) from their city.

With reſpect to the inſtruments called the Magadis, of twenty ſtrings, mentioned by Anacreon; the Simicum, of thirty-five ſtrings, mentioned by Athenæus and Julius Pollux; and the Epigonium, of

(*a*) Ὅσοι τῇ ογδόῃ χορδῇ περισκαθῆψαν, ὑ λεγῳ τινι, τῇ δι πρὸς τὰς ακροατὰς ψυχαγωγίᾳ περηχθησαν.
Nicom. ed. Meib. p. 35.

(*b*) Dialog. de Muſica.

(*c*) Laconic Inſtitutions.

(*d*) Συ δι Εκπρεπῆ μὲν ἐπαινεῖς, ὃς ἐφορεύων, Φρυνίδος τὸ μουσικὸν σκιπαρίῳ τὰς δυο τὰν ἑπτὰ χορδὰν ἐξέτεμε, καὶ τοὺς ἐπὶ Τιμοθέῳ πάλιν τὸ αὐτὸ τοῦτο πρᾶξαντας· ἡμᾶς δὲ μέμφῃ, τρυφὴν καὶ πολυτέλειαν καὶ ἀλαζονείαν ἐκ τῆς Σπάρτης ἀναιροῦντας.
PLUT. in Vit. Agid.

(*e*) Lib. IV. & XIV. where the Ἑπτάχορδον ὄργανον is mentioned.

(*f*) This decree is preſerved in Boëthius de Muſica, cap. 1. and the fact is mentioned by many of the Ancients. Caſaubon, in his Animadverſions on Athenæus, Lib. VIII. has inſerted the whole Greek text, with corrections, which for the ſatisfaction of the curious in muſical antiquities is here given.

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ΔΕΔΟΧΘΑΙ ΠΕΡΙ ΤΟΥΤΩΝ ΤΩΣ ΒΑΣΙΛΕΑΣ ΚΑΙ ΤΩΣ ΕΦΟΡΩΣ ΜΕΜΨΑΣΘΑΙ ΤΙΜΟΘΕΟΝ ΕΠΑΝΑΚΤΑΣΘΑΙ ΔΕ ΚΑΙ ΤΑΝ ΕΝΔΕΚΑ ΧΟΡΔΟΝ ΕΚΤΑΜΟΝΤΑΣ ΤΑΣ ΠΕΡΙΤΤΑΣ ΥΠΟΛΕΙΠΟΜΕΝΑΝ ΤΑΝ ΕΠΤΑ· ΟΠΩΣ ΕΚΑΣΤΟΝ ΤΟ ΤΑΣ ΠΟΛΙΟΣ ΒΑΡΟΣ ΟΠΤΩΝ ΤΕΤΑΡΒΗΤΑΙ ΕΤΤΑΝ ΣΠΑΡΤΑΝ ΕΠΙΦΕΡΕΝ ΤΙ ΤΩΝ ΜΗ ΚΑΛΩΝ ΕΘΩΝ, ΜΗ ΠΟΤΕ ΤΑΡΑΤΤΗΤΑΙ ΚΑΛΟΣ ΑΓΩΝΩΝ.

(*g*) Not the celebrated player on the flute, ſo much eſteemed by Alexander the Great. Timotheus the Mileſian was cotemporary with Philip of Macedon, and is ſaid to have died in the fourth year of the 105th Olympiad, two years before the birth of Alexander.

of forty ſtrings, named after its inventor Epigonius (*b*); it has with much probability been conjectured, that theſe ſtrings did not form a ſcale of ſo many different ſounds, but that they were tuned uniſons or octaves to each other, like the double harpſichord, and the octave ſtop of other harpſichords. Epigonius lived at a time when there was but little refinement or complication in muſic; and as to the Magadis, its very name implies a ſeries of octaves: when a man, with a boy or a woman, ſung the ſame part, it was called magadizing.

To give an idea of the moſt general form the Ancients conceived the Lyre to be of, *Fig.* 1. and 2. of the annexed Copper-plate are judged the moſt proper examples: the firſt is the repreſentation of a Lyre in the hands of an antique ſtatue of Apollo in the Matthei garden near Rome; the ſecond is a copy of the Conſtellation Lyra in that very curious piece of antiquity, the ancient Celeſtial Globe, in the Farneſe palace, in which the ſhape and compartments of the teſtudo, or tortoiſe, ſhow that the Romans conceived the Lyre and Teſtudo to be the ſame inſtrument.

(*b*) He was a mathematician of Sicyon, and is ſaid to have been the firſt who played without a plectrum, uſing only the points of his fingers: πρωτος επικρουσας ανευ πληκτρου. Pollux, Lib. IV. c. 9.

SECTION III.

Of the Lyre, and ſtringed Inſtruments, of other Nations.

An account of the invention and improvement of the Grecian Lyre has been preferred, not ſo much for its great antiquity, there being undoubted evidence of ſimilar inſtruments, uſed by other nations, in conſiderably more remote ages; but becauſe more particular deſcriptions are tranſmitted to us, of this inſtrument and its improvements, than of the muſical inſtruments of any other country, and becauſe it appears to have been the parent of moſt ſtringed inſtruments in uſe at this day, which have ariſen from a ſucceſſion of improvements of the ancient Lyre.

The Egyptian and Jewiſh nations have juſt pretenſions to a much earlier poſſeſſion of the Arts. The Sacred Writings of the latter, which the great Newton (*a*) has proved to be of all hiſtories the moſt ancient and authentic, ſhow their early knowledge and practice of Muſic. A variety of muſical inſtruments are there frequently mentioned; but although ſeveral learned writers (*b*) have undertaken to treat profeſſedly of theſe inſtruments, the want of repreſentations in ancient ſculpture, will ever render it a vain attempt to recover any juſt idea of their figure or conſtruction. On the arch of Titus, at Rome, where the ſpoils brought by him from Jeruſalem, after the deſtruction of that city, are ſuppoſed to be repreſented, are ſeveral trumpets and horns (*c*); but this arch is known not to have been erected till after the death of that Emperor. The tranſlators of the Old Teſtament, unable to aſcertain the real conſtruction of the muſical inſtruments of the Jews, have, according to the country where the tranſlators lived, given to theſe inſtruments, the names of ſuch as were moſt commonly known and uſed in their own country (*d*). Of theſe inſtruments, however,

(*a*) Sir Iſaac Newton's Chronology.

(*b*) Don Calmet, Kircher, &c.

(*c*) Dr. Burney's Hiſt. of Muſic, Vol. I. p. 233.

(*d*) In Geneſis, c. iv. v. 21. for example, Jubal is ſaid in our verſion to be the father of all ſuch who handle the harp and organ; the French tranſlators render it "le père "de tous ceux qui touchent le violon & les orgues." The Septuagint has ψαλτηριον και κιθαραν, pſaltery and lyre. The Arabic has names correſponding to drum and lyre. In the 3d, 4th, and 5th verſes of the 150th Pſalm, are enumerated almoſt the whole of the Jewiſh inſtruments. In our verſion the

however, the only one that would concern the preſent inquiry, had its form and properties been better known, ſeems to have been the ten-ſtringed inſtrument, or Nablon, which has been rendered by the names of pſaltery, lute, harp, and others.

There are monuments of the remoteſt antiquity, ſtill exiſting, which inconteſtably prove the Arts to have made a great progreſs among the Egyptians. An obeliſk, ſuppoſed to have been erected at Heliopolis, or ancient Thebes, by Seſoſtris, near 400 years before the Trojan war, was, by the command of Auguſtus, after reducing Egypt to a Roman province, brought to Rome, and placed in the Campus Martius; being thrown down and broken, at the ſacking and burning of Rome, in the year 1527, it ſtill lies in the Campus Martius, known by the name of the Guglia Rotta, or broken pillar. Among many hieroglyphicks, is repreſented on it a muſical inſtrument, with a neck, conſtructed to carry two ſtrings, of which Dr. Burney cauſed a drawing to be made under his own inſpection, inſerted in his very ingenious and valuable Hiſtory (*e*).

Mr. Bruce, celebrated for his travels in Egypt and Abyſſinia, diſcovered in a grotto near the ruins of the Egyptian Thebes, the picture of a man playing upon the harp, painted in freſco, and quite entire. The inſtrument has thirteen ſtrings; and Mr. Bruce obſerves, from the elegance of its form, that it is an inconteſtable proof that geometry, drawing, mechanics, and muſic, were at the greateſt perfection when this harp was made; that is, before and at the time of Seſoſtris, who adorned Thebes, and probably cauſed it to be painted there, as well as the other figures in the ſepulchre of his father, as a monument of the ſuperiority of the Egyptians in Arts over other nations (*f*).

That Muſic was at the time of Seſoſtris in that great degree of improvement among the Egyptians which Mr. Bruce imagines, is made ſtill more evident by the muſical inſtrument on the Egyptian obeliſk in the Campus Martius at Rome, as well as by monuments of their progreſs in other arts ſtill exiſting; and as Pythagoras is allowed to have acquired the principles of his philoſophy in Egypt, it is not improbable that he may have alſo got there, ſome knowledge of the philoſophy of ſounds. The conſtruction of a dichord or two-ſtringed inſtrument muſt have proceeded from a knowledge of the method of producing different notes on one ſtring, by taking its aliquot parts; and the conſtruction of a harp with ſtrings, differing in their lengths, like the thirteen ſtrings of the Theban harp, would alſo naturally lead an ingenious people to the diſcovery of that principle, if it had not been previouſly known.

Mr. Bruce has alſo given an account of muſical inſtruments in Abyſſinia; to wit, the flute, the trumpet, the kettle-drum, the tambourine, the ſiſtrum, and the lyre.

As

the names are thus rendered: "Praiſe him in the ſound of "the trumpet, praiſe him upon the lute and harp; praiſe "him in the cymbals and dances, praiſe him upon the "ſtrings and pipe; praiſe him upon the well-tuned cym-"bals, praiſe him upon the loud cymbals." In the French tranſlation, "Louez-le avec le ſon de la trompette; louez-"le avec la muſette, & la harpe. Louez-le avec le tam-"bour & la flute; louez-le ſur l'épinette, & ſur les orgues. "Louez-le avec les cymbales retentiſſantes; louez-le avec "les cymbales de rejouiſſances." The Septuagint agrees with the Engliſh verſion, excepting in the word lute, which is rendered ναβλα, nablon. In the Arabic, Latin, and other tranſlations, the names of theſe inſtruments vary conſiderably, and ſhow that it is in vain to expect the point will ever be cleared up. The term organ in the Engliſh, and les orgues in the French verſion, are merely tranſcribed from the Greek word οργανον of the Septuagint, which by no means refers to any inſtrument like the modern organ, but is uſed by all the Greek writers on Muſic merely to expreſs an inſtrument in general, without diſtinguiſhing the ſpecies: οργανα πολεμων in Plato are implements of war.

(*e*) Vol. I. p. 205.

(*f*) There is a very good engraving of this elegant piece of muſical antiquity in Dr. Burney's Hiſtory of Muſic, Vol. I. p. 222. And Mr. Bruce's very curious and intereſting letter on the ſubject of this harp and the muſical inſtruments of the Abyſſinians, is inſerted in the ſame volume, p. 214. The antiquity, however, of this Theban harp, has been ſince greatly diſputed.

As it does not appear that the Greeks ever penetrated ſo far as Abyſſinia; or that one of the Ptolomies, in an excurſion made to diſcover the ſource of the Nile, could have introduced Muſic, or other arts, into that country, where he remained but a ſhort time, and was conſidered as an enemy; their Lyre, from theſe circumſtances, and that of its name being derived from the language ſpoken in the country, muſt be conſidered as having been originally invented among them. The kingdom of Tigré formerly extended to the Red Sea, which coaſt they have ſince relinquiſhed to other nations. The inhabitants, according to Mr. Bruce, ſay, "that while they "were in poſſeſſion of that coaſt, it furniſhed them with tortoiſe-ſhells, with which they made the "bellies of their lyres; but having now loſt that reſource, they have adopted in its place a "particular ſpecies of gourd or pumpkin, very hard and thin in the bark, ſtill imitating with the "knife the ſquares, compartments, and figure, of the ſhell of the tortoiſe. It has ſometimes five, "ſometimes ſix, but ſometimes ſeven ſtrings, made of the thongs of raw ſheep or goat ſkins, cut "extremely fine: they rot ſoon, are very ſubject to break in wet weather, and have ſcarce any "ſound in dry. It is never played ſolo, but always in accompanying the voice, with which it "plays conſtantly in uniſon. The ſides which conſtitute the frame of the lyre were anciently "compoſed of the horns of an animal of the goat kind, called Agazan, about the ſize of a ſmall "cow, and common in the province of Tigré." Mr. Bruce adds, that he has ſeen "ſeveral of "theſe inſtruments, very elegantly made of ſuch horns, which nature ſeems to have ſhaped on "purpoſe; but after fire-arms became common in the province of Tigré, and the woods were "cut down, this animal being more ſcarce, the lyre has been made of a light red wood, cut "however into a ſpiral twiſted form, in imitation of the ancient materials of which the lyre was "compoſed. The lyre in Amharic is called *beg* (the ſheep); in Ethiopic it is called *meſinko*, the "verb *ſinko* ſignifying to ſtrike ſtrings with the fingers: no plectrum is ever uſed in Abyſſinia; ſo "that *meſinko*, being literally interpreted, will ſignify *the ſtringed inſtrument played upon with the "fingers*. This would ſeem as if anciently there was no other ſtringed inſtrument in Abyſſinia; "nor is there any other ſtill. The Abyſſinians have a tradition, that the Siſtrum, Lyre, and "Tambourine, were brought from Egypt into Ethiopia by Thot, in the firſt ages of the "world" (*g*).

It may not here be improper to mention, in confirmation of this tradition in Abyſſinia, that more than one of the Ancients attribute the invention of the Lyre to Thot or Thoth, the Egyptian Mercury. Apollodorus, as quoted by Dr. Burney (*b*), gives the following account. "The Nile "having overflowed the whole country of Egypt, when it returned within its natural bounds, left "on ſhore a great number of dead animals, and among the reſt a dead tortoiſe, the fleſh of which "being dried and waſted by the ſun, nothing was left within the ſhell but nerves and cartilages, "and theſe being braced and contracted by deſiccation were rendered ſonorous: Mercury, in "walking along the banks of the Nile, happening to ſtrike his foot againſt the ſhell of this "tortoiſe, was ſo pleaſed with the ſound it produced, that it ſuggeſted to him the firſt idea of a "Lyre, which he afterwards conſtructed in the form of a tortoiſe, and ſtrung it with the dried "ſinews of dead animals." (*i*)

The nations in the North and Weſtern parts of Europe have claims, if not to the invention, at leaſt to a very early poſſeſſion, of the harp. The Celts are recorded by Diodorus Siculus to have

(*g*) See Mr. Bruce's letter, mentioned in the laſt note.

(*b*) Vol. I. p. 209.

(*i*) Iſidorus, Lib. III. c. 21. relates the ſtory almoſt in the ſame words. "Lyram primum à Mercurio dicunt "inventam fuiſſe in hoc modo: Cum regrediens Nilus in "ſuos meatus, varia in campis reliquiſſet animalia, relicta "etiam teſtudo eſt, quæ cum eſſet putrefacta et nervi ejus "remanſiſſent extenti inter corium: percuſſa à Mercurio, "ſonitum dedit, ad cujus ſpeciem Mercurius lyram fecit, "et Orpheo tradidit, qui erat hujus rei maximè ſtudioſus, "undè ut æſtimatur, eadem arte non feras tantum, ſed ſaxa "atque ſilvas cantus modulatione applicuiſſe."

have had among them "compoſers of melodies, whom they named Bards." Theſe, he ſays, "ſing to inſtruments like lyres ſongs of praiſe or invective(*k*)." The harp was an inſtrument common alſo among our Anglo-Saxon anceſtors, and it muſt have been of very great antiquity among them and other Gothic nations; for its very name is of Gothic origin, and the ſame in the Anglo-Saxon, Icelandic, Daniſh, Belgic, German, French, and Italian(*l*). After their eſtabliſhment in the Roman provinces, it continued to be their favourite inſtrument, while the Romans were ſtill diſtinguiſhed by their attachment to the lyre(*m*). In a manuſcript of the year 600, in the monaſtery of St. Blaſius, quoted by Gerbertus, the Prince Abbot of that monaſtery(*n*), there is a repreſentation of a harp, there entitled *Cithara Anglica*, of which *Fig.* 7. in the annexed Plate of inſtruments is a copy.

(*k*) Εισι και παρ' αυτοις και ποιηται μελων, ὑς Βαρδους ονομαζουσιν ἑτοι δι μιτ' οργανων ταις λυραις ὁμοιων ᾀδοντες, ὑς μιν ὑμνουσιν ὑς δι βλασφημουσι. Ed. H. Steph. 1559. L. V. p. 213.

(*l*) Ang. Sax. ϸeapϸe, ϸeapϸa. Iceland. Harpa, Haurpa. Daniſh and Belgic, Harpe. Germ. Harpffe, Harpffa. French, *harpe*. Ital. *arpa*. Vide JUNIUS and MENAGE.

(*m*) Romanus lyra plaudat tibi, Barbarus harpa.

VENANTIUS FORTUNATUS, a Writer of the Fifth Century.

(*n*) De Muſica Sacra, Tom. II. in Calcem.

SECTION IV.

Of the Improvement of the Lyre by the Moderns.

IF we take a view of the ſtate of the Lyre from its invention down to the lateſt period of its improvement by the Ancients, we ſhall not be able to conceive any great advantages gained on the ſide of eaſe of execution, or of expreſſion in the tone of the inſtrument(*a*); any elegance it may have received in its figure and conſtruction, and the addition of a few notes to its upper and lower compaſs, muſt appear but an inconſiderable improvement in ſtringed inſtruments, during a ſpace of ſeveral hundred years; and notwithſtanding the additions and alterations introduced by many of their celebrated muſicians, we may conclude, from what we are able to underſtand of the matter, that this ſpecies of inſtruments was carried but a little way by the ancient Greeks and Romans, from the ſtate in which, according to their own account, they received it from its firſt inventors.

In the progreſs to a more perfect ſpecies of ſtringed inſtruments, the firſt ſtep of real improvement, of an inſtrument ſuch as the ancient Lyre, would be the addition of a neck or finger-board, by means of which, four or five intervals, of a tone or ſemitone each, might be taken on each ſtring, without changing the poſition of the hand; and thus a ſingle ſtring would anſwer the purpoſe of four or five, two ſtrings would give ten notes of a ſcale, and ſo on.

That an inſtrument with a neck, however, was not wholly unknown to the Ancients, appears from two pieces of their ſculpture and painting. The ſculpture is on an ancient vaſe, now in the Giuſtiniani palace at Rome, of which there is an engraving in Bianchini's treatiſe De Inſtrumentis Veterum, and is called by Bianchini the Chelys or reformed lyre of Mercury. The ancient painting

(*a*) By an improved expreſſion in tone is here meant advances made from the momentary duration of the tone of inſtruments of percuſſion, ſuch as the lyre, harp, or guitar, towards the lengthened ſoſtenuto tone of wind inſtruments, viols, and violins. There cannot be a doubt but the tone of the lyre would be greatly improved by a more artificial ſtructure, and better materials, than it had in times of ſimplicity.

painting is ſtill ſubſiſting in a ſepulchral grotto near the ancient Tarquinia, and repreſents a dichord reſembling that on the Egyptian obeliſk. An engraving from this painting is inſerted at the end of the firſt volume of Dr. Burney's Hiſtory of Muſic; and *Fig.* 3. in the annexed Plate of inſtruments, will give the reader an idea of both theſe dichords.

In a fragment of the comic poet Pherecrates, preſerved by Plutarch, on the ſubject of innovations and corruptions in muſic, an old woman, ſhockingly mangled and bruiſed, perſonates Muſic, and makes her complaint to Juſtice, under the figure of another woman. She complains loudly of the cruel treatment ſhe received from Melanippides, Cineſias the Athenian, Phrynis, and Timotheus. Of Phrynis her accuſation is, "that in producing twelve notes or harmonies, "from five ſtrings, he had ſo twiſted and tortured her, that he had entirely deſtroyed her "powers" (*b*). Some method that Phrynis made uſe of to produce more notes than one from a ſtring, is probably here alluded to; but there will be found a great diſagreement in the five-ſtringed inſtrument which Pherecrates here gives to Phrynis, and that of nine ſtrings which Plutarch mentions to have brought on him a public cenſure and puniſhment. The former was perhaps a later invention of Phrynis, or he may have occaſionally made uſe of both inſtruments.

Whatever knowledge the Ancients might have of ſtringed inſtruments with a finger-board (and it is certain they were in poſſeſſion of ſufficient principles for their conſtruction, by their early knowledge and long uſe of the monochord), it appears that they were but little uſed in their practice, both from the ſilence of their writers concerning them, and from the very few repreſentations of them in their ſculpture. On the contrary, the Lyre ſeems to have continued their favourite inſtrument, and to have been preſerved nearly in its original form and ſimplicity. It continued to be uſed with ſeven ſtrings in the Auguſtan age; and for this we have the authority of Horace (*c*).

On the decline of the Roman empire, and the irruption of the Northern nations into its provinces, changes were ſoon introduced into the form of their muſical inſtruments; the name of the ancient lyre or Cithara remained, but its conſtruction and properties were gradually changed. Iſidorus informs us that by degrees different forms of the Cithara were introduced, and among others Citharas of a triangular and quadrangular ſhape, and that the number of the ſtrings were multiplied (*d*).

St. Jerome, in one of his Epiſtles (*e*), relates, that the Cithara then in uſe had twenty-four ſtrings, and was in ſhape like the Greek letter Delta, Δ. And in the manuſcript of the year 600, in the monaſtery of St. Blaſius above mentioned, there are repreſentations of ſeveral inſtruments of muſic uſed in that age. The ſtringed inſtruments are, 1. The Cithara of a triangular form, with an inſcription purporting it to be "the Cithara of twenty-four ſtrings, as deſcribed by St. Jerome;" but the figure has not ſo great a number of ſtrings. 2. The Cithara Teutonica or German; in form ſomewhat approaching to the Spaniſh guitar, but without a neck. 3. An inſtrument ſtyled a Lyre, but is a ſpecies of monochord with a bow. 4. The Cithara Anglica or harp, already mentioned. Of theſe inſtruments the *Figures* 4, 5, 6, and 7, in the ſubjoined Plate, are exact copies.

The

(*b*) Φρυνις δ' ἐστὶν ὁ τρίχιλον ἁρμονίαν τινα
Καμπτων με, και στρεφων, ὅλην διέφθορεν
Ἐν πεντε χορδαις δωδεκα ἀρμονιας ἐχων.
PLUT. Dial. de Muſica.

(*c*) Tuque teſtudo reſonare ſeptem
Callida nervis. Lib. III. Od. ii.

(*d*) Iſid. Lib. III. Etymol.

(*e*) In Epiſtola ad Dardanum.
S. HIERON. Op. Tom. V. p. 191.

The Cithara is repreſented in the ſame form in a manuſcript of the year 800 (*f*): and it probably remained without any conſiderable alteration or improvement for ſome time after. The Goths and other invaders of the Roman provinces are repreſented as attached to their own inſtrument, the harp; while thoſe who accounted themſelves Romans were ſtill delighted with the Cithara or lyre (*g*). Nor is it to be expected, that at this time, when the groſſeſt ignorance pervaded the Weſtern parts of Europe, much improvement could be made in muſical inſtruments. It is, however, beyond a doubt, that at the time of the Cruſades, in the eleventh and twelfth centuries, inſtruments very different from the Cithara were made uſe of by the Europeans, which, if not much more perfect than the ancient Lyre, they at leaſt pointed out the principles of, and ſoon became, inſtruments of much greater compaſs, power, and expreſſion.

The æra of the improved Cithara or Guitar, Lute, and other inſtruments of that ſpecies, may therefore be placed at, or ſome little time before, the firſt Cruſade. That the Guitar of the moderns is nothing but the Cithara of the ancients, with the addition of a finger-board, is evident from ſeveral of its ſpecies ſtill retaining its ancient form of the tortoiſe, correſponding with its Greek and Latin names, *Chelys* and *Teſtudo*; and that it was conſidered by thoſe who introduced it, only as an improvement of the ancient Cithara, appears from its ſtill retaining the ſame name in the European and ſome other languages; Chitarra in Italian, Guitara in Spaniſh, Quettara in Arabic or Mooriſh, and Guitar in Engliſh, being unqueſtionably the ſame term, all derived from the Greek Κιθαρα, and the Latin Cithara. An improvement of this nature, which implies a knowledge of the ratios of the intervals of tones and ſemitones in Muſic, cannot, without proof, be ſuppoſed to have been made at this period, by any of the Gothic nations who were poſſeſſed of the Weſtern parts of Europe, and who were remarkable for their contempt, as well as their ignorance, of the arts and learning of the conquered Romans.

The Arabs or Moors, who had taken poſſeſſion of the greateſt part of Spain early in the eighth century, appear to have the beſt claim to this improvement. The firſt Saracen Princes, the immediate ſucceſſors of Mahomet, were not greater enemies of learning than many of the ſucceeding Kaliphs were lovers and encouragers of it. The Mahometans, in their frequent incurſions into different parts of the Greek empire, conceived at length the ſtrongeſt deſire for the attainment of the Greek language and literature. The predilection of the Arabians to metaphyſical and mathematical ſubjects, is well known. Averroes, a Moor of Cordova in Spain, tranſlated Ariſtotle into Arabic, with notes; and, for a long time, Europe had no other text of Ariſtotle than a Latin tranſlation from the Arabic of Averroes. It is by no means improbable that the treatiſe of Euclid, or ſome other Greek writer on Muſic, was read and ſtudied by ſome Moor of Spain, or other Arabian; and thus every requiſite to the improvement in queſtion would be eaſily obtained. On the other hand, if the idea was taken from any repreſentation of ſuch an inſtrument in ancient painting or ſculpture, the Arabians at this time had the beſt opportunities of making the diſcovery, and moſt genius for turning it to uſe.

A circumſtance which gives conſiderable force to the ſuppoſition of the Guitar, and other inſtruments of ſimilar ſtructure, being introduced into Europe by the Moors of Spain, is, that the moſt complete inſtrument of that claſs is at this day known by no other name in Europe than one evidently taken from the Arabic. From *Aoude* in Arabic, with the article prefixed, is derived the Spaniſh *Laud* or *Laut*, whence come the Italian *Liuto*, the French *Luth*, and our Lute. Dr. Shaw deſcribes the Aoude of the Arabs, which he ſaw in Mauritania (*b*), "a baſs, double-ſtringed Lute, "bigger than a Viol, which is touched with a plectrum." He adds, that "the Moors have ſeveral "ſmaller

(*f*) Gerbertus de Muſica Sacra, Vol. II. in Calcem.

(*g*) Venantius Fortunatus, mentioned in note (*m*).

(*b*) Shaw's Travels, p. 270.

" ſmaller Guitars, or Quettaras, according to their pronunciation, of different ſizes, each of them " an octave higher than another." Mr. Bruce, in his account of the muſical inſtruments of the Abyſſinians, mentions the Guitar; but adds, that it was introduced into that country by the Arabians.

The addition of a neck or finger-board to the Cithara of the Ancients has been called an improvement. It is by no means intended by that expreſſion to convey the idea, that the Guitar, on its firſt appearance in the middle ages, or at any after period, was an inſtrument ſuperior in powers to the Lyre. The very contrary may be inferred, by comparing the ſounds of a guitar with thoſe of a modern harp, which muſt approach nearer than any other inſtrument to the Lyre. By the term improvement is only meant a neceſſary ſtep or new principle in the progreſs to a more perfect ſpecies of inſtruments; and it may, once for all, be remarked, that inſtruments are not called perfect, from their ſuperiority of tone, but from their accuracy in tune, not in one key only, but in every one in the ſyſtem.

A Guitar being thus introduced, there remained nothing but the application of a ſingle implement, to produce a ſpecies of inſtruments differing greatly, in tone and expreſſion, from any ſtringed inſtruments that had ever been known before. Theſe were the Viols; and the implement hinted at was the Bow: but of theſe more particular mention will be made in the next Section.

SECTION V.

Of the Bow, the Rebec, and the Viol.

IT is now generally agreed that the Ancients were unacquainted with the Bow, at leaſt with its application to a muſical inſtrument. In what manner the tones were produced from their Monochord is not known. It is indeed difficult, if not impoſſible, to conceive any lengthened tone to be produced from a ſtring otherwiſe than by the action of a bow or wheel. The former implement is both the moſt ſimple, and beſt adapted for the production of ſmooth tones, and of every variety in their expreſſion. It might have been uſed by the Ancients for their Monochord, and very juſtly deemed uſeleſs for any other of their inſtruments; as it would never occur to any one, that the Bow could be applied with any advantage to an inſtrument like the ancient Lyre or modern Harp; and the Monochord of the Ancients, like that of the moderns, was conſidered more as an inſtrument for regulating others, and for making experiments, than as a muſical inſtrument in itſelf.

In the manuſcript of St. Blaſius, above mentioned, is a repreſentation of an inſtrument there called a Lyre, of which *Fig.* 6. of the annexed Copper-plate is a copy: at right angles to the ſtring of this inſtrument, is a Bow; and that its office may be clearly conceived, a hand is repreſented in the act of drawing it acroſs the ſtring. It appears ſtrange, that ſuch an inſtrument ſhould be termed a Lyre; and there is no inſtrument of antiquity, nor of modern times, it bears any reſemblance to, but the Monochord, or a more ſimple ſpecies of Rebec: if it refers to an inſtrument of the Ancients, the quarter whence we derive the Bow is not only pointed out by it, but we are alſo led to conclude that the Ancients uſed a Bow to their Monochord; and that this inſtrument, with its bow, they had of the Arabians, who afterwards likewiſe introduced the uſe of the Bow into Europe, will appear from the ſequel.

Julius Pollux, after enumerating the different inſtruments uſed by the Ancients, adds, in expreſs words, that "the Monochord is an invention of the Arabians (*a*)." It is indeed true, that in relating the diſcoveries of Pythagoras the invention of the Monochord has been aſcribed to that philoſopher; but it ſhould be remembered, that Pythagoras is ſaid, as already obſerved, to have learned his philoſophy of the Egyptians; and his knowledge of this inſtrument he probably acquired from them, or from the Arabians their neighbours; and the early acquaintance which it is probable the Egyptians had of the ſcience and practice of Muſic, was the ſource whence the Arabians might derive their knowledge. There is a remarkable correſpondence betwixt the Dichord, or two-ſtringed inſtrument with a neck, of the Egyptians, and an inſtrument of the like number of ſtrings, and a neck, of the Arabians; which ſhall now be mentioned.

This inſtrument is played with a Bow, and was probably introduced into Europe by the Arabians of Spain, and well known from the middle ages down to the laſt century by the name of the Rebec; it had probably on its firſt introduction only two ſtrings, as it ſtill has among the Moors, and ſoon after had the number increaſed to three. Dr. Shaw, who had ſeen it among the Moors, calls it "a Violin with two ſtrings, which is played on with a Bow, and is called by the Moors the Rebebb (*b*)."

The Engliſh and French authors and lexicographers have always derived the word *Rebec* from the Mooriſh term. According to Father Guadix, the word *Rabel* in Spaniſh, ſignifying the ſame inſtrument, comes from the Arabic *Rabib*. From the Spaniſh *Rabel*, and the Latin *Rebella* of ſome writers (*c*), our Chaucer has called the ſame inſtrument the Ribible (*d*).

The Rebec muſt be ſuppoſed to have been, in the middle ages, of a conſtruction extremely ſimple. The author of the article Rebec, in the French Encyclopædia, deſcribes it "a ſpecies "of Violin *made of one piece of wood*, with three ſtrings." In forming our ideas of the muſical inſtruments of this period, reſpect ſhould be had to the low ſtate of the mechanic arts. A writer of the middle of the fourteenth century (*e*), deſcribing the muſical inſtruments of his time, ſays, that

(*a*) Μονοχορδον δι Αραβων τε ευρημα, Lib. IV. c. 9.

(*b*) Shaw's Travels, p. 270. A kind of Rebec, played with a bow, is uſed by the natives of Indoſtan. An ingenious muſical friend, who reſided ſeveral years in India, aſſures me that this inſtrument could not poſſibly have been introduced by the Europeans; nor is it an imitation of any of their inſtruments: the more ſimple kinds have only one and two ſtrings, and are played on by the common muſicians in the ſtreets; others have three ſtrings, and are played on by their beſt muſicians, who belong to the houſehold of the great and opulent natives. When the ſtrict adherence of the Aſiatics to their ancient cuſtoms, and their total averſion to innovations, is conſidered, there can ſcarcely remain a doubt but the Bow, Monochord, and Rebec, have all come into Europe from the Eaſt.

(*c*) Gerſon, who was made Chancellor of the Univerſity of Paris in the year 1393, in claſſing the different inſtruments as they are played by the fingers, plectrum, a wheel, or bow, mentions the Rebec and Viol as played with a bow, "aut tractu aut retractu ſicut in Viella aut Rebella." In another place he calls the ſame inſtrument Rebeca. Gerſon. Op. T. III. p. 628. A barbarous Latin poet of the middle ages, quoted by Du Cange, voce Baudoſa, among a number of inſtruments uſed at that time, mentions the Rebec as played with a bow:

Quidam Baudoſam concordabant
Plurimas chordas cumulantes.
Quidam triplices cornu tonabant,
Quædam foramina inclaudentes;
Quidam choros conſonantes
Duplicem chordam perſtridentes,
Quidam taborellis ruſticabant,
Groſſum ſonum præmittentes;
Quidam cabreta vaſconizabant,
Levis pedibus perſaltantes.
Quidam lyram & tibiam properabant,
Alios tactu præcedentes;
Quidam harpam alte pulſabant,
Prolixas virgulas ſic gerentes:
Quidam Rebecam arcuabant
Muliebrem vocem confingentes, &c.

(*d*) Could playen ſonges on a ſmall ribible;
Thereto he ſong ſometyme a loud quinible.
Miller's Tale.

(*e*) Bartholomæus, a Franciſcan friar, who wrote in Latin. An Engliſh tranſlation made by Treviſa in 1398 is quoted by Sir John Hawkins, Vol. II. p. 283.

that "the Flute was made of an elder-tree hollowed; an inſtrument called the Symphonia was "made of a hollow tree, cloſed in leather on either ſide, which is beaten of minſtrels with "ſticks."

Repreſentations of an inſtrument with a Bow, correſponding to the Rebec, as above deſcribed, have been found in ſeveral places, and prove that it was common in Europe as early as the eleventh century, and by the conjectures of ſome antiquarians conſiderably before that time.

On an antique baſon, dug up near Soiſſons, is a repreſentation of a muſician playing on one of theſe inſtruments. L'Abbé Le Boeuf, a great antiquary, was of opinion that the workmanſhip of this baſon was executed during the time of the firſt race of French kings, that is, before the year 752 (*f*).

According to Monfaucon, a figure in the portico of the cathedral church of Notre Dame, in Paris, repreſents King Chilperic with a Rebec in his hand (*g*). This would ſeem to carry its antiquity back to the ſixth century. Notre Dame began to be rebuilt by King Robert about the year 1000, and was finiſhed under Philip Auguſt, who died in the year 1223. And this figure, being engraved ſome time between theſe two periods, cannot ſtrictly be evidence of the exiſtence of the Rebec earlier than the eleventh or twelfth century. A drawing of this inſtrument and Bow is given in *Fig.* 12. of the annexed Plate of inſtruments.

On a portico of the church of St. Julien des Meneſtriers, in Paris, is the repreſentation of a Minſtrel playing on a Rebec of three ſtrings. This church was built by two of the minſtrels of Philip V. in the year 1331; and *Fig.* 14. of the Copper-plate ſubjoined is a copy of the Rebec and Bow. And in a manuſcript of the Roman d'Alexandre, in the Bodleian library, of the year 1338, among a number of inſtruments in the hands of muſicians, is repreſented the Rebec of three ſtrings, of which *Fig.* 13. is a copy.

The Rebec has been more fully deſcribed, on account of its being unqueſtionably the firſt and more ſimple form of our modern Violin; as will be more particularly ſhown in the next Section. In its rude and unimproved ſtate, in the middle ages, we cannot form a very advantageous opinion of its powers, when we conſider what a contemptible inſtrument even a modern Violin is, when inartificially made, and the materials bad. The greateſt excellence, however, of the Rebec, that of being played on with a Bow, was applied with great ſucceſs to another inſtrument, and by that means alone a new ſpecies of inſtruments appeared, which in proceſs of time arrived at conſiderable perfection; and theſe were called Viols.

That the Viol was originally no other inſtrument than the Guitar or improved Cithara of the Ancients, played on with a Bow inſtead of the fingers, will appear very clearly, from a compariſon of the forms of each of theſe inſtruments as they ſtood about the ſixteenth century. The Guitar marked *Fig.* 8. has the moſt reſemblance, in the tortoiſe-ſhape of its back, to the ancient Chelys or Teſtudo; and this form is ſtill preſerved in the Lute and Mandoline. That marked *Fig.* 9. is a repreſentation of the Spaniſh Guitar, taken from Merſennus, as it ſtood in the beginning of the laſt century; and with a little difference in the ſcroll where its pegs are faſtened, which ſtrikes off at an angle from the nut, is ſtill the ſhape of it at this day. The inſtrument marked *Fig.* 10. is copied from the Muſurgia of Ottomarus Luſcinus, publiſhed at Straſburg in the year 1536. This is placed among the claſs of inſtruments played with a Bow, and has one drawn by its ſide; it

(*f*) See a drawing of this baſon in Dr. Burney's Hiſtory of Muſic, Vol. II. p. 264.

(*g*) Antiquités de la Monarchie Françoiſe, Tom. I. p. 56.

it is therefore a ſpecies of Viol, the form of which is evidently borrowed from the Spaniſh Guitar: its finger-board is like that of the latter, and the ſcroll is in the ſame oblique direction; a circumſtance which, with other particulars in its form, would render its being played on between the legs of the performer very inconvenient. This Viol appears, from the great number of its ſtrings, and from its ſize and ſhape of the Spaniſh Guitar, not to be of the compaſs of a Baſs, and was probably held ſomewhat in the ſame manner with the Guitar or Lute, however awkward that poſition might be for the action and reaction of the Bow. It will be ſeen, that the Violoncello was at firſt held nearly in the ſame poſition.

From the twelfth century to the time of Ottomarus, the Viol appears to have been chiefly uſed in accompanying the voice, which it probably did in uniſon, till after the invention and practice of counterpoint; and until that time inſtruments of larger ſizes would not be wanted. Viols of the ſize we have ſuppoſed would be the moſt convenient and portable for the Violars, who travelled with the Troubadours, and accompanied their ſongs, through moſt parts of Europe; and for the ladies, who alſo played on the Viol. Until the middle of the ſixteenth century, when Muſic in parts was firſt compoſed for and played by Viols of different ſizes, the Viol does not appear to have differed from the Spaniſh Guitar in ſhape, nor to have much exceeded it in ſize.

SECTION VI.

Of the Violin, Tenor, and Violoncello.

VIOLINO in Italian, and *Violon* in French, are evidently diminutives of *Viola* of the former, and *Viole* in the latter language, expreſſing what we ſhould call in Engliſh *a ſmall Viol*. But whatever may be inferred from the name, the Violin is an inſtrument differing much in ſhape and properties from the Viol. The Treble, Tenor, and Baſs Viols of the ſixteenth and laſt century, the two former called *Viole à Brazzo*, the laſt *Viola à Gamba*, by the Italians, were of the form of the Viol, marked *Fig.* 11; a ſhape very different from that of the Violin; which will appear, by inſpecting the Figures, to be much nearer the form of the Rebecs, *Fig.* 12, 13, and 14. before deſcribed. The Treble, Tenor, and Baſs Viols had ſix ſtrings each, with frets; the Violin, on the contrary, had only one ſtring more than the Rebec; and, like it, had no frets. The Rebec and Violin were in England ſo much conſidered as the ſame inſtrument, that the term Fiddle was formerly uſed as ſynonymous with Rebec, as it is now with Violin (*a*).

Much attention had been given in the courſe of the ſixteenth century to the improvement of the Viols, which were the favourite inſtruments of the beſt Muſicians and Amateurs of that time; while the Violin, or Rebec, as it was perhaps ſtill called in many places, was held in contempt, and deemed only fit for the entertainment of the vulgar. By the great progreſs then making in the mechanic arts, every neatneſs and elegance was given to the Viols, and their ſtructure was directed by mathematical principles (*b*). A Baſs Viol, made by Bolles, an Engliſhman, was valued, in

(*a*) "They ſay 'tis preſent death for theſe fiddlers to "tune their rebecs before the Grand Turk's grace."
Fletcher's Knight of the Burning Peſtle.
And in Milton's Liberty of unlicenſed Printing, "The "villages alſo muſt have their viſitors to inquire what "lectures the bagpipe and the rebec reads even to the "gammuth of every municipal fiddler." See WARTON's Milton.

(*b*) The following directions for chooſing a ſet of Viols is given by the author of Muſick's Monument (page 246), publiſhed in the year 1676: "Let your baſs be large; "then your trebles muſt be juſt ſo ſhort again in the ſtring, "viz. from bridge to nut, as are your baſſes, becauſe they "ſtand eight notes higher than the baſſes, therefore as ſhort "again; for the middle of every ſtring is an eighth: The "tenors in the ſtring juſt ſo long as from the bridge to "F fret,

in the middle of the laſt century, at one hundred guineas (*c*). And the principles of theſe improvements of the Viol, applied to an inſtrument like the Rebec or Violin, by an ingenious artiſt, would ſoon draw that inſtrument out of the neglect it had been in. This appears to have been in ſome meaſure the caſe in Italy before the middle of the ſixteenth century (*d*); and at the very beginning of the laſt, it was carried to a degree of perfection by Andrew Amati, of Cremona, that has ſeldom been equalled, and never yet ſurpaſſed.

The Violin, although thus brought to the greateſt perfection, in elegance of form, and fineneſs of tone, was not able for ſome years to ſurmount the prejudices that had long been formed againſt it; and it was not till ſome time after the year 1620 that its powers were known and acknowledged to be ſuperior to thoſe of the Viol, which ſtill maintained its ground in Italy and other parts of Europe. Hitherto the Viols had been chiefly confined to the execution of chamber-muſic, in which their deficiency in ſtrength and ſpirit would not be felt; but early in the ſeventeeth century, the Opera had its riſe in Italy, and Motets with inſtrumental accompaniments were beginning to be introduced into the church. The Violin was not only better adapted to produce a proper effect at each of theſe places, from its greater ſtrength and brilliancy of tone; but was found, on trial, when put into the hands of artiſts of ſkill, to have a power of producing a more perfect harmony than had ever been done by the Viols. This aroſe from a cauſe that had not probably been before ſuſpected, namely, that the fingers, by practice, and the guidance of a good ear, effected a more accurate intonation, than could ever have been accompliſhed by the direction of frets, fixed on the finger-board with the utmoſt mathematical preciſion. Theſe can never be ſo applied, that the intervals or ſtop can be exactly in tune, but in one key; in every other, they will be remarkably faulty; and if the error be divided and leſſened by what is called temperament, the variation from exact tune will ſtill be eaſily diſtinguiſhable and offenſive to a correct ear. So complete was the triumph of the Violin, that after the middle of the century, muſic in parts was ſcarcely ever performed by Viols.

For ſome time after the introduction of the Violin into concerts, the under parts were performed on the Tenor Viol and Baſs Viol; it was after diſcovering the inſufficiency of theſe, eſpecially of the latter, that inſtruments of its own ſpecies, the Tenor Violin and Violoncello, were made of the ſame ſhape, but increaſing in ſize in proportion to the additional length and thickneſs of the ſtrings they were to carry. The Violins were conceived to be ſo powerful in tone, as to require Baſſes of a conſiderably greater ſize and length of ſtring than thoſe now in uſe (*e*).

As

" F fret, becauſe they ſtand a fourth higher than your " baſſes, therefore ſo long." And the ratios of the ſurfaces and ſolidities of Treble, Tenor, and Baſs Violins were ſtill more accurately aſcertained ſo early as the year 1636, or perhaps ſome years before that time; as will appear from the account given by Merſennus, of the conſtruction of theſe inſtruments, in the ſequel.

(*c*) Mace's Muſick's Monument, p. 245. And the Lutes of Laux Maller were at this period valued equally high. " I have known," ſays Mace, page 48, " two Lutes of " this maker, pitiful, old, battered, cracked things, valued " at £. 100 a-piece."

(*d*) That the Violin was paid ſome attention to ſoon in the ſixteenth century, appears from the Muſica Inſtrumentalis of Martinus Agricola, quoted by Sir J. Hawkins, firſt publiſhed in 1529. It treats of the Violin and Lute; but ſo little ground did the practice of it gain in the whole courſe of that century, that in the year 1601 no mention is made of the Violin, or of any performer on it, in a liſt of the compoſers and performers on different inſtruments living at Naples in that year, publiſhed in the Prattica Muſicale of Scipione Cerretto, quoted by Sir J. Hawkins.

(*e*) The author of Muſick's Monument (page 233) laments the ſmall number of baſſes in the concerts of his time (1676). He ſays, " it was not unuſual to have but one ſmall, " weak-ſounding Baſs Viol, and two or three *ſcolding Violins*; " whereas one Violin would bear up ſufficiently againſt two " or three common-ſounding Baſſes, eſpecially ſuch as you " ſhall generally meet with in concerts." And again, " ſuppoſe a Harpſicon, Organ, or Theorbo Lute, be joined " to theſe Baſſes, the diſproportion is ſtill the ſame, the " ſcolding Violin will out-top them all." This ſhows their idea of the great power of the Violin, and how ſlowly the Violoncellos were introduced into England. It will, however, be afterwards ſhown, that more than forty years before this time, Violoncellos, which from their great ſize may be ſuppoſed as powerful as this author could wiſh for his *ſcolding Violins*,

As far back as the year 1401 we have ſome intimation made of a ſtringed inſtrument appropriated to the playing a lower part. In that year a charter(*f*) was granted by King Charles the Sixth of France to the Company of Minſtrels of Paris, under the denomination of the King of the Minſtrels *and other performers on high and low inſtruments*(*g*). This was the æra of the firſt beginnings of counterpoint; and it is very probable, as Dr. Burney imagines, that theſe high and low inſtruments were Treble and Baſs Rebecs of three ſtrings, which about this time began to be in uſe, either to play in octaves to each other, or perhaps in a rude ſort of counterpoint. This art had made a rapid progreſs about the beginning of the ſixteenth century, as appears from the madrigals of that period; and about the middle of that century, inſtrumental muſic in parts began to aſſume a regular form. Fantaſias, in three or more parts, were performed on inſtruments of different ſizes, the Treble, Tenor, and Baſs Viols. The Viol continued, as has been already mentioned, to play the baſſes of inſtrumental compoſitions, till the introduction of the Violins, ſome time before the middle of the laſt century. In England, however, it appears to have been near the end of the century before the Violoncello was commonly uſed to accompany the Violins, its office being till that time performed by the Baſs Viol.

The Baſs Viols were greatly overpowered by the ſtrength of tone of the Violins. To remedy this inconvenience, the obvious method occurred of conſtructing a Baſs of the ſame ſhape, and on the ſame principles, with the Violin itſelf. The increaſe of ſize was pointed out by the length and thickneſs of ſtring required; and the excellent ſtructure of the Baſs Viol would otherwiſe ſerve as a model, making the neceſſary alterations in the finger-board for four inſtead of ſix ſtrings, and omitting the frets. The deſire of obtaining an inſtrument ſufficiently powerful in tone, led the inventors to fix on a ſize for the Violoncello that made it extremely awkward, and impoſſible to be held between the legs of the performer, and it was therefore hung obliquely acroſs his breaſt; a manner of holding the inſtrument that was long afterwards practiſed in the churches of Italy.

Merſennus, one of the greateſt mathematicians of the laſt century, and a writer on Muſic, has given a correct engraving, and the moſt particular account, which is probably the earlieſt extant, of the Violoncello. His Harmonie Univerſelle was publiſhed at Paris in the year 1636. There are no written accounts, that I have met with, which carry the uſe of that inſtrument farther back; and it is known that concerts of Violins had not been heard many years before that period. The uſual length of the Violoncello, according to Merſennus, was from four feet and a half to five feet; and, as he muſt mean French meaſure, this will be from four feet ten inches, to five feet four inches, of our meaſure; a ſize that would eaſily admit of its being tuned a whole tone lower than the preſent tuning of the inſtrument. Accordingly Merſennus informs us, that the firſt ſtring was tuned G, uniſon with the fourth ſtring of the Violin; and the three laſt, C, F, and B flat, in a deſcending ſeries of fifths. He adds, that the Violoncello was held croſs the breaſt, in the manner above mentioned(*h*).

I have ſeen an inſtrument of the Violin ſhape, which I at firſt ſight took for a ſmaller-ſized Double Baſs; but it appears to have been intended for a Violoncello: it was conſiderably larger than thoſe deſcribed by Merſennus, being five feet ten inches in length; from the finger-board and nut it ſeemed calculated for four ſtrings, and it had five frets. It was made in Dantzick in the year 1623, which appeared by a ſignature in a piece of inlaid mother-of-pearl on the finger-board,

Violins, were in uſe on the continent; and with reſpect to the prejudice ſtill conceived againſt the Violins, which this epithet implies, it will be ſeen how differently a man of ſcience, and certainly a much better judge, ſpeaks of the ſuperior effects produced by the Violins ſo early as the year 1636.

(*f*) Quoted by Dr. Burney, Vol. II. p. 274.

(*g*) Joueurs des Inſtrumens tant hauts que bas.

(*h*) Nota verò fidicines regios barbiton graviorem (Baſſum) uncino vel globulo ad collum appenſo ita ſuſtinere, ut nervi à pectore avertantur.

MERSEN. de Inſtrumentis Harmonicis, p. 39.

board, on which was engraved "Fecit Jacobus Brandt, Gedaneſis, anno 1623." Violins are not ſuppoſed to have been played in concert before the year 1620; and this inſtrument was probably one of the firſt Baſſes that was made to accompany them, as it partook in ſome meaſure of the nature of both the Viol and the Violoncello; of the former by its frets, and of the latter by its ſhape and number of ſtrings.

Merſennus informs us, that, together with the Violoncello, there were Tenor Violins of three different ſizes, adapted to accompany the Violins in the under parts. A concert of Violins therefore originally conſiſted of Treble Violins, Contre-alto Violins, Counter-Tenor Violins, Tenor Violins, and Baſs Violins or Violoncellos, which were no doubt in imitation of the different ſpecies of human voices. The part of the Contre-alto Violin correſponds to what is at preſent aſſigned to the ſecond Violin; the part of the Counter-Tenor is the ſame with the preſent Tenor; and that of the lower Tenor of Merſennus is partly given to the Tenor, and partly to the Violoncello. The ſizes of theſe ſeveral Violins were determined by rule, and their proportions mathematically aſcertained. The words of Merſennus are, "that the middle parts or tenors were of different "ſizes, although they were all tuned in uniſon; and conſequently, when the ſurface of the "counter-tenor was to that of the treble as 9 to 4, and that their whole bodies were in the "proportion of 27 to 8, the ſurface of the tenor ought to be to that of the treble as 4 to 1, in "order that their ſolidities might be as 8 to 1; and, laſtly, the ſurface of the baſs ought to be to "that of the treble as 16 to 1, and the body of the former to that of the latter as 64 to 1 (*i*)."

The inſtrument now called the Violoncello, was for ſome time after its invention called the Baſs Violin, to diſtinguiſh it from the Baſs Viol; and in the ſame manner, in French, it was called *Baſſe de Violon*, in contradiſtinction to *Baſſe de Viole*; in Italian it was called the *Violone*, the augmentative of *Viola*. This appears from ſeveral muſical publications about the end of the laſt century; and particularly in the Bologna edition, of 1690, of the third opera of Corelli's Sonatas, the part expreſsly compoſed for the Violoncello, and not intended for the Organ, is intitled *Violone*. On the invention of the Concerto Groſſo, at the end of the laſt century or very beginning of the preſent, a further increaſe of ſize became neceſſary, for the performance of a part an octave lower. To this larger inſtrument, therefore, was very properly transferred the appellation *Violone*; and what had formerly been called Violone, is now known by the diminutive of that word, the *Violoncello*.

(*i*) Harmonie Univerſelle.

SECTION VII.

Of the State of Inſtrumental Muſic in the different Periods mentioned in the foregoing Diſſertation.

THE great eſteem in which Muſic was held by the ancient Greeks, muſt have been obſerved by every one that has turned over the claſſic page. The ſuppoſed inventors of it have been deified, or the invention attributed to their gods. It was not only conſidered as a neceſſary accompliſhment, but held in ſuch extreme veneration, as an ancient author expreſſes it (*a*), that Prophets, Philoſophers, Poets, and Muſicians, were looked upon as one, and were called by the ſame name. To ſuch a degree

(*a*) Nam quis ignorat Muſicen tantum illis jam antiquis temporibus non ſtudii modo, verum etiam venerationis habuiſſe, ut iidem Muſici et Vates et Sapientes judicarentur? QUINT. Inſtitut. Orat. Lib. I. c. 10.

degree did they carry their admiration of this art, that, to make uſe of the expreſſion of Cicero, they ſeemed to think all knowledge and ſcience was comprehended in a fiddle-ſtring (*b*). Homer repreſents the Gods as receiving the greateſt delight at their banquets from the Lyre and voice of Apollo, and the Muſes (*c*). There is always muſic and a Bard introduced into the numerous feaſts deſcribed by Homer; and ſo much did he think muſic an accompliſhment of princes and heroes, that he has repreſented both Paris and Achilles as performers on the Lyre. Nor was this paſſion for muſic confined to the heroic ages; it continued for many centuries afterwards. Epaminondas, who was in the opinion of Cicero the greateſt character and ornament of Greece, is ſaid to have ſung inimitably well to his Lyre; and Themiſtocles, the great Athenian general, not long before the time of Epaminondas, on refuſing the Lyre at an entertainment, was looked upon as deficient in education. Cicero concludes, that muſicians flouriſhed in Greece, that every one was inſtructed in the ſcience, nor was any one that remained ignorant of it conſidered as ſufficiently accompliſhed (*d*). The Bards too, or muſicians by profeſſion, in early times, were held in the greateſt eſteem, and treated with the greateſt deference and reſpect. They ſung to the Lyre the praiſes of the gods and heroes at the tables of the princes and the great (*e*). Homer makes frequently mention of them, and of their occupation, in the perſons of Phemius at the court of Ithaca, and of Demodocus at that of Alcinous. The former is ſtiled divine Bard, and is conſulted by Penelope in tears, as one "to whom the actions of gods and men were known (*f*)." Demodocus is treated with the greateſt reſpect, and, placed in the midſt of the Chiefs of the Pheacians and their King Alcinous at a banquet, is helped by Ulyſſes with the choiceſt meats, and ſerved by a herald. The Bards are declared by Ulyſſes to be intitled to honour and reſpect from all men, as beloved by the Muſes, and having by them been inſtructed in their art (*g*).

Muſical conteſts were a part of the exerciſes at the Public Games in Greece; and the Pythic Games conſiſted chiefly, if not intirely, of poetical and muſical conteſts. Theſe were ſaid to have been inſtituted by Amphictyon, the ſon of Deucalion, in honour of Apollo, on his having killed the ſerpent Python. They were diſcontinued for ſome time, and renewed by Eurylochus about 586 years before Chriſt. Pauſanias gives an account of the firſt poets who gained the prizes at theſe Games, among whom are Chryſothemis, Philammon, his ſon Thamyris, and Eleutherus. He

(*b*) Summam eruditionem Græci ſitam cenſebant in nervorum vocumque cantibus. Tuſcul. Diſput. And nearly to the ſame purpoſe, Athenæus, Lib. XIV. το δε ὁλον εοικεν ἡ παλαια των Ἑλληνων σοφια τῃ μυσικῃ μαλιστα ειναι δεδομενη· και δια τουτο των μεν θειων Απολλωνα, των δε ἡμιθεων Ορφεα μυσικωτατον και σοφωτατον ειρισον· και παντας τους χρωμενους τῃ τεχνῃ ταυτῃ σοφιστας απεκαλουν. And the expreſſion of Xenophon, if I rightly remember, in alluding to the muſical conteſt of Apollo with Marſyas, is περι σοφιας, literally, *concerning wiſdom*; but, whatever ſenſe the more ancient Greeks might annex to the word, Xenophon clearly meant to convey no other idea by it, than what is expreſſed by the Engliſh word *ſkill*.

(*c*) Ως τοτε μεν πρωπαν ἡμαρ ες ηελιον καταδυντα
Δαιυντ'· εδε τι θυμος ιδυιατο δαιτος ισης
Ουμε φορμιγγος περικαλλεος ἡ ειχ' Απολλων
Μουσαων θ'αι αιδον, αμειβομεναι οπι καλῃ.
Iliad. I. v. 601.

(*d*) Epaminondas, princeps, meo judicio, Græciæ, fidibus præclare ceciniſſe dicitur: Themiſtoclesque aliquot antè annos, cum in epulis recuſaret lyram, habitus eſt indoctior. Ergo in Græcia muſici floruerunt, diſcebantque id omnes, nec qui neſciebat, ſatis excultus doctrinâ putabatur. Tuſcul. Diſput. I have ſomewhere read that Socrates began in his old-age to learn to play on the Lyre, and being one day found practiſing on the Cithara, was aſked how he could think of beginning the ſtudy of Muſic ſo late in life. Socrates anſwered, that it was much better to learn late than never: κρεισσον οψιμαθη ειναι η αμαθη.

(*e*) Et teſtimonio ſunt clariſſimi poetæ apud quos inter regalia convivia laudes heroüm ac deorum ad Citharam canebantur. QUINT. Lib. I. c. 10.

(*f*) Δακρυσασα δ' επειτα προσηυδα θειον αοιδον
Φημιε, πολλα γαρ αλλα βροτων θελκτηρια οιδας
Εργ' ανδρων τε θεων τε, τα τε κλειουσιν αοιδοι.
Odyſſ. I. v. 338.

(*g*) Κηρυξ δ' εγγυθεν ηλθεν, αγων ερινεον αοιδον
Δημοδοκον, λαοισι τετιμενον, εισε δ' αρ' αυτον
Μεσσῳ δαιτυμοισιν, προς κιονα μακρον ερεισας
Δη τοτε κηρυκα προσεφη πολυμητις Οδυσσευς,
Νωτα αποπροταμων· επι δε πλειον ελελειπτο
Αργιοδοντος ὑος, θαλερη δ' εν αμφις αλοιφη·
Κηρυξ, τῃ δη τουτο πορε κρεας οφρα φαγῃσι,
Δημοδοκῳ, και μιν προσπτυξομαι αχνυμενος περ.
Πασι γαρ ανθρωποισιν επιχθονιοισιν αοιδοι
Τιμης εμμοροι εισι και αιδους, ουνεκ' αρα σφιας
Οιμας μουσ' ειδαξε φιλησε δε φυλον αοιδων.
Ως αρ' εφη· κηρυξ δε φερων εν χερσιν εδηκεν
Ηρωι Δημοδοκῳ, ὁ δ' ιδιξατο· χαιρε δε θυμῳ.
Odyſſ. VIII. v. 471.

He relates that *Heſiod could not be admitted among the candidates, becauſe he was not able to accompany himſelf on the Lyre; and that Homer went to Delphos to conſult the Oracle, but ſung or played very little, on account of his blindneſs and infirmities* (*b*).

By means of the prizes given to the victors, and the honour and applauſe they received, in preſence of all Greece, at theſe celebrated games, it is reaſonable to ſuppoſe, that as there never were at any time ſtronger motives for emulation, ſo there never were greater exertions made, for the attainment of excellence in muſic, than from the revival of theſe games, near 600 years before the Chriſtian æra, till near the time of their diſcontinuance on the public eſtabliſhment of the Chriſtian religion; a period of 700 years, and ſufficiently long, we ſhould think, to bring any art, with ſuch exertions, to its greateſt perfection, did we not reflect, that a progreſs in an art will often depend on the ſtate of others, on that of the ſciences, on fortunate and accidental diſcoveries, and an intercourſe with other nations engaged in ſimilar purſuits. In Muſic, in particular, the progreſs may be retarded, or accelerated, by the knowledge and practice of more or leſs perfect inſtruments, and by the ſtate of muſic as a ſcience.

Some time after the revival of theſe games, we are informed, by Pauſanias, of a very remarkable event in the hiſtory of Muſic; that of prizes being given to inſtrumental performances alone. Hitherto the Poet and Muſician had been joined in the ſame perſon; and this is the earlieſt intimation we have of their ſeparation, ſo common and ſo much lamented in our days. Echembrotus the Arcadian is recorded to have gained the prize at theſe games by accompanying on the Flute, and Sacados of Argos by playing on that inſtrument alone. The former made an offering of a bronze tripod to Hercules, with an inſcription (*i*), on the occaſion. At the eighth Pythiad, 559 years before Chriſt, a crown to be given to the beſt players upon ſtringed inſtruments was won by Agelaus of Tegea (*k*). Pylades gained the prizes there, on the Cithara, about the 94th Pythiad, 211 years before Chriſt; and Nero brought the laurel to Rome for his victory in ſinging to the Cithara at the Pythic games, 66 years after the Chriſtian æra (*l*).

Of what nature theſe accompaniments were, we have little information; it is moſt probable that they remained for a long time nothing but the ſame notes, or uniſon with the ſong. Plutarch mentions, that, before the time of Crexus, the accompaniment was note for note, προσχορδα; but that Crexus introduced a conſiderable improvement, that of an accompaniment under the ſong (κρουσις ὑπο την ωδην). Dr. Burney imagines this to have been a kind of Bourdon or drone baſs under the voice part; a ſenſe in which the ſame phraſe ſeems to be applied in the 40th Problem of Ariſtotle, where he ſpeaks of the accompaniment and voice ending together (*m*).

The hiſtory of muſic and lyric poetry among the Romans is uncommonly barren. Horace is the only lyric poet whoſe works are come down to us. Moſt of his Odes are ſongs which he is ſuppoſed to have ſung to the *ſeven-ſtringed Lyre*, at table with his friends, to his miſtreſſes, or in ſocieties where men of pleaſure uſed to aſſemble (*n*).

In

(*b*) Αρχαιοταῖον δε αγωνισμα γενεσθαι μνημονευται, και εφ' ᾧ πρωτον αθλα εθεσαν, ασαι ὕμνον εις τον θεον, και ησε και ενικησεν ᾀδων χρυσοθεμις εκ Κρητης, ὃ δη ὁ πατηρ λεγεται Καρμανωρ καθηραι Απολλωνα. Χρυσοθεμιδος ὑστερον Φιλαμμωνα τε ᾠδη μνημονευσι νικησαι και επ' εκεινῳ Θαμυριν το Φιλαμμωνος. Ορφεα δε στιμυλογιᾳ τῃ επι τελειαις και υπο φρονιμαιος τε αλλε και Μουσαιον τῃ εις παιδα μιμησει τε Ορφεως, εκ εθελησαι φασιν αυλος επι αγωνι μουσικης εξεταζεσθαι. Φασιν δε Ελευθηρα απελεσθαι Πυθικην νικην μιγα και ἠδυ φθεγγομενα, επει ᾀδειν αυλος εχ ἁυλε την ᾠδην· λεγεται δε και Ἡσιοδον απελαυθηναι τε αγωνισμαιος, ὅτε ε κιθαριζειν ὁμω τῃ ᾠδῃ διδαγμενον. Ὁμηρος δε αφικετο μεν εις Δελφες ερησομενος ὁποσα και εθετο· εμελλε δε αυτῳ και κιθαριζειν διδαχθεντι αχριτον, το μαθημα ὑπο των οφθαλμων τας συμφορας γενησεσθαι. Lib. X. c. 7.

(*i*) The inſcription, extant in the time of Pauſanias, was Εχεμβροτος Αρκας εθηκε Ἡρακλει νικησας το ἄγαλμ' Αμφικτυονιων εν Αθλοις Ἑλλησι ᾀσιδων μιλσα και ελιγους. PAUSAN.

(*k*) Ib.

(*l*) Suet. in Neronem.

(*m*) Hiſt. of Muſic, Vol. I. p. 340.

(*n*) M. du Querlon, Mémoire ſur la Chanſon.—Hiſt. Eſſay on National Song.

In the firſt centuries of the Chriſtian æra there occurs very little in the practice of muſic worthy of remark. The Northern nations, who had taken poſſeſſion of the Roman territories and provinces, had their Bards, whoſe rank and occupation greatly reſembled thoſe of the firſt poets and muſicians of Greece. They ſung to the harp the praiſes and atchievements of their valiant countrymen and heroic anceſtors; and the reſpect and attention with which they were treated, were not inferior to thoſe which Homer repreſents the ancient Bards to have enjoyed in Greece. The harp was no leſs in favour with the Cambro-Britons. The Chief Bard of Wales ſat next to the Judge of the Palace, at the Court of the Welſh Princes. The Bard of the Palace was in rank the eighth officer of the King's houſehold; and it appears by the laws of King Howel (*o*), that both of them enjoyed many diſtinguiſhed privileges. Among our own anceſtors, the Anglo-Saxons, muſic was held in the ſame high eſtimation, even reckoned a neceſſary accompliſhment for Kings; and to ſing to the harp was conſidered an indiſpenſable part of the education of a gentleman. It was cuſtomary at feſtivals, that the harp ſhould be handed round, and each of the company to ſing to it in his turn. This is proved by the expreſs teſtimony of the Venerable Bede, who relates that the ſacred poet Cædmon, who lived in the times of the heptarchy, had devoted himſelf ſo much to ſacred and ſerious ſtudies, that he neglected muſic, though ſo faſhionable an accompliſhment; and being ſometimes at entertainments where the harp uſed to go round, he got up from table and left the company, being aſhamed that it ſhould be remarked he was deficient in what was looked upon as a branch of genteel education (*p*). The reader will obſerve a remarkable correſpondence in the ſtory of Cædmon, with what Cicero relates of Themiſtocles; and a ſingular agreement, in this reſpect, in the manners of two nations differing greatly in degrees of refinement.

Muſic continued in equal eſteem after the heptarchy. The muſical abilities of the great Alfred, and his availing himſelf of them to gain admiſſion into the Daniſh camp in the diſguiſe of a harper, are recorded in the Engliſh hiſtory, and too well known to require repetition here. Among the qualifications of diſtinguiſhed characters of this period, and until the end of the tenth century, harping is generally enumerated (*q*); and for ſeveral centuries afterwards, Engliſh metrical tales appear to have been ſung to the harp, in the halls of our magnificent anceſtors. Chaucer's poem of Troilus and Creſſide, although almoſt as long as Virgil's Æneid, was intended to be ſung to the harp, as well as read (*r*).

About the time of the firſt Cruſade, in the eleventh century, the poets of Provence were numerous, and diſtinguiſhed by the name of Troubadours, ſynonymous with *trouveurs* or inventors. They reſorted to the feaſts and tournaments given by the ſovereign Princes and great Barons; were treated with the greateſt reſpect, and gratified by the richeſt rewards (*s*). They

(*o*) Leges Wallicæ, Lond. 173 .

(*p*) Bede Hiſt. Eccleſ. Lib. IV. c. 24. The words of Bede are: Nihil unquam, frivoli et ſupervacui poematis facere potuit; ſed ea tantummodo, quæ ad religionem pertinent, religioſam ejus linguam decebant. Siquidem in habitu ſæculari, uſque ad tempora provectioris ætatis conſtitutus, nil carminum aliquando didicerat. Undè nonnunquam in convivio, cum eſſet lætitiæ cauſa ut omnes per ordinem cantare deberent, ille ubi appropinquare ſibi citharam cernebat, ſurgebat a media cœna, et egreſſus ad ſuam domum repedabat.——In King Alfred's Anglo-Saxon verſion of this paſſage, he expreſſes the Latin word *cantare* by " be heappan ſingan" ſing to the harp; as if he had not any idea of his countrymen ſinging without the accompaniment of the harp: and when Bede only ſays " Surgebat a media cœna," he tranſlates it " Ðonne aſtaſ he for ſceome ſram ðam ſymle," he aroſe for ſhame from the company. Camb. ed. 1722. p. 597. See Eſſay on Minſtrels, prefixed to Dr. Percy's Reliques of Ancient Poetry.

(*q*) William of Malmeſbury gives the following character of Adhelm, nephew of Ina, King of the Weſt Saxons: " He was an excellent harper, a moſt eloquent Saxon and " Latin poet, a moſt expert chanter or ſinger, a Doctor " egregious, and admirably verſed in the Scriptures and " liberal ſciences." And of St. Dunſtan, Archbiſhop of Canterbury, about the year 988, it is ſaid, " that among " his ſacred, beſt ſtudies, he cultivated the arts of writing, " harping, and painting." Life of St. Dunſtan, MS. quoted in Warton's Eng. Poetry, Vol. I. Diſſert. 2.

(*r*) " And redde whereſo thou be, or ellis ſonge." See Warton's Hiſt. of Eng. Poetry, Vol. I. p. 388.

(*s*) See Noſtrodamus, Creſcembini, M. l'Evêque de la Ravailliere, Hiſtoire Littéraire des Troubadours, M. de St. Palaye, and other accounts of the Troubadours.

They were accompanied by Chanteres, Violars, Jongleurs, and Muſars. The Chanteres ſung the poetry and ſongs of ſuch of the Troubadours as had not a voice or knowledge in muſic ſufficient; the Violars were performers on the Vielle and Viol; the Jongleurs (*t*) were probably players on ſuch inſtruments as the Guitar and Lute; and the Muſars played on other inſtruments, not improbably wind inſtruments. The profeſſion of the Troubadours was held in ſuch eſteem, that many of the greateſt characters of thoſe times enrolled themſelves into their order; and among them are enumerated two Emperors, four Kings, one Duke, ſix Earls, and many other noble characters. Our King Richard the Firſt was a Troubadour of the higheſt eminence, and retained a number of theſe poets in his Court. Ladies of the firſt rank alſo became profeſſors of the Art, and held Courts where queſtions, which the Provençal galantry had brought into vogue, were determined by judgements, called Arrêts d'Amour, pronounced by the fair judges (*u*).

The profeſſion of the Troubadours began to decline on the removal of the Court of Provence by the death of Raimond Berenger, the laſt Count of that family, in 1245. They had degraded themſelves by their licentious behaviour, and had incurred the diſpleaſure of Philip Auguſte, of France, who baniſhed them his Court and kingdom. The other Courts of Europe were in like manner ſoon diſguſted with them, and the Provençals ceaſed writing after the fourteenth century.

The Minſtrels of France were conſiderably prior to the Troubadours, and their exiſtence as a body continued longer. Meneſtrel was a title given to the Chief Muſician of King Pepin, father of Charlemagne, in the eighth century; and the Jongleurs and Violars, who afterwards accompanied the Troubadours, were, long before the time of their aſſociation with theſe poets, common in moſt parts of Europe. Strolling muſicians of this kind abounded in France at the time of Charlemagne, who in one of his Capitularies (*x*) forbids their admiſſion into convents, and mentions them as perſons ſtigmatiſed with infamy. The French minſtrels were poſſeſſed of various talents; they ſung their own compoſitions, or the compoſitions of others, to the accompaniment of the harp, viol, and other inſtruments; they danced to the tabor; played tricks of legerdemain and buffoonry (*y*); and in thoſe times were every where well received and well rewarded. They abounded in the Courts of France, and more eſpecially in Normandy, whence they attended the Conqueror and his Barons into England; and they ſeem to have been equally numerous in this country during the reigns of our Norman Princes. They met with a favourable reception and liberal rewards at Court, and among the Barons; and many of our old hiſtorians complain of the crowds of French minſtrels that were induced to viſit England at every coronation and public feſtival.

In the year 1330 the minſtrels of Paris were formed by charter into a corporate body, having a chief appointed over them, ſtyled the King of the Minſtrels, and lived in a ſtreet which from them and their tutelar Saint is called the Rue St. Julien des Meneſtriers. The church of St. Julien des Meneſtriers was built in the year 1331, by Jaques Grure and Hugues le Lorrain, two of the minſtrels of Philip the Fifth; and the preſentation to the living of this church belonged to the Company

(*t*) M. de la Ravailliere derives *jongleur* from *ongle*, a nail; *ongleur*, a perſon that played on ſuch inſtruments as the guitar, harp, and lute, which were played on with the points of the fingers. But I have ſomewhere ſeen it, I think, better derived from *jangler*, to jingle, from the effect of a number of theſe inſtruments ſounding together.

(*u*) The Counteſs of Champagne had pronounced ſeveral of theſe ſentences, and, amongſt them, one in a parliament of ſixty ladies. An appeal was brought againſt the deciſion before the Queen of France, who refuſed to determine the queſtion, exclaiming, "God forbid that I ſhould meddle with a decree of the Counteſs of Champagne." M. du Querlon, Hiſt. Eſſay on National Song.

(*x*) Capitul. of Aix, anno 789. Burney, V. II. p. 233 & 268.

(*y*) Thus from the French, *jongleur*, comes the Engliſh word juggler; and its meaning with us is reſtricted to a performer of legerdemain.

Company of Minſtrels as founders and lay-patrons (*z*): in the year 1401 another charter was granted to them by Charles the Sixth, under the denomination of The King of the Minſtrels, and other Performers on high and low Inſtruments; which has been mentioned in the preceding Section.

In the year 1469, Edward the Fourth granted a charter to Walter Halliday and others the King's minſtrels, forming them into a corporation, to be governed by a Marſhal, to be elected during life, and two Wardens to be choſen yearly (*a*). But it does not appear, notwithſtanding the ſeeming diſtinction conferred on the Engliſh minſtrels by this charter, that they ever were a body of men qualified, like the French minſtrels, for the entertainment of Princes and the Nobility. The latter were received into their palaces and caſtles, where they ſung French metrical romances at their tables; that language being uſed at Court, and at the caſtles of the Norman Barons, for ſeveral centuries after the Conqueſt. The term Minſtrel, adopted from the French into the Engliſh language, expreſſed nothing more in the latter, than a muſician in general: the King's minſtrels, therefore, were his band of muſic. Muſicians, even of the loweſt claſs, were ſtyled Minſtrels (*b*); and at length, by a law of Queen Elizabeth, they were ſtigmatiſed with infamy, and pronounced "rogues, vagabonds, and ſturdy beggars (*c*)." With the decline of Chivalry the wild ſubjects of the metrical romances no longer continued to pleaſe, and minſtrels and their art ſoon ſunk into total neglect.

In the mean time, the knowledge and practice of muſic were cultivated, and were conſidered as a branch of genteel education; and it was common for ladies and gentlemen of the fourteenth and ſucceeding centuries to ſing, accompanied by one another on the Viol and the Lute. Of this we have expreſs information from Boccace, in his deſcription of the amuſements of a party in the neighbourhood of Florence, during the great plague in 1348. The Decameroon of that author has always been looked upon as a natural and juſt deſcription of the manners of the Italians at that period. Of this party ſome are ſaid to have ſung well, and to have been excellent performers on ſeveral inſtruments. Dion, one of the gentlemen, played on the Lute; Fiametta, one of the ladies (ſaid to be the miſtreſs of Boccace), played on the Viol; and Emilia, another of the ladies, ſung an air, accompanied on the Lute by Dion (*d*). The Viol and the Lute ſeem to have been chiefly employed in accompanying the voice, probably in uniſon, till after the invention of counterpoint, in the following century. In the latter end of the fifteenth, and the whole of the following century, madigrals in parts were ſung in private concerts; and it ſeldom happened that a lady or gentleman could not ſing a part of a madrigal at ſight. Muſic in parts, compoſed for inſtruments alone, was of later invention. We have no other means of aſcertaining the time of its introduction, than by the muſical publications of thoſe times. In the earlieſt that is mentioned with certainty, is a Treatiſe

(*z*) Burney, V. II. p. 274.

(*a*) Burney, Vol. II.

(*b*) In the Arte of Engliſh Poeſie, 1589, is given the following account of the Engliſh minſtrels. "The over-"buſie and too ſpeedy returne of one manner of tune, doth "too much annoy, and as it were glut the eare, unleſs it be "in ſmall and popular muſickes ſong by theſe *Cantabanqui*, "vpon benches and barrels heads, where they have none "other audience than boys or countrey fellowes that paſſe "by them in the ſtreet, or elſe by blind harpers, or ſuch "like tauerne minſtrels, that give a fit of mirth for a groat, "and their matters being for the moſt part ſtories of old "time, as the Tale of Sir Topas, the Reportes of Beuis "of Southampton, Guy of Warwicke, Adam Bell and "Clymme of the Clough, and ſuch other old romances or "hiſtorical rimes, made purpoſely for recreation of the "common people at Chriſtmas dinners, and brideales, and "in tauerns and alehouſes, and ſuch other places of baſe "reſort."

(*c*) 39 Eliz. c. 4. ſ. 2.

(*d*) E levate le tavole conciò foſſe coſa che tutte le donne carolar ſapeſſero e ſimilemente i giovani, e parte di loro ottimamente e ſonare e cantare, commanda la reina, che gli ſtromenti veniſſero, e per commandamento di lei Dioneo preſo un liuto e la Fiammetta una vivola, comminciarono ſoavemente una danza a ſonare, e quella finita, canzoni vaghette e liete comminciarono a cantare. Decam. Giorn. I.

Emilia cantaſſe una canzone dal liuto di Dioneo ajutato. Ib.

a Treatiſe on the Art of compoſing Fantaſias for Inſtruments, in three and four parts, by Thomas à Sancta Maria, publiſhed at Valladolid in 1570 (*e*); which makes the æra of thoſe compoſitions, and of concerts of Viols, to be about the middle of the ſixteenth century.

The Fantaſias continued to be played in three and four, and ſometimes in more parts, by Treble, Tenor, and Baſs Viols, till near the middle of the laſt century. As theſe were the firſt ſpecies of inſtrumental muſic in parts of which we have any certain accounts, and were ſucceeded by the Sonata and Concerto Groſſo, both of which are ſtill in uſe, a ſpecimen of the former will, together with the Sonata and Concerto, exhibit the origin and different ſteps of the progreſs of inſtrumental muſic in parts, to which there has been no addition but that of the modern overture and chamber-muſic, which cannot be carried farther than forty years back. To enable the reader to form an idea of the ſtyle and ſpecies of compoſition of the Fantaſia, ſo much mentioned by the muſical writers of this period, a Fantaſia in five parts, of which more particular mention will be afterwards made, is ſubjoined to this Diſſertation.

Beſides the Fantaſias for the Treble, Tenor, and Baſs Viols, the Violiſts were in uſe to play on the Diviſion Viol, a kind of Viol da Gamba, deſcant or diviſions on a given ground baſs, which they appear to have done extempore, while the ground baſs was played by the Organ or another Viol (*f*). From this manner of playing diviſions on a baſs, many well-known and favourite airs, which were played with variations, acquired the name of Grounds, ſuch as Farinell's ground, Purcell's ground, and others. The laſt of Corelli's Solos conſiſts of diviſions on one of theſe grounds; and the Aria con Variazione, in the modern muſic, is derived from the former practice of diviſions on grounds.

Another ſpecies of Concerts, in three parts, performed by Violiſts in the laſt century, is mentioned by Merſennus: it will ſeem ludicrous to the modern practitioners of muſic, and, if the account had been given by an author leſs grave and accurate than Merſennus, might appear ſuſpicious. In his deſcription of the Viol (*g*), he ſays, that "they are made of all ſizes, ſome ſo large, that "they are made to contain young pages, who ſing the treble part of ſome favourite air, while the "Violiſt ſings the tenor, and plays the baſs on the Viol; and that it was in this manner that "Granier performed Concerts in three parts before Queen Margaret (*h*)." Merſennus repeats the ſame circumſtance in his account of the Lute, the back of which he ſays "may be made to open "and ſhut like the door of a chamber, and the inſtrument to contain a child; whoſe voice, in "concert with the ſtrings, will have an excellent effect (*i*)." In the Latin treatiſe of Merſennus, which

(*e*) Quoted by Sir J. Hawkins.

(*f*) There is a very well written Treatiſe on the Art of playing theſe Diviſions, by Simpſon, called the Diviſion Viol, printed ſo late as 1677.

(*g*) On les fait (les Violes) de toutes ſortes de grandeur, dans leſquelles l'on peut enfermer de jeunes pages pour chanter le deſſus de pluſieurs airs raviſſans, tandis que celui qui touche la baſſe, chante la taille, afin de faire un Concert à trois parties, comme faiſoit Granier devant la Reine Marguarite.—Harmonie Univerſelle, Paris, 1636.

(*h*) This muſt have been Margaret of Valois, Dowager of Henry the Fourth, of France. She kept her Court, from the year 1605 till her death in 1613, in the Fauxbourg St. Germain, at Paris. Mezeray thus ſums up her very ſingular character: "Elle entremêloit la volupté & la "dévotion, l'amour des lettres, & celui de la vanité; la "charité Chrétienne, & l'injuſtice. Car comme elle ſe "piquoit d'être vue ſouvent à l'égliſe, d'entretenir des "hommes ſavans, & de donner la dixme de ſes revenues "aux Moines, elle faiſoit gloire d'avoir toujours quelque "galanterie, d'inventer de nouveaux divertiſſemens, & de "ne payer jamais ſes dettes." Abrégé Chronol. Tom. VI. p. 317.

(*i*) On peut faire ſon corps (en parlant du Luth) ſi grand, qu'un enfant s'y logera pour chanter le deſſus, tandis que le Joueur du Luth touchera la baſſe, comme je remarque auſſi dans le Traité de la Viole; car l'on peut tellement faire les eclisſes que le dos du Luth s'ouvrira & ſe fermera, comme la porte d'une chambre, pour y enfermer un enfant, dont le chant étant bien concerté avec les cordes, donnera du contentement aux auditeurs.—Harm. Univerſelle.

There is ſomething congenial with the *galantry* of the French character in this manner of adding to the effect of muſic

which he publiſhed ſixteen years after his Harmonie Univerſelle, he again mentions the ſame practice, in giving an account of the Viol, with this addition, that the child might either "ſing, "or play on the common flute."

Such were the different uſes to which the Viols of the two preceding centuries were appropriated. They were the moſt perfect ſtringed inſtruments that had hitherto been known, and the favourite inſtruments of the beſt muſicians, as well as gentlemen who cultivated muſic as an amuſement. Among the latter, ſeveral characters of the greateſt dignity in our own country are mentioned as being excellent performers on the Viol; namely, King Charles the Firſt, the Lord Keeper North, Lord Crew, Biſhop of Durham, Sir Roger L'Eſtrange, Sir ——— Bowles, and others (*k*).

The Violin had not as yet been paid any attention to by the Amateurs or the Muſicians of repute; it was confined to the loweſt claſs, and was heard only in the ſtreets, in alehouſes, and places of low reſort. It was with great reluctance that the Violiſts admitted into their concerts an inſtrument, "a ſcolding inſtrument," that drowned their trebles as well as baſſes; and in England the prejudices conceived againſt the Violin continued conſiderably longer than on the Continent (*l*).

The Opera began to be exhibited on the public theatres of Italy about the beginning of the laſt century; although there may have been more private performances of it, at the palaces of ſome of the Princes, ſome time before. L'Orfeo of Montverde, repreſented at Mantua in 1607, is ſuppoſed to be the firſt ever printed with muſic (*m*). In the management of the orcheſtra, this opera differed extremely from thoſe of the preſent time; for inſtead of all or moſt of the inſtruments playing at one time, particular inſtruments are appointed to accompany each character; two baſs Viols, for inſtance, to accompany the part of Orpheus; ten treble Viols to accompany Eurydice; four trumpets to Pluto; &c. There is no further mention of Violins among the inſtruments, than that two ſmall Violins, in the French manner (duoi Violini piccoli alla Franceſe), are to accompany the character of Hope. It is plain, therefore, that a band, conſiſting chiefly of Violins, was not brought into the opera till after this time. Motets and Maſſes for voices, with accompaniments for Violins, compoſed by Cariſſimi, Colonna, Rovetta (*n*), Baſſani the maſter of

muſic by ſurpriſe, and traces of it may be yet perceived in their public and private concerts. In the year 1777 I heard an Oratorio, ſomewhat ſhorter than one act of Handel's, performed at the Concert Spirituel in the Thuillerie palace, at Paris. After a full chorus by all the voices and inſtruments in the orcheſtra, the audience was ſurpriſed with a very fine ſemichorus, likewiſe accompanied by inſtruments. The ſound appeared to proceed from an upper region of the air; the eyes of every one were directed to the cieling, which is uncommonly lofty; and it was at length diſcovered that a ſmall orcheſtra had been previouſly placed in a room above. I have alſo been at ſeveral private concerts in Paris, which the younger part of a family had prepared in compliment, and unknown, to an aged or infirm parent, on the anniverſary of his tutelar Saint, which is kept in that country in the ſame manner with, and in place of, the anniverſary of the birth-day in this. The inſtruments were tuned with as little noiſe as poſſible in a diſtant part of the houſe; and when every thing was got ready, and while ſome of the friends were engaging the old people in diſcourſe on the ſubject of an amuſement for the evening, on a ſignal given, the muſic began, and the partition ſeparating, the two rooms flew open, which, beſides the orcheſtra, diſcovered many other of their friends who had been invited to partake of the pleaſure of their aged relation, in the compliment thus paid to him on the anniverſary of his Saint.—Would not the effect of muſic be greatly heightened, if the inſtruments were tuned out of the hearing of the auditors, and no flouriſh, or ſound of an inſtrument, heard before the beginning of a piece?

(*k*) Sir J. Hawkins' Hiſt. of Muſic, paſſim.

(*l*) Anthony Wood gives the following account of Concerts of Viols, and of the introduction of Violins: "The "Violin had not hitherto (in the year 1653) been uſed in "conſort among gentlemen, only by common muſicians who "played but two parts. The gentlemen in private meetings "which A. W. frequented, played three, four, and five "parts, with Viols, as treble Viol, tenor, counter-tenor, "and baſs, with an organ, virginal, or harpſicon, joined "with them; and they eſteemed a Violin only belonging to "a common fiddler, and could not endure that it ſhould come "among them, for fear of making their meetings to be "vain and fiddling." Life of A. Wood. Oxford, 1722.

(*m*) Sir J. Hawkins, Vol. III. p. 430.

(*n*) Gerb. de Muſica Sacra, Vol. II. p. 341.

of Corelli, and others, began to be performed in the churches of Italy about this period; but I have not met with any thing to enable me to aſcertain any preciſe time, betwixt this and the year 1630, when a Concert conſiſting principally of Violins, if any, had been performed.

In the Harmonie Univerſelle of Merſennus, publiſhed at Paris in the year 1636, he mentions the King's band of twenty-four Violins, as if it had been an eſtabliſhment of ſome ſtanding; and this appears to be the firſt regular band of Violins of which we have any certain account. Merſennus is very particular in his deſcription of this band of twenty-four Violins (*o*), a name given to it in contradiſtinction to a band of Viols, which were more common about this time. Theſe Violins were not of one ſize, as was commonly believed; but conſiſted of treble, tenor, and baſs Violins, or Violoncellos; and of the tenors there were three different ſizes. Merſennus ſays that they played dancing tunes and cantilenas in four parts, viz. baſs, tenor, counter-tenor, and treble, having ſix Violins to each, and that "nothing in harmony could be more ſweet and pleaſant (*p*):" but there was alſo a third tenor uſed in Fantaſias, as will appear by the ſubjoined Fantaſia in five parts, from Merſennus, inſerted as a ſpecimen of that ſpecies of compoſition, and as a muſical curioſity worth preſerving, it being at the ſame time probably the firſt piece of muſic that ever was played by a regular band of Violins, tenors, and baſſes. In Merſennus the parts are written ſeparately, in the old lozenge-headed notes, and without bars. The part of the firſt Violin was in the French clef, or G, on the firſt, inſtead of the ſecond line; the part of the ſecond Violin, as well as the other two middle parts, were written on different tenor clefs, and intended to be played on inſtruments tuned like our preſent tenor, but differing in ſize. Theſe parts have been tranſpoſed as for a firſt and ſecond Violin, two tenors, and a baſs, to make it more intelligible to the modern practitioner. It is remarkable that there is not, in any of the parts, a note higher than the common poſition of the hand; which plainly ſhows the little practice and attention that had been beſtowed on the Violin ſo late as the year 1636, and the great progreſs that had been made on it in the courſe of a few years, on the invention of the Sonata, in which ſhifting is ſo common. Uncultivated and little practiſed, however, as it then was, Merſennus does not heſitate to beſtow the greateſt encomiums on it; he ſays, that whoever has not heard a concert of Violins does not know what perfect harmony it is in the power of inſtruments to produce, and calls the Violin the King of Inſtruments (*q*). In another place, ſpeaking of the King's band of Violins, he ſays; "but if you wiſh to hear the upper part alone, what can be more elegant than the "playing of Conſtance (the name probably of the firſt Violin)? What more vehement than the "enthuſiaſm of Boccan? What more delicate and tender than the neat touches of Lazarin and "Foucard? Join the baſs of Leger to the acute ſounds of Conſtance, you will have all the "harmonic numbers complete (*r*)?"

From this time the practice and improvement of the Violin ſeems to have proceeded with a rapid progreſs. That regular and beautiful ſpecies of compoſition, the Sonata, compoſed for two Violins and a Baſs, had its riſe in Italy about the middle of the laſt century; but who the original inventor was, is not known with certainty: Baſſani, the maſter of Corelli, and Corelli himſelf, excelled moſt in it in Italy, as did Purcel in England. It is uncertain whether the latter had ever ſeen the firſt Opera of Corelli, as the date of its firſt publication is not known. Purcel's Sonatas were publiſhed before the remaining Operas of Corelli; but he profeſſedly compoſed them after the model of the Italians, whoſe works he acknowledges to have ſtudied.

Rogers,

(*o*) It was in ridicule of theſe twenty-four Violins, and not of King Charles's band of that number, that D'Urfey wrote his ludicrous ſong of Four-and-twenty Fiddlers all in a Row. Sir J. Hawkins.

(*p*) Nihil in harmonia ſuavius, atque jucundius eſſe.
Mersennus.

(*q*) Le Roi des Inſtrumens. Harm. Univ.

(*r*) Sed ſi velis unicam partem ſuperiorem, quid elegantius Conſtantini pulſu? Quid Boccani enthuſiaſmo vehementius? Quid Lazarini & Foucardi percuſſiunculis ſubtilius? Adde Legeri baſſum Conſtantini ſonis acutis conjunctum, omnes numeros harmonicos expleveris.

Rogers, an Engliſhman, compoſed Airs in four parts, for Violins, ſo early as 1653; but theſe were written for the Archduke Leopold, afterwards Emperor of Germany, and appear to have been for two treble Violins, tenor, and baſs. John Jenkins, a celebrated compoſer of Fantaſias in five and ſix parts, for Viols, was much admired in England, and abroad, during the reign of Charles the Firſt, and for ſome time after; until the introduction of the Violin, and the general prepoſſeſſion for the Italian ſtyle, induced him to compoſe twelve Sonatas, for two Violins and a baſs, which were printed in London about the year 1660, and at Amſterdam in 1664. Theſe were the firſt Sonatas publiſhed by an Engliſhman (*s*): Giovanne Legrenzi, however, a Venetian compoſer, publiſhed Sonatas per Chieza (for the Church) in the year 1655, and Sonatas in three parts, da Chieſa e Camera (Church and Chamber Sonatas) in the year 1756 (*t*).

The Sonata for two Violins and a baſs, with a thorough baſs for the Organ, was originally compoſed for the church, and performed in it; and afterwards, from the approbation it met with, and the fine effect it was found to have, Sonatas were then compoſed for the chamber: but theſe for the moſt part conſiſted of movements of a lighter kind. After the Adagio, there follows generally a Sarabanda, Corrente, Allemanda, Gavot, and ſometimes a Giga or jig, all dancing tunes, or imitations of them; while the Sonatas intended for the church conſiſt only of ſlow movements and fugues. Before the Sonata was introduced into the church, we are informed, by an author of credit, that Violins played extempore ritornellos or flouriſhes to the chants; and that, towards the end of the laſt century, there were only two performers on the Violin in Rome, who played in this manner in St. Peter's church, until Corelli publiſhed his Sonatas. Pittoni, the Maeſtro di Capella of the German college at Rome, who died there about the year 1750, aged ninety years, remembered theſe two Violins accompany the chant. Corelli's ſecond Opera was publiſhed at Rome in 1685, his third at Bologna in 1690. Pittoni was born about the year 1660, and he might remember the two Violins playing in St. Peter's from the year 1670 till 1680, which was about the time that Corelli's firſt Opera, compoſed expreſsly for the church, was probably firſt performed at St. Peter's (*u*).

It has been already mentioned, that in the year 1601, among the number of performers on different muſical inſtruments, then living at Naples, whoſe names are given in the Muſica Pratticale of Cerretto, no mention is made of the Violin, or of any performer on it. In the year 1657, David Mell was accounted a great Violiniſt, and the beſt in London (*x*); but he was ſo far ſurpaſſed by Thomas Baltazer, of Lubec, who that year came to England, that nothing could ever prevail on Mell to play on the Violin in his preſence (*y*). King Charles the Second, during his reſidence abroad,

(*s*) Sir J. Hawkins.

(*t*) Gerb. de Muſ. Sacra, Vol. II.

(*u*) Ib. Vol. II. p. 341. Referre ſolebat Octavius Pittoni, muſicæ director in collegio Germanico, et ad S. Petrum in Vaticano inſignis, qui medio noſtro hoc ſæculo 18, Romæ nonagenarius obijt, ſua adhuc memoria ad finem vergente adeo ſæc. præterito 17, duos tantum Romæ fuiſſe, qui Chelys tractarent, ex tempore ſoliti interludere, ut nunc organo facimus ad cantum planum, donec cel. Archangelus Corelli primus Symphonias ſuas ederet.

(*x*) So little was the Violin attended to at this time in England, and ſo little muſic was there compoſed for it, that Playford, in his book of inſtructions for the Violin and other inſtruments, ſays, that it was "unneceſſary to give "any examples for the Violin, there being *plenty* of muſick "contained in two publications, viz. one entitled The "Dancing-Maſter, of all the uſual country dances, and "other tunes, and French courants for the Violin to play "alone. The other book is of two parts, Treble and Baſs, "entitled Court Ayres, containing Parans, Allemans, Cou-"rants, and Sarabands." Playford was the only publiſher of muſic in England at this time.

(*y*) Life of A. Wood. A very ludicrous account is given by A. Wood of Baltazer's great execution on the Violin. Being at Oxford, at a party of the principal Muſicians and Amateurs (it was there the former had taken refuge on their being driven out of London by the Puritans, at the time of the Uſurpation), and running up the finger-board in a manner they had till then conceived impoſſible, "Wilſon, "the public Profeſſor of Muſic at Oxford, looked under "the table, to ſee whether he had a hoof, imagining him "to be no other than the Devil, who could ſo far exceed "human powers."

abroad, had frequent opportunities of hearing the Violin, and immediately after the Reſtoration (1660) eſtabliſhed his band of twenty-four Violins, in imitation of that of the Court of France. About this time, the celebrated Lully was made Leader of the Petits Violons of the King of France, of twelve performers; which under his direction ſurpaſſed the famous band of twenty-four.

Of the Concerts of Muſic, both public and private, now ſo common in London, the origin may be referred to the Concerts given during a period of forty-ſix years by the celebrated Thomas Britton, a ſmall-coal man. Theſe concerts were regularly performed at the dwelling-houſe of Thomas Britton, near Clerkenwell. They began in the year 1668. Sir Roger L'Eſtrange and other Amateurs performed at them. They were attended by people of rank and faſhion; the moſt eminent muſicians in London gave their aſſiſtance; and Handel himſelf, after his arrival in London, uſed frequently to attend them; till the death of Britton in 1714, when they ceaſed. It is ſaid, that Britton for many years, ſome ſay for the whole period of their continuance, abſolutely refuſed to accept of any money or gratification for the admiſſion of company to his concerts (*z*). Any other concerts, during this period, were given moſtly at the houſes of any celebrated performer eſtabliſhed in London, or foreigner arriving there, advertiſed in the London Gazette from about the year 1670 till the year 1700 (*a*).

The inſtrumental Muſic performed at theſe Concerts conſiſted chiefly of Sonatas for two Violins and a baſs, till after the beginning of the preſent century, when the Concerto Groſſo, for four Violins, tenor, Violoncello, and double baſs, was introduced. The invention of this ſpecies of muſic is attributed to Giuſeppe Torelli, of Verona, a famous player of the Violin, and Director of the Muſic at the Court of Anſpach in 1703. His Concertos were publiſhed at Bologna in 1709, after his death. The Concertos of Corelli were publiſhed at Rome in 1712.

In 1647 the Italian Opera is ſaid to have been introduced into France by Cardinal Mazarin; and in 1670 their national Opera, under the pompous title of the Royal Academy of Muſic, had its riſe, under the direction of Lully. In England, in the year 1706, two Italian Operas were attempted, with little ſucceſs, in the Haymarket; and in 1710, after Handel's arrival in England, his Opera of Rinaldo was performed. In that year, alſo, was inſtituted the Academy of Ancient Muſic. About the year 1730 Vauxhall and Ranelagh are ſaid to have been firſt opened, and in the following year Handel's Oratorio of Eſther was firſt performed at the Academy of Ancient Muſic; and, from the great applauſe it there met with, it was performed, as alſo the Oratorio of Deborah, in Lent 1732, at Covent-Garden theatre (*b*).

With reſpect to the inſtrumental Muſic after the beginning of the preſent century, the Concerto Groſſo continued to be the favourite ſpecies of full muſic, and was cultivated, after Corelli, by Tartini, Geminiani, and other Italians. The moſt ſucceſsful compoſers of the Concerto Groſſo, among the Engliſh, were Feſting, Stanley, and Aviſon. The Grand Concertos of Handel are nearly on the ſame plan, and for the ſame number and ſpecies of inſtruments, as the Concerto Groſſo; as are his Hautboy Concertos; with the exception of the introduction of wind inſtruments, the hautboy and baſſoon, into the latter. In his Overtures, beſides the uſe of theſe and other wind inſtruments, namely, French-horns, trumpets, and kettle-drums, there is a ſpirited ſingularity of ſtyle, in their firſt movements, very different from any part of the Concerto Groſſo, which he is ſaid to have copied from Lully. According to Matheeſon, Handel compoſed his Overtures profeſſedly in imitation of thoſe of Lully; and of the latter we are told, that they were ſo much eſteemed, that they are to be found prefixed to manuſcript copies of many Italian Operas (*c*). Nothing, however,

(*z*) See a very entertaining life of Thomas Britton, celebrated for his love of letters as well as muſic, in Sir J. Hawkins's Hiſt. of Muſic, in the beginning of Vol. V.

(*a*) Sir J. Hawkins, Vol. V.
(*b*) Ib.
(*c*) Sir J. Hawkins.

however, can be more different in ſtyle and ſtructure, than the Overture of both theſe celebrated compoſers, and that of the Moderns; of which Stamitz was the inventor, about the middle of the preſent century; an æra diſtinguiſhed in the hiſtory of Muſic, for the firſt introduction of that alteration in the ſtyle of muſical compoſitions, which characteriſes by far the greateſt part of the productions of the different countries of Europe ever ſince, and in contradiſtinction to the ſtyle of the former Maſters above mentioned, is called *Modern Muſic*.

THE

FANTASIA by Mr. Henry Le Jeune

Probably the firſt piece of Muſic in parts performed by a Concert of Violins, Tenors &c.

V. 1.

V. 2.

Baſs

THE THEORY AND PRACTICE OF FINGERING THE VIOLONCELLO.

PART I.

THE THEORY OF FINGERING.

CHAP. I.

Introductory Account of the Properties of Muſical Strings, and of the Nature of the Scale of Muſic.

SCIENCE is a formed Syſtem, comprehending the doctrine and reaſon of any branch of knowledge, founded on ſelf-evident principles, or ſuch as can be demonſtrated true, and from which a ſeries of concluſions and deductions may be drawn. The *Theory* of an Art, is the knowledge of its rules, and of the principles on which they are founded, and is diſtinct from their practice or application. A man may be learned in an Art, by knowing the theory of it; but the practice, as well as theory, are neceſſary to form a Maſter. The chief advantage of theory, beſides the intellectual ſatisfaction ariſing from the poſſeſſion of ſcience, is to direct and facilitate the practice of an Art, and to attain it with greater certainty.

Muſic is the ſcience of the proper qualities in ſounds fitted to excite agreeable ſenſations in the hearer, and comprehends the knowledge of the various relations and combinations of muſical ſounds that are neceſſary to anſwer this end. The actual production of theſe ſounds by a voice or inſtrument, is the practical or mechanical part of the Art.

Muſical notes, like other ſounds, are produced by the vibration of the parts of elaſtic bodies, ſuch as metals, glaſs, wood, ſtrings, and the glottis of animals. Of theſe, ſtrings or chords have been found the moſt ſimple and proper ſubjects for the inveſtigation of the laws of muſical ſounds.

The moſt obvious qualities of muſical ſounds, are, 1. Smoothneſs and roughneſs, which in muſical ſtrings depend on their figure and texture, and on the *manner* in which the force of percuſſion is applied. This quality is expreſſed by the term *tone*. 2. Loudneſs and ſoftneſs, which depend on the *degree* of the force of percuſſion. And, 3. Acuteneſs and gravity, which depend on the different times or velocities of the vibrations of ſtrings, determined by their length, tenſion, and diameter; and this quality is what is called tune; the moſt important of any, and, more particularly, the object of this Treatiſe. The laws, therefore, of the Vibration of Strings, will be briefly ſtated.

There is much analogy between the vibrations of a pendulum, and thoſe of a muſical ſtring; the latter is a ſpecies of double pendulum, having both its ends fixed. Pendulums vibrate ſlower, as their lengths are increaſed; and quicker, as they are ſhortened; that is, a pendulum to vibrate ſeconds, in the latitude of London, will be $39\frac{1}{2}$ inches long; to vibrate half-ſeconds, it muſt be 10 inches, nearly; and to vibrate four times in a ſecond, the pendulum muſt be $4\frac{1}{2}$ inches. The vibrations of the ſame pendulum are all iſochronous; that is, they are performed in the ſame time; and whether the pendulum continues vibrating in the largeſt arcs or ſpaces, on its receiving the ſtrongeſt impulſe; or whether the arcs are extremely ſmall, as when it has received the weakeſt impulſe that can be given to it, there will be no difference in the times of its vibration.

The vibrations of a ſtretched chord or ſtring, follow the ſame laws as thoſe of a pendulum; the longer it is, the ſlower are its vibrations; and the ſhorter it is, its vibrations will be proportionally quicker; and the vibrations of the ſame ſtring will be alſo iſochronous, or completed in the ſame times, whether the impulſe given to it be ſtrong or weak.

The force of percuſſion requiſite to draw any ſtring A *i* B, out of its place (ſee *Fig.* 15. of the Copper-plate) to the diſtance *i g*, *i e*, *i c*, will be directly in proportion to the ſpaces *i g*, *i e*, *i c*. That is, if the degree of preſſure of a bow applied to the ſtring A *i* B be ſufficient to move it to the ſpace *i g*, it will by its elaſticity, like the pendulum by its gravity, not only return to the line A *i* B, but will further recede to the line *h*; and while the ſame preſſure of the bow is applied, it will conſtantly move from *h* to *g*, and return from *g* to *h*; the former motion being called the courſe, the latter the recourſe of the ſtring. If the preſſure of the bow be further increaſed, ſo as to move the ſtring to *e*, it will then return as far as *f*; and while that degree of preſſure is continued, it will conſtantly have its courſes from *f* to *e*, and its recourſes from *e* to *f*; and in the ſame manner, with a proportional increaſe of preſſure, it will vibrate in the ſpace *d c*. The vibrations, therefore, of the ſame ſtring, are all performed in equal ſpaces of time; that is, the ſtring will return from the ſituation A *c* B as ſoon as from A *g* B, to A *i* B; becauſe the force neceſſary to move the ſtring to *c*, is as much greater than the force moving it only to *g*, as *i c* is greater than *i g*.

When on the ſtrongeſt impulſe given to the ſtring, it goes from *d* to *c*, and returns from *c* to *d*, and conſequently moves with the greateſt velocity, it ſtrikes the ear with moſt force, and its ſound is loudeſt; ſo, on a diminution of the preſſure, when it only moves from *f* to *e*, the ſound will be proportionally weaker, and it will gradually diminiſh, as the velocity of the ſtring, and the ſpace through which it vibrates, decreaſe; yet the vibrations being performed in the ſame portions of time, there will be no difference of tune, but the ſtring will conſtantly give the ſame note. The difference of preſſure affects the tone only, in its quality of loudneſs or ſoftneſs; the tune is in no degree affected by the ſtronger or weaker impulſe of the bow, but will ever remain the ſame, while the times of the vibration are iſochronous.

Now as the times, or ſlowneſs and quickneſs, of the vibration of muſical ſtrings, depend on their reſpective lengths; ſo the tune or pitch of the different notes in muſic will be in proportion to the different lengths of the ſtrings; the longer ſtrings, and ſlower vibrations, producing the graver notes; the ſhorter ſtrings, and, conſequently, quicker vibrations, invariably producing the acuter notes.

But the *times* of the vibrations of ſtrings, and conſequently the different degrees of tune, or of acuteneſs and gravity, depend alſo upon the tenſion and diameters of the ſtrings; and mathematicians have demonſtrated, that if ſtrings differ only in tenſion, the number of vibrations in the ſame time, are *directly* as the ſquare roots of the weights which ſtretch them; that is, if the weights are as 4 to 9, the vibrations will be as 2 to 3. The number of vibrations made in the ſame time, by two ſtrings differing only in thickneſs, are as the diameters of their baſes, *inverſely*. And if ſtrings differ only in *length*, the number of vibrations in the ſame time, are *inverſely* as the lengths; that is, if two ſtrings of equal thickneſs, and ſtretched by the ſame weights, differ in length as 2 to 3; the ſhorter ſtring, 2, will exactly vibrate three times, while the longer ſtring will vibrate twice. Hence ſtrings of different tenſions, diameters, and lengths,

may

may be ſo adjuſted, that the times of their vibrations, or degrees of tune, ſhall be in any given proportion; which is of conſiderable uſe in the ſtringing of inſtruments.

From theſe principles, all the phenomena of tune are deduced. Among the infinite variety of ſounds which Muſic affords, there are only ſeven degrees of tune, which conſtitute, or which can, tunefully or concinnouſly, divide the natural ſcale. Theſe comprehend all that are acknowledged in compoſition and practice, and are fixed by a law of nature. Any addition that can be made to theſe, are only a repetition of the ſame degrees of *tune*; and it has been already ſhown, that it is from the relation of numbers, that the degrees of muſical or concinnous ſounds muſt be fixed. The exact degree of tune, of the ſeven natural notes of the ſcale, can be aſcertained by very eaſy experiments made on one or more ſtrings.

Let two ſtrings of equal thickneſs and tenſion, but differing in their lengths, as 9 and 8, be ſounded, and the former be tuned to C; the ſhorter ſtring will give the note D. Or let a muſical ſtring or wire be ſtretched over a board, between two points or bridges; let it be tuned to the note C, and divided into nine equal parts: ſtop one of theſe parts, by inſerting a moveable bridge; the remaining eight parts will give the note D, and will perform nine vibrations, while the whole ſtring performs eight. Suppoſe the line A B (ſee *Fig.* 19. of the Copper-plate) to repreſent the fourth ſtring of a Violoncello, tuned to the note C, and divided into nine equal parts; one of theſe parts being ſtopped by the finger at 2, the remaining eight parts will give the note D, which is the ſecond degree or ſtep of the natural ſcale.

Let the whole ſtring be divided into five equal parts, and ſtop one of theſe parts from vibrating, by the preſſure of the finger, as at the point 3, on the ſame line A B, *Fig.* 19; the remaining length of ſtring will give the note E, or third degree of the natural ſcale, and will vibrate five times, whilſt the whole ſtring A B will vibrate four, being the ratio of the vibrations of the concordant interval of a *great third*, which is that of the key-note C, and its third E.

Let the ſtring be divided into four equal parts, and ſtop one, as at the point 4, of the line A B; the remaining three parts will give the note F, or fourth ſtep of the natural ſcale, and will vibrate four times, whilſt the open ſtring will vibrate thrice, which is the ratio of the vibrations of the concordant interval of *a perfect fourth*.

If the ſtring be divided into three equal parts, and two of theſe parts ſtopped, as at the point 5, of the line A B; the remainder will give the note G, or fifth of the natural ſcale, and will vibrate three times, while the open ſtring will vibrate twice, being the ratio of rhe vibrations of the concordant interval of *a perfect fifth*.

If the ſtring be divided into five equal parts, and two of ſuch parts be ſtopped, as at the point 6, of the line A B; the remaining three parts will give the note A, or ſixth degree of the natural ſcale, and will vibrate five times, while the open ſtring vibrates thrice, being the ratio of the vibrations of the concordant interval of *a ſixth greater*.

Divide the ſtring into fifteen equal parts, and let ſeven of ſuch parts be ſtopped, as at the point 7, of the line A B; the remaining eight parts will give the note B, or ſeventh degree of the natural ſcale, and will vibrate fifteen times, while the open ſtring vibrates eight, being the ratio of the vibrations of the interval of the *greater ſeventh*.

Laſtly, let the ſtring be divided into two equal parts, that is, in the middle, as at the point 8, of the line A B; and either of theſe parts will ſound the note C, or octave to the open ſtring, and will give two vibrations, while the open ſtring vibrates once, being the ratio of the vibrations of the concordant interval of an octave.

Again, let there be three ſtrings of equal thickneſs and tenſion, differing in length, the longeſt divided into 12 equal parts, the ſecond equal to 9 of theſe parts, and the laſt equal to 8: the latter will be in the relation of fifth, to the longeſt ſtring; 8 being to 12, as 2 is to 3. And the ſtring of nine parts, will be a fourth to the longeſt; becauſe 9 is to 12, as 3 is to 4. Thus, the difference of tune, betwixt the fourth and fifth of the natural ſcale, is as 8 to 9, and is the interval of a *tone major*. In the ſame manner, let there be three ſtrings, cæteris paribus, whoſe lengths are as 9, 10, and 15: the two ſtrings, 9 and 15, will be in the relation of a ſixth greater; 9 being to 15,

as 3 is to 5: and the two ſtrings, 10 and 15, will be in the ratio of a perfect fifth; becauſe 10 is to 15, as 2 is to 3: therefore, the difference between the degree of tune, betwixt the fifth and ſixth of the ſcale, is as 9 to 10, which is a *tone minor*. And laſtly, let there be three ſtrings, differing only in their lengths, as 15, 16, and 20: the two ſtrings, 15 and 20, will be in the relation of fourth; 15 being to 20, as 3 is to 4: and the two ſtrings, 16 and 20, are in the ratio of a great third; 16 being to 20, as 4 is to 5: therefore, the difference between the degree of tune of the third and fourth of the ſcale, is as 15 to 16, which is the interval called a ſemitone.

Thus the elementary ſounds, which divide the ſcale, are, tone major, tone minor, and ſemitone; which are the only muſical intervals now in uſe, in the diviſion of the ſcale; and it is remarkable, that it is neceſſary to mix theſe elementary intervals in ſuch a manner, that no two of the ſame kind can be placed next each other in the ſcale; becauſe no number of any one kind is equal to a concord. Their order, therefore, in the natural ſcale, is as follows: 1. key-note; 2. tone major; 3. tone minor; 4. ſemitone; 5. tone major; 6. tone minor; 7. tone major; 8. ſemitone.

As the difference in the velocities, or times, of the vibration of bodies, is the cauſe of variety in tune or melody; ſo the coincidences of the vibrations in two or more ſounding bodies, vibrating at once, is the cauſe of that agreeable effect in muſical ſounds, called concord, or harmony; which is no other than the reſult of frequent unions, and coincidences, of two or more ſonorous bodies, and of the undulating motions of the air which they occaſion. The more frequent theſe coincidences are, the more agreeable and pure is the concord; and therefore uniſon is the firſt degree of conſonance, becauſe the vibrations continually coincide. This concord is expreſſed by the ratio of one to one, 1 : 1. Next to this the ratio of the octave, 1 : 2, is the moſt agreeable and perfect; and then that of the perfect fifth, 2 : 3: after which follow the more imperfect concords, 3 : 4, 4 : 5, &c. And the effect of the leſs frequent coincidences of theſe vibrations, is what we call a diſcord.

It has been ſaid, that whatever addition can be made to the ſeven natural ſounds of the ſcale, is but a repetition of the ſame *degrees* and nature of tune. The compaſs, however, of the human voice, and of muſical inſtruments, extends to a number of ſuch ſyſtems of ſeven notes, or octaves, each gradually increaſing in acuteneſs of ſound, as the vibrations are quicker. This will appear from inſpecting the line A B of *Fig.* 19, repreſenting the fourth ſtring of a Violoncello, where the degrees of the natural ſcale are marked in their order, and extend from A to the middle of the ſtring at E. The remaining part of the ſtring E B, becomes the firſt note of a new octave, the degrees of which will be at the ſame *proportional* diſtances from each other, as thoſe of the former octave A E, and will end at F, being the middle point betwixt E and B: but the diſtance E F being half of that of A E, the *real* diſtances of the degrees of the octave E F will be only half of thoſe of the octave A E. In like manner, the third octave will extend from F to G, being half of F B; and the diſtances of the degrees of this octave will be only half of thoſe of the octave E F, and one fourth of thoſe of the octave A E.

From G to H, one half of G B is the fourth octave; but the diſtance is ſo ſmall, that it is impracticable to ſtop the different degrees with the fingers. A very ſingular phenomenon, however, occurs in this octave of a muſical chord, which, as far as I know, has never been obſerved by any writer on harmonics. It is well known, that by ſliding the finger gently, from this part of the ſtring, down to the middle of it, the harmonics of the open note will ſound (if the ſtring be kept in vibration by the bow) as the finger comes to the aliquot parts of the ſtring, where theſe harmonics occur; and this will happen in a *deſcending* ſeries. In proceeding to ſlide the finger, from the middle of the ſtring, down towards the nut, the harmonics will ſound in an *aſcending* ſeries. But theſe are all conſiderable intervals, being thirds, fifths, and octaves, the ſtring giving no audible ſound while the finger is ſliding along the intermediate parts of it. The hitherto unobſerved phenomenon that I would mention, proceeds, on the contrary, by *diatonic* intervals, ſpontaneouſly given, if I may ſo expreſs it. If you ſlide your finger very ſlowly from *a* to *b*, as on the line C D, *Fig.* 19. the third octave of the open ſtring, the ſecond to that octave, its ſharp third, fourth, and fifth, will ſound very perfectly; and you may perceive an effort, as it were, in the

the ſtring, to give the remaining part of the octave. This experiment will ſucceed beſt on the firſt ſtring of a Violoncello; and the intervals are the key-note, tone major, tone minor, ſemitone, and tone minor. It has been doubted by theoriſts, whether our *order* of the intervals of the octave was founded in nature, or in cuſtom; ſeeing that we intirely differ from the ancients in this reſpect. The Greeks began each tetrachord of their octave with a ſemitone, their progreſſion being a ſemitone, then two tones; whereas each of our tetrachords contains, firſt two tones, and then a ſemitone. This phenomenon, in which the intervals are exactly in the order of the Guidonian ſcale, will, I apprehend, ſufficiently decide, whether the Greek tetrachord, or ours, is moſt in the order of nature.

Melody or tune is no way altered in its nature, by being placed in any of theſe octaves. This is made evident, by ſuppoſing a boy, or a woman, to ſing a ſong or air, which ſhall at the ſame time be ſung by a man; they will agree in expreſſing the ſame tune, and yet the boy's or woman's voice will be in every note exactly an octave higher than the man's. Again, let any one ſing an air or chant, in the compaſs of an octave, and begin it in the loweſt compaſs of his voice: afterwards let him begin it a little ſharper; a ſemitone, for inſtance; and ſtill repeat it, beginning a ſemitone higher each time, till he get to the higheſt compaſs of his voice: it will ever be the ſame air, the ſame tune; and yet, in our ſyſtem of notation of ſounds, as will be afterwards ſeen, this operation of tranſpoſing the air, ſo eaſy to the voice, would be attended with a variety of characters called flats and ſharps, by the multiplicity of which learners are greatly embaraſſed.

But variety has been found extremely neceſſary in muſical entertainment; and, to obtain it, muſicians have diſcovered the expedient of changing the key-note firſt aſſumed, and of occaſionally introducing another, which muſt alſo be attended with its ſyſtem of notes, regulated in their diſtances, and degree of tune, in the ſame manner as thoſe of the original and natural ſcale. The ſituations of the ſemitones, therefore, in the natural ſcale of notes, muſt be altered, ſo as they ſhall occur in the ſame order and place, with reſpect to any note aſſumed for a key, as they did in the natural ſcale.

For this purpoſe, it has been judged neceſſary to ſuppoſe all thoſe intervals which have been called tones, capable of being divided into two ſemitones, by inſerting an intermediate ſound between them; and thus, inſtead of five tones and two ſemitones, which are the natural intervals between any one ſound and its octave, there will be twelve ſemitones, any one of which may be conſtituted the key of a ſcale; and there will be found among the other ſounds of the ſyſtem, all the other degrees of the ſcale neceſſary to correſpond to ſuch key-note, by omitting one ſound and taking the next, when a ſtep of a tone is naturally required; and by taking the two contiguous ſounds for the natural ſemitone, when ſuch ſhall be wanted. This ſemitonic ſyſtem of ſounds may be compared with the degrees of the natural ſcale in the following manner, viz.

C * D * EF * G * A * BC,

where the added intervals are repreſented by an aſteriſk; but as, in the natural ſcale of C, there is but an interval of a ſemitone between the third and fourth, and the ſeventh and octave, ſo there cannot poſſibly be any added note inſerted between E F or B C. When, therefore, C is conſtituted the key-note, all the degrees of the ſcale will coincide with the letters, without having recourſe to any of the ſounds marked with the aſteriſk. The caſe is otherwiſe, if any other note is conſtituted a key. Let G be aſſumed as a key, for inſtance; the three following ſounds will be ſufficient, as they ſtand, being of the proper intervals of two tones and a ſemitone; but in completing the octave of G, by adding the natural notes D, E, F, G, it will be found that the intervals between E and F, a ſemitone, and between F and G, a tone, are both in wrong ſituations for the key of G; as the former interval ſhould be a tone, and the latter a ſemitone: therefore, inſtead of F, we muſt take the note at the aſteriſk, between F and G, which will remove it from the preceding note E a tone, and bring it a ſemitone nearer to G, the octave. Such *elevation* of a note, a ſemitone above its proper ſound, is denoted by affixing the character ♯, called a ſharp, to its

denominative letter. The ſcale of G, thus corrected, will ſtand as follows; where the ſeparation of the letters by a ſhort line — will in future denote the interval of *tone:* and the juxtapoſition of the letters will be a ſufficient expreſſion for the *ſemitone*, without any character:

G—A—B C—D—E—F♯ G, comprehending two ſimilar tetrachords or fourths, G—A—B C, and D—E—F♯G.

In the ſame manner, if F be conſtituted a key, the ſemitone from E to F is properly ſituated; and C—D—E F are exactly right for the ſecond tetrachord of this key; but the natural notes F—G—A—B muſt be adjuſted, by taking the note at the aſteriſk next below B: and this *depreſſion* of any note, a ſemitone below its proper ſound, is denoted by affixing this character ♭, called a flat, to its denominative letter. And thus the key of F will conſiſt of the two ſimilar tetrachords, F—G—A B♭, and C—D—E F.

The following Scheme comprehends all the ſcales belonging to each of the twelve ſemitones in the ſyſtem.

Scheme of the Formation of the Twelve Scales of the Major Mode.

N° 1.	C —D —E F —G —A —B C		all natural.
2.	F —G —A B♭ —C —D —E F		*b* flat.
3.	B♭—C —D E♭ —F —G —A B		*b* and *e* flat.
4.	E♭—F —G A♭ —B♭—C —D E		*b*, *e*, and *a* flat.
5.	A♭—B♭—C D♭ —E♭—F —G A		*b*, *e*, *a*, and *d* flat.
6.	D♭—E♭—F G♭ —A♭—B♭—C D		*b*, *e*, *a*, *d*, and *g* flat.
	C♯—D♯—E♯F♯ —G♯—A♯—B♯C		all ſharp.
7.	F♯—G♯—A♯B —C♯—D♯—E♯F		*f*, *c*, *g*, *d*, *a*, and *e* ſharp.
8.	B —C♯—D♯E —F♯—G♯—A♯B		*f*, *c*, *g*, *d*, and *a* ſharp.
9.	E —F♯—G♯A —B —C♯—D♯E		*f*, *c*, *g*, and *d* ſharp.
10.	A —B —C♯D —E —F♯—G♯A		*f*, *c*, and *g* ſharp.
11.	D —E —F♯G —A —B —C♯D		*f* and *c* ſharp.
12.	G —A —B C —D —E —F♯G		*f* ſharp.
The ſame as at firſt,	C —D —E F —G —A —B C		all natural.

For the better underſtanding this ſcheme, it may be obſerved, 1. That there can be no more than twelve ſcales, anſwering to the twelve ſemitones in an octave. 2. That, in the order theſe different ſcales are ranged, every ſubſequent ſcale has either one flat more, or one ſharp leſs, than the ſcale immediately preceding it. 3. That every ſubſequent ſcale differs from the preceding, only in one note; which, being always a ſeventh in the preceding ſcale, by being depreſſed a ſemitone, that is, by adding a flat, or taking away a ſharp from it, becomes a fourth in the ſcale which follows. 4. That each ſcale conſiſts of two tetrachords, ſimilar in the ſpecies and order of their intervals; that is, firſt two tones, and then a ſemitone, in each tetrachord; and that the firſt tetrachord of the preceding ſcale becomes always the ſecond tetrachord of the ſubſequent ſcale, without any alteration whatever. The attention of the learner to this, and the preceding remark, is more particularly intreated, as being two of the principles on which the following ſyſtem of fingering is founded. 6. That when the number of flats amount to five, as in N° 6. of the ſcheme, the ſcale of D flat is converted into that of C ſharp, in the ſubſequent line; being the very ſame ſounds, but differently named. If this had not been done, the next keys would have been G flat with ſix flats, C flat with ſeven, F flat with eight flats, and ſo on; a method of naming the keys, not in uſe; but by introducing the key of C ſharp, with ſeven ſharps, that brings us to ſix ſharps, as in N° 7; and ſo proceeding to diminiſh the number of ſharps for each ſubſequent ſcale, until none of them remain, we arrive again at the ſame natural ſcale of C, with which we ſet out.

CHAP.

CHAP. II.

Of the Manner of Fingering the Twelve Scales of the Major Mode, aſcending and deſcending, throughout the whole Compaſs of the Violoncello.

THE degrees of the natural ſcale have been, it is hoped, ſufficiently explained in the preceding Chapter. Their diſtances are marked on the line A B, *Fig.* 19. repreſenting the fourth ſtring of a Violoncello, tuned to C; but, although ſometimes neceſſary, to take the degrees of the octave on one ſtring, is neither the uſual, nor the eaſieſt way of doing it. It has been remarked, that the octave is divided into two ſimilar parts, of four notes, or a tetrachord, each; the firſt note of the acuter tetrachord being a perfect fifth to that of the graver: therefore the ſtring C D, *Fig.* 19. being a third leſs in its diameter than A B, or otherwiſe adjuſted by tenſion, will be equal in the times of its vibration to the remaining part, 5 B, of the ſtring A B; and the tetrachord 5, 6, 7, 8, on the line C D, will be equal, in degrees of tune, to the tetrachord 5, 6, 7, 8, on the line A B. And by a well-known axiom of geometry, the whole ſtrings A B, and C D, being perfect fifths, or in the proportion of 3 to 2, any part, or diviſion, of one ſtring, will be in the ſame relation, of perfect fifth, to a like part, or diviſion, of the other; as at the octaves E, F, G, H, and each of their intermediate degrees, whether tones or ſemitones.

And if the remaining two ſtrings of the Violoncello, alſo tuned fifths to each other, be added; and each octave be divided into the ſmalleſt intervals of the ſyſtem, that is, into twelve ſemitones each; there will be thirty-two ſemitones on each ſtring, from the nut to the fifth natural degree of the third octave, as at I, on the ſtring C D; that being the higheſt *poſition* uſed in practice, or where the fingers can conveniently be uſed on the four ſtrings, in the degrees of the natural ſcale; although *larger intervals* can be taken, ſtill nearer the bridge. This number, multiplied by four, will make the whole number of ſemitonic intervals of the finger-board of a Violoncello, to amount to one hundred and twenty-eight; all neceſſary to be known, on account of the great compaſs of many modern compoſitions for the Violoncello.

Again, if any of the four ſtrings of this inſtrument be divided into a thouſand equal parts, a performer who plays, in tune, an aſcending ſcale of two or more octaves, of which the entire or open ſound of ſuch ſtring ſhall be the key, will ſtop at the diſtances 888, 800, 750, 666, 533, 500, 444, 400, 375, 333, 300, 266.5, 250, &c. as marked oppoſite to the degrees of the natural ſcale, on the line A B, *Fig.* 19; and theſe diſtances ſhall be as exactly taken by the fingers, as if the degrees were marked on the ſtring, or finger-board. Notwithſtanding which, it is incontrovertible, that, in attaining to this exactneſs of ſtopping, no meaſurement of any kind is made uſe of, ſave that of the ear, in judging of the true intonation of every note.

It ſeemed neceſſary to premiſe theſe particulars, to ſhow that the principles upon which the following ſyſtem of fingering proceeds, are founded in immutable laws of nature; and, with theſe for our guide, we do not deſpair of conducting the learner, with eaſe and ſatisfaction, through the whole of this hitherto unexplored labyrinth; and of evincing to him, that what has been deemed complex and intricate, is in reality ſimple and plain. We therefore proceed to the explanation of our ſyſtem.

Firſt Series of Scales, C, F, B♭, E♭, A♭, D♭, Major.

N° 1. of the examples, *Scale of* C; beginning with the loweſt or graveſt note of the inſtrument. The examples of the Scales of the Major Mode are divided into bars of four crotchets each; and the laſt note of every bar, in the aſcending ſcales, throughout the ſyſtem, is invariably at the diſtance of a ſemitone from the third note of each bar; all other intervals, in the major mode, are tones. The neceſſity of attending to the interval of ſemitone is greater, on account of its appearing to the eye, in our manner of notation, to be at the ſame diſtance with the interval of a tone; the notes of the ſcale aſcending gradually, from a line to the ſpace above that line, and from a ſpace to the line above it, whether the interval be a tone or a ſemitone.

Each octave of this example, as well as all the others of the ſyſtem, conſiſts of two ſimilar tetrachords, C—D—E F, contained in the firſt bar, and G—A—B C, in the ſecond; the intervals whereof are given, by the open ſtring C, and the firſt, third, and fourth fingers; and by the open ſtring G, and the ſame fingers, 1—3 4; the diſtance of a tone being taken by omitting the ſecond, and putting down the third finger; and that of a ſemitone, by the fourth finger, immediately following the third. The fingering, and intervals, of the two tetrachords, may be expreſſed by 0—1—3 4, 0—1—3 4; the cypher or 0 repreſenting the open ſtring, and the figures 1, 3, 4, the fore-finger, third, and fourth finger of the left hand. The diſtances or intervals of a tone, are expreſſed by the ſhort line —; and thoſe of a ſemitone, by the juxtapoſition of the figures or letters only. The ſecond octave is contained in the third and fourth bars of the example; and if the ſecond ſtring had been tuned a note lower, or a fourth to the third ſtring, it would have been uniſon with C, the concluding note of the former octave; and the fingering of the ſecond octave would be, like the firſt, 0—1—3 4 on the ſecond, and 0—1—3 4 on the firſt ſtring: but by the method of tuning by fifths, inſtead of the *octave*, the ſecond ſtring D is the *ninth* to the open ſtring C; and conſequently the ſecond degree of the acuter octave. The intervals of this octave, therefore, are to be taken, 4—0—1 2, 4—0—1 2; that is, the eighth note C, of the former octave, taken by the fourth finger, muſt be conſidered as the firſt note of the ſecond octave, and for that purpoſe muſt be ſounded again, as in the beginning of the third bar: the other degrees will be the open ſtring D, a tone; E, another tone, taken with the firſt finger; and F, a ſemitone, taken with the ſecond finger; for the firſt tetrachord: and, in the ſame manner, the ſecond tetrachord muſt conſiſt of G, a tone, taken by the fourth finger; A the open ſtring, a tone; B, a tone, taken with the firſt; and C, a ſemitone, with the ſecond finger. In like manner, the intervals of both octaves are to be taken in the deſcending progreſſion, with the ſame fingers, carefully obſerving, that the ſemitonic interval is now the ſecond note of each bar; and each deſcending octave will conſiſt of the tetrachords C B—A—G, and F E—D—C.

N° 2. *The Scale of* F, being the fourth note of the preceding ſcale of C. This differs in no reſpect from the preceding ſcale, but in the depreſſion of the ſeventh note of that ſcale, from B natural to B flat; and this B flat will become the proper fourth in the new ſcale of F. Each octave of this ſcale will, therefore, reſolve into the two tetrachords F—G—A B♭, and C—D—E F; and the character ♭ is marked at the clef, on the ſecond line, to denote that every B in the example is to be conſidered as B flat. The fingering of the firſt octave, like that of the ſecond octave of the preceding ſcale, will be 4—0—1 2, beginning on the fourth ſtring; and 4—0—1 2, ending on the octave F, on the ſecond ſtring. The ſecond octave is fingered 2—4—0 1, 2—1—3 4, beginning with the laſt-mentioned octave F, on the ſecond ſtring; G, a tone, taken with the fourth finger; A, a tone, the open ſtring; and B, a ſemitone, with the firſt finger near the nut; for the firſt tetrachord: and for the ſecond, C, a tone, taken with the ſecond finger, as in the preceding ſcale: then ſhifting the hand a tone, take D, a tone, with the firſt, E, a tone, with the third, and F, a ſemitone, with the fourth finger. The laſt three notes, D—E F, are alſo marked in the example, with the fingers 1—2 3, the method generally followed in practice; but, for the reaſons to be mentioned in the Practice of Fingering, the former method, 1—3 4, is recommended to be uſed by the young practitioner, for ſome time.

It is neceſſary to obſerve, as has been mentioned above, in the remarks ſubjoined to the ſcheme of the formation of the twelve ſcales, that the firſt tetrachord of a preceding ſcale becomes always the ſecond tetrachord of the ſubſequent: thus C—D—E F, as in the firſt and third bars of N° 1, concludes the preſent ſcale of F, as above; and it will invariably hold, that the poſition is to be quitted, after playing the laſt note of the preceding ſcale; and, ſhifting the hand a tone, the remaining three notes of the tetrachord, a tone and ſemitone, are to be taken with the fingers 1—3 4, or, in the upper compaſs of the inſtrument, with the fingers 1—2 3.

N° 3. *The Scale of* B *flat major*, being the fourth note of the preceding ſcale of F. Take the firſt octave 2—4—0 1, 2—4—0 1, ending with the firſt finger, at a ſemitone from the nut, on the firſt ſtring; and for the ſecond octave, B♭—C—D E♭, F—G—A B, muſt be taken, on the

firſt

firſt ſtring, in different poſitions, as follows: Firſt, B♭—C, a tone, with the firſt and ſecond fingers; then ſhift the poſition of the hand a tone, and take D E♭—F, a ſemitone and tone, with 1 2—4; and, laſtly, ſhift the poſition of the hand a tone, and take G—A B♭, a tone and ſemitone, with 1—2 3. Thus, as in the remark on the preceding ſcale, the poſition muſt be quitted at F, in order to conclude the ſcale with G—A B♭; and to get to D E♭—F, it becomes neceſſary to quit the poſition at C, as was done in the laſt ſcale: and thus the order of ſcales, adopted in the ſcheme, points out the ſhifts neceſſary to make, to arrive properly at the laſt poſition of any ſcale; as, to get to the laſt poſition of B, it is neceſſary to paſs through, and quit at, the poſitions C, and F, comprehending A B♭—C, D E♭—F, G—A B♭. It may alſo be obſerved, once for all, that when it is intended to continue on the laſt poſition, while the notes G—A B♭ are playing, the thumb is to be brought up, and placed a tone below the firſt finger, which will be at F; and both octaves may then be played, on the four ſtrings, without changing the poſition. The deſcending progreſſion is marked in the example by 3, 2, 1, ×, the laſt character repreſenting the thumb; and the two deſcending octaves of this and every other ſcale of the ſyſtem, where the thumb is uſed, may be taken on the firſt, ſecond, third, and fourth ſtrings ſucceſſively, with the fingering marked in this example, viz. 3 2—1—×, 3 2—1—×, × 3—2—1, × 3—2—1; which, to avoid the confuſion ariſing from a multiplicity of figures, will be omitted in the remaining ſcales of the ſyſtem.

N° 4. *The Scale of* E *flat major*, the fourth of the preceding ſcale of B. Take E♭—F—G, two tones, with the fingers 1—2—4, on the ſecond ſtring; and as it is impracticable to take A♭—B♭—C, on the firſt ſtring, by reaſon of the flat affixed to A, the poſition of the hand muſt be ſhifted a ſemitone, from G to A♭—B♭—C two tones, with the fingers 1—2—4, on the ſecond ſtring; then take D E♭—F, ſemitone and tone, with 1 2—4, as in the preceding ſcale, on the firſt ſtring; then ſhifting a tone, take G A♭—B♭, ſemitone and tone, 1 2—3; and, laſtly, C—D E♭, tone and ſemitone, with the fingers 1—2 3. Thus the poſitions neceſſary to arrive at E♭, are, 1. G, 2. C, 3. F, 4. B♭, and 5. E♭, as in the general ſcheme, and margin of the examples, throughout the ſyſtem: and the deſcending ſcales are invariably by the ſame poſitions, viz. in the preſent ſcale of E flat, by E♭ D—C, B♭—A♭ G, F—E♭ D, C—B♭—A♭, and G—F—E♭; diſtinguiſhing the poſitions, by the acuteſt note of each; that is, the laſt note of each poſition aſcending, and the firſt note of each deſcending.

N° 5. *The Scale of* A *flat major*, the fourth of the preceding ſcale of E. Take A♭—B♭—C, two tones, with the fingers 1—2—4, on the ſecond ſtring, as in the preceding ſcale; then D♭—E♭—F, two tones, with the fingers 1—2—4, on the firſt ſtring; then G A♭—B♭, ſemitone and tone, with the fingers 1 2—3, on the ſame ſtring; afterwards, take C D♭—E♭, ſemitone and tone, 1 2—3; and, laſtly, F—G A♭, tone and ſemitone, 1—2 3; aſcending by the poſitions of the four former ſcales, in their order, viz. C, F, B♭, E♭, which leads to the final poſition of tone and ſemitone, F—G A♭; and the deſcending ſcale is to be made by the poſitions E♭, B♭, F, and C.

N° 6. *The Scale of* D *flat major*, fourth of the preceding ſcale of A. Take D♭—E♭—F, two tones, with the fingers 1—2—4, on the firſt ſtring, as in the preceding ſcale; then G♭—A♭—B♭, two tones, with the fingers 1—2—3; C D♭—E♭, a ſemitone and tone, 1 2—3; F G♭—A♭, a ſemitone and tone, 1 2—3; and, laſtly, B♭—C D♭, a tone and ſemitone, 1—2 3; and deſcend by the ſame poſitions, A♭, E♭, B♭, and F.

This ſcale, extending from D♭, on the firſt ſtring, to the end of the finger-board; it would be impracticable to proceed, on the Violoncello, with the next ſcale, in the order of the general ſcheme, *i. e.* the key of G flat, or rather F ſharp major, as it would aſcend a fourth ſtill higher than the preſent ſcale; we therefore proceed to the

Second Series of Scales, C♯, F♯, B, E, A, D, Major.

N° 7. *Scale of* C *ſharp, major*; the ſame with that of D flat. As the firſt ſeries of ſcales proceeded from C natural, the graveſt note of the Violoncello, ſo the ſecond ſeries proceeds from C ſharp, the next ſemitonic interval. Take C♯—D♯—E♯, two tones, 1—2—4, and F♯—G♯—A♯,

two tones, 1—2—4, both positions on the fourth string; B♯C♯—D♯, semitone and tone, 1 2—4, on the third string; E♯F♯—G♯, semitone and tone, 1 2—4, on the second string; and A♯—B♯C♯, tone and semitone, 1—3 4, or 1—2 3, on the first string; and descend by the same positions. It is remarkable, that in the ascending scale, after the two first positions on the fourth string, the three remaining positions are on the third, second, and first string, respectively, each approaching a degree of the scale nearer to the nut; so that while, to the ear, the degrees of the scale *ascend*, the hand *descends*, as we call it, on the finger-board. The continuation of this scale, for two octaves more, is the preceding scale N° 6, although it is there called D flat major; the real intervals, signified by Db and C♯, being, in this case, perfectly the same; only observing to take the last note of this scale, if you would proceed with two more octaves, with the first finger, instead of the fourth or third; which will bring you into the position C♯—D♯—E♯, two tones, 1—2—4, on the first string, equivalent to Db—Eb—F, as in N° 6. The four octaves of this scale are given at one view in N° 65. of the examples.

N° 8. *Scale of* F *sharp*, *major*; beginning with the fourth note of the preceding scale of C♯. Take F♯—G♯—A♯, two tones, 1—2—4, on the fourth string, as in the preceding scale; B—C♯—D♯, two tones, 1—2—4, on the third string; E♯F♯—G♯, semitone and tone, 1 2—4, on the second string; A♯B—C♯, semitone and tone, 1 2—4, on the first string; and D♯—E♯F♯, tone and semitone, 1—3 4, or 1—2 3, on the first string; and descend with the same positions. By comparing this scale with the preceding, the relation that subsists between the keys, in the order we have adopted, will appear very clearly. The first position of the former scale, C D E, is omitted; and its second, F G A, begins the present scale; being the same intervals, and taken in the same part of the instrument; *i. e.* the whole shift: B C D are taken, in both scales, on the half shift, and third string; differing only in the distance B C; it being necessarily, in the former scale, 1 2—4, and in the present 1—2—4: E F G, in both scales, are taken on the second string, 1 2—4; and A B C, in both, on the first string; differing only in the semitonic distance, 1—3 4, in the former, and 1 2—4 in the present scale. In short, all the scales in the system, in the order here given, seem produced from one another, by the first tetrachord of the preceding scale being first *taken away* from the subsequent, and then *added* to it. Thus the tetrachord C—D—E F, of the scale of C, excepting F itself, which is to be the key-note of the new scale, being first omitted, and afterwards added to the other tetrachord G—A—B C, will make a proper scale of F, by only depressing B a semitone; F—G—A B♭—C only wanting the remaining part of the first tetrachord D—E F to complete the subsequent scale.

N° 9. *Scale of* B *major*, fourth to the preceding scale of F♯. Take B—C♯—D♯, two tones, 1—2—4, on the third string, as in N° 8; E—F♯—G♯, two tones, 1—2—4, on the second string; A♯B—C♯, semitone and tone, 1 2—4 on the first string; D♯E—F♯, semitone and tone, 1 2—4; and, lastly, G♯—A♯B, tone and semitone, 1—2 3. Descend by the same positions, B, F♯, C♯, G♯, D♯.

N° 10. *Scale of* E *major*, fourth to the preceding scale of B. Take E—F♯—G♯, two tones, 1—2—4, on the second string, as in N° 9; A—B—C♯, two tones, 0—1—2, on the first string; D♯E—F♯, semitone and tone, 1 2—4; G♯A—B, semitone and tone, 1 2—3; and C♯—D♯E, tone and semitone, 1—2 3. Descend by the same positions, E, B, F♯, C♯, G♯.

N° 11. *Scale of* A *major*; fourth of the preceding. Take A—B—C♯, two tones, 0—1—2, on the first string, as in N° 10; D—E—F♯, two tones, 1—2—4; G♯A—B, semitone and tone, 1 2—3; C♯D—E, semitone and tone, 1 2—3; and F♯—G♯A, tone and semitone, 1—2 3. Descend by the same positions, A, E, B, F♯, C♯.

N° 12. *Scale of* D *major*; fourth of the preceding. Take D—E—F♯, two tones, 1—2—4, on the first string, as in N° 11; G—A—B, two tones, 1—2—3; C♯D—E, semitone and tone, 1 2—3; F♯G—A, semitone and tone; and B—C♯D, tone and semitone, 1—2 3. Descend by the same positions, D, A, E, B, F♯.

As this scale extends from D, on the first string, to the end of the finger-board, we proceed to the

Third Series of Scales, D, G, C, F, Bb, Eb, Major.

N° 13. *Scale of* D *major.* This ſeries begins with the third ſemitonic interval of the fourth ſtring. Take D—E—F♯, two tones, 1—2—4, on the fourth ſtring; G—A—B—C♯, three tones, 0—1—2—4, on the third ſtring; D—E—F♯G, two tones and a ſemitone, 0—1—2 3, on the ſecond ſtring; and A—B—C♯D, two tones and a ſemitone, 0—1—2 3, on the firſt ſtring. The deſcending ſcale is done by the ſame fingering. The continuation of this ſcale for two more octaves, is the preceding ſcale, N° 12; and the four octaves are given, at one view, in N° 63. of the examples.

N° 14. *The Scale of* G *major*, and fourth to the preceding. Take G—A—B C, two tones and a ſemitone, 0—1—3 4, on the third ſtring; D—E—F♯G, two tones and a ſemitone, 0—1—3 4, on the ſecond ſtring; A—B C—D, a tone, ſemitone, and tone, 0—1 2—4, on the firſt ſtring; E—F♯G, tone and ſemitone, 1—2 3 or 1—3 4; and deſcend in the ſame manner.

N° 15. *The Scale of* C *major*; fourth to the preceding. Take C, the key-note, with the fourth finger, on the third ſtring; D—E F—G, a tone, ſemitone, and tone, 0—1 2—4, on the ſecond ſtring; A—B C—D, a tone, ſemitone, and tone, 0—1 2—4, on the firſt ſtring; E F—G, ſemitone and tone, 1 2—4; A—B C, ſemitone and tone, 1—2 3; and deſcend in the ſame manner.

N° 16. *Scale of* F *major*; fourth to the preceding. Take F—G, a tone, 2—4, on the ſecond ſtring; A B♭—C—D, a ſemitone and two tones, 0 1—2—4, on the firſt ſtring; E F—G, ſemitone and tone, 1 2—4; A B♭—C, ſemitone and tone, 1 2—3; and D—E F, tone and ſemitone, 1—2 3. Deſcend, in the ſame manner, in the poſitions F, C, G, and D.

N° 17. *Scale of* B *flat major*; fourth of the preceding. Take B♭—C—D, two tones, 1—2—4, on the firſt ſtring; E♭—F—G, two tones, 1—2—4; A B♭—C, ſemitone and tone, 1 2—3; D E♭—F, ſemitone and tone, 1 2—3; and G—A B♭, tone and ſemitone, 1—2 3. Deſcend, in the ſame manner, by the poſitions B♭, F, C, G, and D.

N° 18. *Scale of* E *flat major*; fourth of the preceding. Take E♭—F—G, two tones, 1—2 4, on the firſt ſtring, in the ſame manner with the ſecond poſition of the preceding ſcale of B flat; A♭—B♭—C, two tones, 1—2—3; D E♭—F, ſemitone and tone, 1 2—3; G A♭—B♭, ſemitone and tone, 1 2—3; and C—D E♭, tone and ſemitone, 1—2 3. Deſcend, in like manner, by the ſame poſitions, as in the margin of the examples, E, B, F, C, and G.

This ſcale alſo extending to the end of the finger-board, we proceed to the

Fourth Series of Scales, E♭, A♭, D♭, Major.

N° 19. *Scale of* E *flat major.* This ſeries begins with the fourth ſemitonic interval, on the fourth ſtring. Take E♭—F, one tone, 2—4, on the fourth ſtring; G A♭—B♭—C, a ſemitone and two tones, 0 1—2—4, on the third ſtring; D E♭—F, a ſemitone and tone, 0 1—2, on the ſecond ſtring; G A♭—B, a ſemitone and tone, 1 2—4, alſo on the ſecond ſtring; and C—D E♭, a tone and ſemitone, 1—2 3 or 1—3 4, on the firſt ſtring. Deſcend by the ſame poſitions. The continuation of this ſcale, for two octaves more, is the precediug ſcale, N° 18.

N° 20. *Scale of* A *flat major*; fourth of the preceding. Take A♭—B♭—C, two tones, 1—2—4, on the third ſtring; D♭—E♭—F, two tones, 1—2—4, alſo on the third ſtring; G A♭—B♭, a ſemitone and tone, 1 2—4, on the ſecond ſtring; C D♭—E♭, a ſemitone and tone, 1 2—4, on the firſt ſtring; F—G A♭, a tone and ſemitone, 1—2 3; and deſcend by the ſame poſitions.

N° 21. *Scale of* D *flat major*; fourth of the preceding. Take D♭—E♭—F, two tones, 1—2—4, on the third ſtring, as in the preceding ſcale; G♭—A♭—B♭, two tones, 1—2—4, on the ſecond ſtring; C D♭—E♭, a ſemitone and tone, 1 2—4, on the firſt ſtring; F G♭—A♭, a ſemitone and tone, 1 2—3; and B♭—C D♭, a tone and ſemitone, 1—2 3. Deſcend by the ſame poſitions.

The

The next ſcale, in proceeding with this ſeries, would be that of G flat major, fourth of D flat, a key not in uſe; at leaſt it is more uſually called F ſharp major; which has already been given in the ſecond ſeries, N° 8. We ſhall therefore proceed, in the laſt place, to the

Fifth Series of Scales, E, A, D, G, C, Major.

N° 22. *Scale of* E *major*. This ſeries begins with the fifth ſemitonic interval of the fourth ſtring. Take E—F⁎—G⁎, two tones, 1—2—4, on the fourth ſtring; A—B—C⁎, two tones, 1—2—4, on the third ſtring; D⁎E—F⁎, a ſemitone and tone, 1 2—4, on the ſecond ſtring; G⁎A—B, a ſemitone and tone, 1 2—4, alſo on the ſecond ſtring; C⁎—D⁎E, a tone and ſemitone, 1—2 3 or 1—3 4, on the firſt ſtring; and deſcend by the ſame poſitions.

N° 23. *Scale of* A *major*; fourth of the preceding. Take A—B—C⁎, two tones, 1—2—4, on the third ſtring, as in the preceding ſcale; D—E—F⁎, two tones, 0—1—2, on the ſecond ſtring; G⁎A—B, a ſemitone and tone, 1 2—4, alſo on the ſecond ſtring; C⁎D—E, a ſemitone and tone, 1 2—4, on the firſt ſtring; F⁎—G⁎A, a tone and ſemitone, 1—2 3; and deſcend in the ſame manner. The more uſual manner of fingering the ſecond octave of this ſcale, will be ſeen in N° 55, letter *b*.

N° 24. *Scale of* D *major*; fourth of the preceding. Take D—E—F⁎, two tones, 0—1—2, on the ſecond ſtring; G—A—B, two tones, 1—2—4, alſo on the ſecond ſtring; C⁎D—E, a ſemitone and tone, 1 2—4, on the firſt ſtring; F⁎G—A, a ſemitone and tone, 1 2—3; B—C⁎D, a tone and ſemitone, 1—2 3; and deſcend by the ſame poſitions. This is, however, by no means the uſual way of taking theſe two octaves of D. The more common method will be ſeen in N° 13. and N° 63: but conſiderable advantage may be derived from a proper uſe of the method followed in the preſent example; it proceeds, naturally and conſiſtently, from the poſitions of the preceding ſcales, and is entirely conformable to the general rule, of fingering two octaves, which will be afterwards eſtabliſhed. There is alſo a manner of *deſcending* theſe two octaves added, in the example, different from the poſitions of the aſcending ſcale; namely, D C⁎—B—A, by 3 2—1—× (the laſt character repreſenting the thumb); G F⁎—E, 3 2—1; D C⁎—B—A, 3 2—1—0; all on the firſt ſtring; and G F⁎—E—D, 3 2—1—0, on the ſecond ſtring.

N° 25. *Scale of* G *major*; fourth of the preceding. Take G—A—B, two tones, 1—2—4, on the ſecond ſtring; C—D—E, two tones, 1—2—4, on the firſt ſtring; F⁎G—A, ſemitone and tone, 1 2—3; B C—D, ſemitone and tone, 1 2—3; and E—F⁎G, tone and ſemitone, 1—2 3; and deſcend by the ſame poſitions. The more uſual method of fingering this ſcale, is added by figures, above the others, in the example, for the firſt ſix notes; after which, there is but one manner of fingering: but the former method is more conſiſtent with the other ſcales, and is conformable to the general rule.

N° 26. *Scale of* C *major*; fourth of the preceding. Take C—D—E, two tones, 1—2—4, on the firſt ſtring; F—G—A, two tones, 1—2—3; B C—D, ſemitone and tone, 1 2—3; E F—G, ſemitone and tone, 1 2—3; and A—B C, tone and ſemitone, 1—2 3. Deſcend by the ſame poſitions, as directed by the order of ſcales, in the margin of the examples, C, G, D, A, and E.

Thus every ſcale of the major mode, in the ſyſtem, and the whole compaſs of the inſtrument, have been exhauſted; for the ſixth ſemitonic interval, which would fall to be aſſumed for the next ſeries of ſcales, is F; the ſcale of which has been already given in N° 2. of the firſt ſeries: that of F ſharp is given in N° 8: the ſcale of G, the next ſemitone, is given in N° 14; the ſcale of A flat is N° 20; that of A natural is N° 31; the ſcale of B flat is N° 3; and that of B natural, the twelfth ſemitonic interval from the open ſtring C, is given in N° 9.

The advantages, to the learner, of conceiving and ſtudying the different ſcales, in the relations and order of the general ſyſtem, and of the different ſeries, given above, it is hoped, will prove conſiderable. The few ſcales that are communicated, occaſionally, by the maſter to the pupil, are ſuppoſed to have little or no relation to one another; and every ſcale appears to the latter, as entirely

entirely different from, and unaſſiſted by the knowledge of, any other; as the ſcales of B and E flat, N^os 17. & 18, for inſtance, compared with thoſe of D and G, N^os 13. & 14. Nay, ſo far from being conſidered as preparatory to, and dependant on, one another, they generally perplex the learner, by their apparent contrariety; and thus it muſt ever appear to him, until he has ſeen the whole chain, and the regular connection of its ſeveral links. I have never even met with a conſiſtent regular ſcale of the lower octaves of E major, N° 22; and B, N° 9. F♯, N° 8. and C♯, N° 7. have been conſidered as ſo intricate and extraneous, that a knowledge or ſtudy of them has been reckoned too difficult, and unneceſſary. It is true, there are few or no compoſitions ſet profeſſedly on theſe keys; but, as they occur in the courſe of the modulations in other keys, an acquaintance with them becomes neceſſary on that account; as well as their being, in our ſyſtem, the foundation of the more common ſcales of E, A, and D, N^os 10, 11, and 12, of the ſecond ſeries. Moreover, the ſcales in the upper compaſs of the inſtrument conſiſt of ſuch a number of ſteps, that, various, independant, and conſequently intricate, as they muſt appear to any one who has but a partial knowledge of the ſyſtem, the learner will often forget the ſteps that he has been taught to do particular ſcales by, unleſs they be kept in remembrance by conſtant practice; and the new ſcales he is learning, will often baniſh from his memory thoſe he has formerly learned and practiſed. In our method, this great inconvenience will be entirely remedied: the ſyſtem being once underſtood, the remembrance of one ſcale will lead to the whole. We ſhall take the firſt and ſecond ſeries for an example; the former introducing all the flats, and the latter the ſharps. Theſe ſcales are to be learned in the order they ſtand in, which is that of the general ſyſtem, by fourths aſcending; and, to aſſiſt the memory, this order is regiſtered in the margin of the examples. Setting apart the flats and ſharps, the order of ſcales in each ſeries is, C, F, B, E, A, D; that is, the laſt poſition of the firſt or ſcale of C, will be *a*—*b* C; of the ſecond, *d*—*e* F; of the third, *g*—*a* B; of the fourth, *c*—*d* E; of the fifth, *f*—*g* A; and of the ſixth, *b*—*c* D; being equally a tone and ſemitone in each ſeries; and this final poſition will fall to be added to the preceding ſcale, to complete the next ſcale in order; only depreſſing or flattening the ſeventh note of ſuch preceding ſcale, as before directed. Thus, to arrive at A, the learner muſt neceſſarily paſs through the preceding poſitions C, F, B, E; that is, *a*—*b*—C, *d*—*e*—F, *g a*—B, *c d*—E, and then there remains only to add, *f*—*g* A; and to deſcend in D, he muſt follow the inverſe order of the poſitions, and take D, A, E, B, F, which laſt will be the final poſition, *f*—*e*—D. Thus a knowledge of the order of theſe ſcales will ſerve equally, whether flats or ſharps are to be uſed; and it will hence follow, that the practice of the lower ſcales will be not only neceſſary in themſelves, but be the beſt preparation for, and the moſt natural and eaſieſt way of attaining, the ſcales of a higher compaſs; for after having done the ſcale of F, the learner will only have to add the tone and ſemitone, *g*—*a* B, to be equally maſter of the ſcale of B; and ſo of all the others.

Nothing now remains to complete the ſyſtem of ſcales, but to proceed in the ſame manner with thoſe of the minor mode, which are reſerved for the next Chapter.

CHAP. III.

Of the Manner of Fingering the Twelve Scales of the Minor Mode, throughout the whole Compaſs of the Violoncello.

A *Mode*, in Muſic, may be defined, the manner in which the octave is conſtituted, or the particular order in which the elementary degrees are placed in the octave. Thus the order of degrees, 1. key-note, 2. tone major, 3. tone minor, 4. ſemitone, 5. tone major, 6. tone minor, 7. tone major, 8. ſemitone, is denominated the *major mode*, or ſharp key, from the third degree of the ſcale; being an interval of two tones, or greater third, to the key-note: and the order of degrees, 1. key-note, 2. tone major, 3. ſemitone, 4. tone minor, 5. tone major, 6. ſemitone,

7. tone major, 8. tone major, is called the *minor mode*, or flat key, on account of the third degree of the ſcale being an interval of tone and ſemitone, or leſſer third to the key-note. The difference of the conſtruction of the two modes may be more clearly conceived, by comparing the intervals of the ſcale of C major, and thoſe of the ſcale of A minor, thus:

Major mode, - - C—D—E F—G—A—B C;
Minor mode, - - A—B C—D—E F—G—A.

In the minor mode, the ſemitonic intervals are at the third and ſixth degrees of the ſcale; and the third, ſixth, and ſeventh degrees will be found each a ſemitone lower than the ſame degrees of the major ſcale; conſequently, to conſtitute the ſcale of C a minor mode, E, A, and B, muſt be depreſſed a ſemitone each, and be made Eb, Ab, and Bb; and to conſtitute the ſcale of A a major mode, the ſame degrees of third, ſixth, and ſeventh, muſt be elevated a ſemitone each, and be denominated C𝄯, F𝄯, and G𝄯; and therefore, to take away three ſharps, or to add three flats; or, which is the ſame thing, where there are fewer flats or ſharps at the clef, to take away two ſharps, and add one flat; or to take away one ſharp, and add two flats; will reduce the major mode of any key to the minor mode of the ſame key; and, vice verſa, to add three ſharps, or take away three flats, will, of any minor key, conſtitute a major.

The intervals of the flat keys, or minor mode, however, have their peculiar character, and beſt effect, in their deſcending progreſſion; and a gradual aſcent, ſo as to cloſe on the key-note, is never made with the flat ſixth and ſeventh of the ſcale, but with the ſharp or greater ſixth and ſeventh; ſo that, in the *aſcending ſcales*, the upper half or tetrachord will be exactly ſimilar to that of the major mode; as, in the ſcale of C minor, the upper tetrachord will be G—A—B C, aſcending, but C—Bb—Ab—G, deſcending; and in the ſcale of A, the upper tetrachord will be E—F𝄯—G𝄯A, aſcending, and A—G—F—E, in the deſcending ſcale. I am aware, at the ſame time, of a different manner of aſcending the minor ſcales, which ſometimes occurs in modern compoſitions, by the flat ſixth, and greater ſeventh, making an interval of three ſemitones; but this practice is not generally adopted, nor agreeable to the rules laid down by the beſt theoriſts; I ſhall therefore follow the more eſtabliſhed method, and begin with the

Firſt Series of Scales, C, F, Bb, Eb, Ab, Db, Minor.

N° 27. C *minor*. Aſcending ſcale; C—D Eb—F, tone, ſemitone, and tone, 0—1 2—4, on the fourth ſtring; G—A—B C, two tones and a ſemitone, 0—1—3 4, on the third ſtring; D Eb—F—G, ſemitone and two tones, 0 1—2—4, on the ſecond ſtring; and A—B C, tone and ſemitone, 1—3 4, likewiſe on the ſecond ſtring. Deſcending ſcale; C—Bb—Ab, two tones, 4—2—1; G—F—EbD, two tones and a ſemitone, 4—2—1 0, both poſitions on the ſecond ſtring; C—Bb—AbG, two tones and a ſemitone, 4—2—1 0, third ſtring; and F—EbD—C, tone, ſemitone, and tone, 4—2 1—0, fourth ſtring.

N° 28. F *minor*. Aſcending; F, the fourth note of the preceding ſcale, with the fourth finger on the fourth ſtring; G Ab—Bb—C, ſemitone and two tones, 0 1—2—4, on the third ſtring; D—E F—G, tone, ſemitone, and tone, 0—1 2—4, on the ſecond ſtring; Ab—Bb—C, two tones, 1—2—4, on the ſecond ſtring; and D—E F, tone and ſemitone, 1—3 4, on the firſt ſtring. Deſcending; F—Eb—Db, two tones, 4—2—1; C—Bb—Ab, two tones, 4—2—1, ſecond ſtring; G—F—Eb, two tones, 4—2—1, ſecond ſtring; Db C—Bb, ſemitone and tone, 4 3—1, on the third ſtring; and Ab G—F, 4 3—1, on the fourth ſtring; or, more ſimply, and better in practice, both theſe poſitions may be taken, 3 2—1.

N° 29. B *flat minor*. Aſcending; Bb—C Db, tone and ſemitone, 1—3 4 or 1—2 3, on the third ſtring; Eb—F—G, two tones, 1—2—4, on the ſecond ſtring; A Bb—C, ſemitone and tone, 1 2—4, on the ſecond ſtring; Db—Eb—F, two tones, 1—2—4, on the firſt ſtring; and G—A Bb, tone and ſemitone, 1—2 3. Deſcending; Bb—Ab—Gb, two tones, 3—2—1; F—Eb—Db, two tones, 4—2—1, on the firſt ſtring; C—Bb—Ab, two tones, on the ſecond ſtring; Gb F—Eb, ſemitone and tone, 3 2—1, ſecond ſtring; and Db C—Bb, ſemitone and tone, 3 2—1, third ſtring; or both poſitions 4 3—1.

N° 30. E *flat minor.* Aſcending; Eb—F Gb, tone and ſemitone, 1—3 4 or 1—2 3, ſecond ſtring; Ab—Bb—C, two tones, 1—2—4, ſecond ſtring; D Eb—F, ſemitone and tone, 1 2—4, firſt ſtring; Gb—Ab—Bb, two tones, 1—2—3; and C—D Eb, tone and ſemitone, 1—2 3. Deſcending; Eb—Db—Cb, two tones, 3—2—1; Bb—Ab—Gb, two tones, 3—2—1; F—Eb—Db, two tones, 4—2—1, all on the firſt ſtring; CbBb—Ab, ſemitone and tone, 3 2—1; ſecond ſtring; and GbF—Eb, ſemitone and tone, 3 2—1, on the ſecond ſtring; or both poſitions, 4 3—1.

N° 31. A *flat minor.* Aſcending; Ab—BbCb, tone and ſemitone, 1—3 4 or 1—2 3, ſecond ſtring; Db—Eb—F, two tones, 1—2—4, firſt ſtring; GAb—Bb, ſemitone and tone, 1 2—3; Cb—Db—Eb, two tones, 1—2—3; F—GAb, tone and ſemitone, 1—2 3. Deſcending; Ab—Gb—Fb, two tones, 3—2—1; Eb—Db—Cb, two tones, 3—2—1; Bb—Ab—Gb, two tones, 3—2—1; FbEb—Db, ſemitone and tone, 3 2—1, all on the firſt ſtring; and CbBb—Ab, ſemitone and tone, 3 2—1, on the ſecond ſtring; or both the laſt poſitions, 3 2—1.

N° 32. D *flat minor.* Aſcending; Db—EbFb, tone and ſemitone, 1—3 4 or 1—2 3, firſt ſtring; Gb—Ab—Bb, two tones, 1—2—3; C Db—Eb, ſemitone and tone, 1 2—3; Fb—Gb—Ab, two tones, 1—2—3; and Bb—C Db, tone and ſemitone, 1—2 3. Deſcending; Db—Cb—Bbb, two tones (equivalent to C𝄪—B—A), 3—2—1; Ab—Gb—Fb, two tones, 3—2—1; Eb—Db—Cb, two tones, 3—2—1; BbbAb—Gb, ſemitone and tone, 3 2—1; and FbEb—Db, ſemitone and tone, 3 2—1 or 4 3—1, all on the firſt ſtring.

Second Series, C𝄪, F𝄪, B, E, A, D, Minor.

N° 33. C *ſharp minor.* Aſcending; C𝄪—D𝄪E, tone and ſemitone, 1—3 4, fourth ſtring; F𝄪—G𝄪—A𝄪, two tones, 1—2—4, fourth ſtring; B𝄪C𝄪—D𝄪, ſemitone and tone, 1 2—4, third ſtring; E—F𝄪—G𝄪, two tones, 1—2—4, ſecond ſtring; and A𝄪—B𝄪C𝄪, tone and ſemitone, 1—3 4, firſt ſtring. Deſcending; C𝄪—B—A, two tones, 4—2—0; G𝄪—F𝄪—E, two tones, 4—2—1; D𝄪—C𝄪—B, two tones, 1—2—4, third ſtring; AG𝄪—F𝄪, ſemitone and tone, 3 2—1, fourth ſtring; and E D𝄪—C𝄪, ſemitone and tone, 3 2—1, fourth ſtring; or both poſitions, 4 3—1.

N° 34. F *ſharp minor.* Aſcending; F𝄪—G𝄪A, tone and ſemitone, 1—3 4, fourth ſtring; B—C𝄪—D𝄪, two tones, 1—2—4, third ſtring; E𝄪F𝄪—G, ſemitone and tone, 1 2—4, ſecond ſtring; A—B—C𝄪, two tones, 0—1—2, firſt ſtring; and D𝄪—E𝄪F𝄪, tone and ſemitone, 1—3 4. Deſcending; F𝄪—E—D, two tones, 4—2—1; C𝄪—B—A, two tones, 2—1—0, firſt ſtring; G𝄪—F𝄪—E, two tones, 4—2—1, ſecond ſtring; D C𝄪—B, ſemitone and tone, 3 2—1, third ſtring; and A G𝄪—F𝄪, ſemitone and tone, 3 2—1, fourth ſtring; or 4 3—1, in both poſitions.

N° 35. B *minor.* Aſcending; B—C𝄪D, tone and ſemitone, 1—3 4, third ſtring, or B—C𝄪, 2—4, third ſtring, and D, 0, ſecond ſtring; E—F𝄪—G𝄪, two tones, 1—2—4, ſecond ſtring; A𝄪B—C𝄪, ſemitone and tone, 1 2—4, firſt ſtring; D—E—F𝄪, two tones, 1—2—4; G𝄪—A𝄪B, tone and ſemitone, 1—2 3. Deſcending; B—A—G, two tones, 3—2—1; F𝄪—E—D, two tones, 4—2—1; C𝄪—B—A, two tones, 2—1—0, all on the firſt ſtring; G F𝄪—E, ſemitone and tone, 4 3—1, ſecond ſtring; and D C𝄪—B, ſemitone and tone, 0—4—2.

N° 36. E *minor.* Aſcending; E—F𝄪G, tone and ſemitone, 1—3 4, ſecond ſtring; A—B—C𝄪, two tones, 0—1—2, firſt ſtring; D𝄪E—F𝄪, ſemitone and tone, 1 2—4; G—A—B, two tones, 1—2—3; C𝄪—D𝄪E, ſemitone and tone, 1—2 3. Deſcending; E—D—C, two tones, 3—2—1; B—A—G, two tones, 3—2—1; F𝄪—E—D, two tones, 4—2—1; C B—A, ſemitone and tone, 2 1—0; G F𝄪—E, ſemitone and tone, 4 3—1.

N° 37. A *minor.* Aſcending; A—B C, tone and ſemitone, 0—1 2, firſt ſtring; D—E—F𝄪, two tones, 1—2—4; G𝄪A—B, ſemitone and tone, 1 2—3; C—D—E, two tones, 1—2—3; and F𝄪—G𝄪A, tone and ſemitone, 1—2 3. Deſcending; A—G—F, two tones, 3—2—1; E—D—C, two tones, 3—2—1; B—A—G, two tones, 3—2—1; F E—D, 3 2—1, or 4 3—1; C B—A, 2 1—0.

N° 38. D *minor.*

N° 38. D *minor.* Aſcending; D—E F, tone and ſemitone, 1—3 4 or 1—2 3, firſt ſtring; G—A—B, two tones, 1—2—3; C♯D—E, ſemitone and tone, 1 2—3; F—G—A, two tones, 1—2—3; and B—C♯D, tone and ſemitone, 1—2 3. Deſcending; D—C—B♭, two tones, 3—2—1; A—G—F, two tones, 3—2—1; E—D—C, two tones, 3—2—1; B♭A—G, ſemitone and tone, 3 2—1; and F E—D, ſemitone and tone, 3 2—1, or 4 3—1.

Third Series, D, G, C, F, B♭, E♭, Minor.

N° 39. D *minor.* Aſcending; D—E F, tone and ſemitone, 1—3 4, fourth ſtring; G—A—B—C♯, three tones, 0—1—2—4, third ſtring; D—E F—G, tone, ſemitone, and tone, 0—1 2—4, ſecond ſtring; A—B—C♯D, two tones and ſemitone, 0—1—3 4, firſt ſtring. Deſcending; D—C—B♭A, two tones and a ſemitone, 4—2—1 0; G—F E—D, tone, ſemitone, and tone, 4—2 1—0, ſecond ſtring; C—B♭A—G, tone, ſemitone, and tone, 4—2 1—0, third ſtring; and F E—D, ſemitone and tone, 4 3—1.

N° 40. G *minor.* Aſcending; G—A B♭—C, tone, ſemitone, and tone, 0—1 2—4, third ſtring; D—E—F♯G, two tones and a ſemitone, 0—1—3 4, ſecond ſtring; A B♭—C—D, ſemitone and two tones, 0 1—2—4, firſt ſtring; and E—F♯G, tone and ſemitone, 1—3 4. Deſcending; G—F—E♭, two tones, 4—2—1; D—C—B♭A, two tones and a ſemitone, 4—2—1 0, firſt ſtring; G—F—E♭D, two tones and a ſemitone, 4—2—1 0, ſecond ſtring; and C—B♭A—G, tone, ſemitone, and tone, 4—2 1—0, third ſtring.

N° 41. C *minor.* Aſcending; C, fourth finger on the third ſtring; D E♭—F—G, ſemitone and two tones, 0 1—2—4, ſecond ſtring; A—B C—D, tone, ſemitone, and tone, 0—1 2—4, firſt ſtring; E♭—F—G, two tones, 1—2—4; and A—B C, tone and ſemitone, 1—2 3. Deſcending; C—B♭—A♭, two tones, 3—2—1; G—F—E♭, two tones, 4—2—1; D—C—B♭, two tones, 4—2—1, all on the firſt ſtring; A♭G—F, ſemitone and tone, 3 2—1, ſecond ſtring; and E♭D—C, 3 2—1, third ſtring; or 4 3—1, in both poſitions.

N° 42. F *minor.* Aſcending; F—G A♭, tone and ſemitone, 1=3 4 or 1=2 3, ſecond ſtring; B♭—C—D, two tones, 1—2—4, firſt ſtring; E F—G, ſemitone and tone, 1 2—4; A♭—B♭—C, two tones, 1—2—3; and D—E F, tone and ſemitone, 1—2 3. Deſcending; F—E♭—D♭, two tones, 3—2—1; C—B♭—A♭, two tones, 3—2—1; G—F—E♭, two tones, 4—2—1; D♭C—B♭, ſemitone and tone, 3 2—1, on the firſt ſtring; and A♭G—F, ſemitone and tone, 3 2—1, on the ſecond ſtring; or 4 3—1, in both the laſt poſitions.

N° 43. B *flat minor.* Aſcending; B♭—C D♭, tone and ſemitone, 1—3 4 or 1—2 3, firſt ſtring; E♭—F—G, two tones, 1—2—4; A B♭—C, ſemitone and tone, 1 2—3; D♭—E♭—F, two tones, 1—2—3; and G—A B♭, tone and ſemitone, 1—2 3. Deſcending; B♭—A♭—G♭, two tones, 3—2—1; F—E—D♭, two tones, 3—2—1; C—B♭—A♭, two tones, 3—2—1; G♭F—E♭, ſemitone and tone, 3 2—1; and D♭C—B♭, ſemitone and tone, 3 2—1; or 4 3—1, in both the laſt poſitions.

N° 44. E *flat minor.* Aſcending; E♭—F G♭, tone and ſemitone, 1—3 4 or 1—2 3, firſt ſtring; A♭—B♭—C, two tones, 1—2—3; D E♭—F, ſemitone and tone, 1 2—3; G♭—A♭—B♭, two tones, 1—2—3; and C—D E♭, tone and ſemitone, 1—2 3. Deſcending; E♭—D♭—C♭, two tones, 3—2—1; B♭—A♭—G♭, two tones, 3—2—1; F—E♭—D♭, two tones, 3—2—1; C♭B♭—A♭, ſemitone and tone, 3 2—1; and G♭F—E♭, ſemitone and tone, 3 2—1 or 4 3—1.

Fourth Series, E♭, A♭, D♭, Minor.

N° 45. E *flat minor.* Aſcending; E♭—F G♭, tone and ſemitone, 1—3 4 or 1—2 3, fourth ſtring; A♭—B♭—C, two tones, 1—2—4, third ſtring; D E♭—F, ſemitone and tone, 0 1—2, ſecond ſtring; G♭—A♭—B♭, two tones, 1—2—4, ſecond ſtring; and C—D E♭, tone and ſemitone, 1—3 4, firſt ſtring. Deſcending; E♭—D♭—C♭, two tones, 4—2—1; B♭—A♭—G♭, two tones, 4—2—1, ſecond ſtring; F—E♭—D♭, two tones, 4—2—1, third ſtring; C♭B♭—A♭, ſemitone and tone, 3 2—1, third ſtring; G♭F—E♭, ſemitone and tone, 3 2—1, fourth ſtring; 4 3—1, in the two laſt poſitions.

N° 46. A *flat*

N° 46. A *flat minor*. Aſcending; Ab—BbCb, tone and ſemitone, 1—3 4 or 1—2 3, third ſtring; Db—Eb—F, two tones, 1—2—4, third ſtring; GAb—Bb, ſemitone and tone, 1 2—4, ſecond ſtring; Cb—Db—Eb, two tones, 1—2—4, firſt ſtring; and F—GAb, tone and ſemitone, 1—2 3. Deſcending; Ab—Gb—Fb, two tones, 3—2—1; Eb—Db—Cb, two tones, 4—2—1; Bb—Ab—Gb, two tones, 4—2—1, ſecond ſtring; FbEb—Db, ſemitone and tone, 3 2—1, third ſtring; and CbBb—Ab, ſemitone and tone, third ſtring; or 4 3—1, in the two laſt poſitions.

N° 47. D *flat minor*. Aſcending; Db—EbFb, tone and ſemitone, 1—3 4 or 1—2 3, third ſtring; Gb—Ab—Bb, two tones, 1—2—4, ſecond ſtring; C Db—Eb, ſemitone and tone, 1 2—4, firſt ſtring; Fb—Gb—Ab, two tones, 1—2—3; and Bb—C Db, tone and ſemitone, 1—2 3. Deſcending; Db—Cb—Bbb, two tones, 3—2—1; Ab—Gb—Fb, two tones, 3—2—1; Eb—Db—Cb, two tones, 4—2—1, all on the firſt ſtring; BbbAb—Gb, ſemitone and tone, 3 2—1, ſecond ſtring; and FbEb—Db, ſemitone and tone, 3 2—1, on the third ſtring; or 4 3—1, in the two laſt poſitions.

Fifth Series of Scales, E, A, D, G, C, Minor.

N° 48. E *minor*. Aſcending; E—F𝄪, tone, 2—4, on the fourth ſtring; G—A—B—C𝄪, three tones, 0—1—2—4, third ſtring; D𝄪E—F𝄪, ſemitone and tone, 1 2—4, ſecond ſtring; G—A—B, two tones, 1—2—4, ſecond ſtring; C𝄪—D𝄪E, tone and ſemitone, 1—3 4, firſt ſtring. Deſcending; E—D—C, two tones, 4—2—1; B—A—G, two tones, 4—2—1, ſecond ſtring; F𝄪—E—D, two tones, 2—1—0, ſecond ſtring; C B—A—G, ſemitone and two tones, 4 3—1—0, third ſtring; and F—E, tone, 4—2, on the fourth ſtring.

N° 49. A *minor*. Aſcending; A—B C, tone and ſemitone, 1—3 4, third ſtring; D—E—F𝄪, two tones, 0—1—2, ſecond ſtring; G𝄪A—B, ſemitone and tone, 1 2—4, ſecond ſtring; C—D—E, two tones, 1—2—4, firſt ſtring; F𝄪—G𝄪A, tone and ſemitone, 1—2 3. Deſcending; A—G—F, two tones, 3—2—1; E—D—C, two tones, 4—2—1; B—A—G, two tones, 4—2—1, ſecond ſtring; F E—D, ſemitone and tone, 2 1—0, ſecond ſtring; and C B—A, ſemitone and tone, 4 3—1, third ſtring.

N° 50. D *minor*. Aſcending; D—E F—G, tone, ſemitone, and tone, 0—1 2—4, ſecond ſtring; A—B—C𝄪, two tones, 0—1—3, firſt ſtring; D—E, tone, 1—2; F—G—A, two tones, 1—2—3; and B—C𝄪D, tone and ſemitone, 1—2 3. Deſcending; D—C—BbA, two tones and a ſemitone, 3—2—1 ×; G—F E, tone and ſemitone, 4—2 1; D—C—BbA, two tones and a ſemitone, 4—2—1 0, all on the firſt ſtring; and G—F E—D, tone, ſemitone, and tone, 4—2 1—0, on the ſecond ſtring.

N° 51. G *minor*. Aſcending; G—A Bb, tone and ſemitone, 1—3 4, ſecond ſtring; C—D—E, two tones, 1—2—4, firſt ſtring; F𝄪G—A, ſemitone and tone, 1 2—3; Bb—C—D, two tones, 1—2—3; E—F𝄪G, tone and ſemitone, 1—2 3. Deſcending; G—F—Eb, two tones, 3—2—1; D—C—Bb, two tones, 3—2—1; A—G—F, two tones, 3—2—1; EbD—C, ſemitone and tone, 3 2—1, all on the firſt ſtring; and BbA—G, ſemitone and tone, 3 2—1 or 4 3—1, on the ſecond ſtring.

N° 52. C *minor*. Aſcending; C—D Eb, tone and ſemitone, 1—2 3 or 1—3 4, firſt ſtring; F—G—A, two tones, 1—2—3; B C—D, ſemitone and tone, 1 2—3; Eb—F—G, two tones, 1—2—3; and A—B C, tone and ſemitone, 1—2 3. Deſcending; C—Bb—Ab, two tones, 3—2—1; G—F—Eb, two tones, 3—2—1; D—C—Bb, two tones, 3—2—1; AbG—F, ſemitone and tone, 3 2—1; and EbD—C, ſemitone and tone, 3 2—1.

CHAP. IV.

General Rules of Fingering eſtabliſhed.

THE rules of fingering, and order of ſcales, laid down in the two preceding Chapters, are all deductions from the principle, that the ſeventh of any ſcale, being depreſſed or flattened a ſemitone, will become the fourth degree of another ſcale, the key-note of which is a fourth more acute than that of the former, while the other degrees of both ſcales will remain the ſame; and by purſuing the order of fourths aſcending, all the keys in the ſyſtem have been introduced. We ſhall now proceed to eſtabliſh general rules of fingering, for one and two octaves, from other principles; that is, from the number and ſize of the intervals conſtituting ſuch octaves, compared with the moſt natural and eaſieſt extenſions of the fingers; the reſult whereof will be, a further confirmation of the rules before given, and a more clear and conciſe view of the fingering of the whole ſyſtem.

An octave, in any ſcale of the ſyſtem, of the major mode, conſiſts of the intervals 1—2—3 4—5—6—7 8; the moſt ſimple diviſion of which is that into two equal parts, or tetrachords, 1—2—3 4, and 5—6—7 8; and this ſimpleſt diviſion of it is adopted, when the thumb is made uſe of; which being placed on the key-note on one ſtring, and on the fifth of the ſcale on the other, an octave will be divided into two ſimilar parts; and every octave in the ſyſtem, thus taken, will always have this uniform fingering, ×—1—2 3, ×—1—2 3. The ſame diviſion is alſo made uſe of in ſcales where an open ſtring is the key-note, and another open ſtring the fifth of the key; as in the ſcale of C, N° 1; of G, N° 14; and of D, in the third and fourth bars of N° 13; each tetrachord being taken o—1—3 4, or o—1—2 3.

But the ſcales of C, G, and D, the only keys in which this diviſion of the octave can be uſed, require a different method of fingering in every octave but that in which the two open ſtrings are placed; and, therefore, an octave including an open ſtring is to be conſidered rather as an exception, than as ſuggeſting any general rule of fingering. The intervals in the lower compaſs of the inſtrument are of ſuch a ſize, that the utmoſt extenſion of the four fingers, without uſing the thumb, is only equal to the diſtance of two tones, or interval of a greater third (ſee the poſition, *Fig.* 17.); and as this interval conſiſts of two equal parts (without going into the minuter difference of tone major and tone minor), the ſecond finger muſt be extended to the middle point, betwixt the firſt and fourth finger, which is always meant by the poſition 1—2—4. But ſeveral intervals of thirds, in the ſcale, are leſs, by a ſemitone, than that of the greater third; and as theſe occur more frequently, the moſt general poſition of the hand, in the lower compaſs, is that of *Fig.* 16. The natural extenſion of the hand being therefore limited to the interval of a third, greater or leſſer, the degrees of the ſcale are to be divided by three; and the eight degrees of an octave will conſiſt of two of theſe diviſions, and two degrees of a remainder. Now, in order to determine the order that theſe diviſions and remainder are to be placed in, it is neceſſary to obſerve, that the two degrees of a remainder cannot be in the laſt or concluding poſition, which muſt always reſolve into a tone and ſemitone, 1—2 3, for the purpoſe of placing the thumb a tone lower than the firſt finger, and forming the tetrachord, or half octave, ×—1—2 3, a poſition uſually continued for ſome time in the upper compaſs of the inſtrument; and to determine whether theſe two remaining notes muſt be in the firſt or ſecond poſition, we have only to conſider the eaſe and certainty of ſhifting the hand from the key-note, and ſecond of the ſcale, to the third degree, compared to the greater and more uncertain ſkip to the fourth: the two notes will therefore be beſt placed in the firſt poſition; and being the two firſt degrees of the ſcale, will be fingered 1—2: the ſecond poſition will contain the third, fourth, and fifth of the ſcale, and be fingered 1 2—4; and the third poſition, conſiſting of the ſixth, ſeventh, and eighth, will, like the concluding poſition of every ſcale in the ſyſtem, be fingered 1 2—3. This agrees with the fingering of the foregoing

foregoing ſcales, where the key-note is taken with the firſt finger, as in the ſecond octave of Bb, N° 3; and the ſecond octave of Eb, N° 19: and in the obſervations on N° 3, the fingering for the laſt octave of Bb, eſtabliſhed from the other principles, will appear to be the ſame with the general rule for one octave now given. It is a conſequence of the rule for fingering two octaves, that the eighth note ſhall be taken with the ſecond finger; and therefore, in the ſecond octaves of the other ſcales, the firſt and ſecond degrees of the acuter octave are fingered with the ſecond and fourth finger, 2—4, inſtead of 1—2, by the preſent general rule; but the remaining two poſitions in all the ſcales correſpond with it, being 1 2—4, and 1—2 3.

N° 53 contains examples in Eb and Bb major, being the application of the general rule for one octave; and it may be obſerved, that in the latter example the octave is taken on one ſtring, and in the former on two ſtrings, and the three poſitions alike in both examples, viz. 1—2; 1 2—4; and 1 2—3; it being a property of inſtruments tuned by perfect fifths, that to *aſcend* one degree of the ſcale towards the bridge, after a poſition of three notes, on one ſtring, or to *deſcend* one degree towards the nut, on the next ſuperior ſtring, will equally bring you to the next degree of the ſcale.

A ſcale of two octaves conſiſts of fifteen degrees, which naturally divide into five poſitions of a third, greater or leſſer, each; and theſe poſitions will, from the ſize of their intervals, require the following fingering. Firſt poſition, a greater third, 1—2—4; ſecond poſition, a greater third, 1—2—4; third poſition, a leſſer third, 1 2—4; fourth poſition, a leſſer third, 1 2—4; and the fifth poſition, a leſſer third, 1—2 3. But as there is a difference in the order of the ſemitone in the fifth poſition, and of thoſe in the third and fourth poſitions, it will be neceſſary to diſtinguiſh this variety in the leſſer thirds; and for the reaſons that will be given, in the obſervations on the examples N° 67 and N° 68, a poſition conſiſting of a tone and ſemitone ſhall in future be called a *firſt minor* poſition; one conſiſting of a ſemitone and tone, a *ſecond minor*; and one conſiſting of two tones, a *major* poſition. The general rule, therefore, for fingering a ſcale of two octaves, may be expreſſed briefly, thus: Two major poſitions, two ſecond minor poſitions, and one firſt minor.

N° 54 is the exemplification of this general rule in the ſcale of Eb major; and the fingering is in every reſpect conformable to that of N° 4 (given on the former principle), and to every ſcale in the ſyſtem, where an open ſtring is not taken as one of the degrees of the ſcale. This rule will equally hold, whether the two octaves are to be taken on one ſtring, or any number of the poſitions on one ſtring, and the remainder on one or two other ſtrings. N° 7, the firſt ſcale of the ſecond ſeries, exhibits an example, where the five poſitions are taken on four ſtrings; namely, the two major poſitions on the fourth ſtring, a ſecond minor on the third ſtring, a ſecond minor on the ſecond ſtring, and a firſt minor on the firſt ſtring; and the ſame poſitions, in their inverted order, for the deſcending ſcale. In the preſent example, N° 54, the fingering marked will equally ſerve, whether the two octaves are to be taken entirely on the ſecond ſtring, or only the two firſt poſitions on the ſecond, and the remaining three on the firſt ſtring, as in N° 4.

But when an open ſtring is to be the key or firſt note of an octave, the ſecond and third degrees of the ſcale, together with the open ſtring, muſt be taken in the firſt poſition, 0—1—2; otherwiſe there would be two conſecutive notes taken with the ſame finger; which muſt never be done, if it can poſſibly be avoided; next muſt follow the fourth and fifth of the ſcale, a tone, 1—2; and, laſtly, the ſixth, ſeventh, and octave, tone and ſemitone, 1—2 3. N° 55 contains the ſcale of D major at *a*, and that of A major at *b*, as examples of the fingering of an octave on one ſtring, beginning with the open note.

N° 56 is an example of the manner of taking two octaves on one ſtring, beginning with the open note. This differs from the general rule for two octaves in nothing but the manner of fingering the firſt major poſition; which, on account of the open ſtring, muſt be taken 0—1—2: the other poſitions conform to the general rule, viz. a major poſition, two ſecond minor poſitions, and one firſt minor.

N° 57 exhibits another manner of taking two octaves on D major, all on the ſecond ſtring, excepting the laſt half octave or tetrachord A—B—C♯D, which is taken on the firſt ſtring, ×—1—2 3. This manner of aſcending the firſt octave, and ſometimes alſo the next tetrachord, on the ſecond ſtring, will be found of great uſe; eſpecially when, after the firſt octave, the aſcending ſcale is interrupted by a deſcent of a fourth, or fifth, as at *a*, and *b*, in N° 60, and following examples.

N° 58 is the ſcale of Eb, taken on the ſecond ſtring, excepting the laſt tetrachord, B—C, D Eb, which is taken on the firſt ſtring, ×—1—2 3; and N° 59 is the ſame ſcale, with the firſt octave only, taken on the ſecond ſtring; the remaining ſeven notes, F—G Ab—Bb, C—D Eb, being taken on the firſt ſtring, ×—1 2—3, and 1—2 3.

N° 60 is the ſcale of D, with a deſcent of a fourth and a fifth, at *a* and *b*. The rule of fingering an octave on one ſtring is to be followed, and the thumb will fall on the fourth note below the octave; the tetrachord A—B—C♯D will be repeated on the ſecond ſtring, ×—1—2 3, followed by E—F♯G, 1—2 3, alſo on the ſecond ſtring; then the thumb will be on the firſt ſtring at A, and on D on the ſecond ſtring, as at *b*: the remaining part of the example is to be taken without quitting the poſition.

N° 61 is the ſcale of Eb major, with the ſame deſcent of a fourth and a fifth at *a* and *b*. The firſt octave is to be taken, by the general rule, on the ſecond ſtring; and the reſt of the fingering will proceed as in the preceding example.

N° 62 is the ſcale of F major, with the ſame deſcent of a fourth and fifth at *a* and *b*. The firſt octave is taken 2—4, inſtead of 1—2; the two remaining poſitions, like the general rule, are taken 1 2—4, and 1—2 3, all on the ſecond ſtring; and the reſt of the fingering is ſimilar to that of the two foregoing examples.

N° 63 is a recapitulation of N° 13 and N° 12; the former being the two lower octaves, and the latter the two upper octaves, of the ſcale of D major. They are here joined into one ſcale of four conſecutive octaves. The junction is effected, by quitting the poſition at C, on the firſt ſtring, and taking the next, D—E—F♯, on the ſame ſtring, inſtead of concluding at D, with the third finger, as in N° 13.

N° 64 is a recapitulation of N° 19 and N° 18; the former being the two lower octaves, and the latter the two acuter octaves, of Eb major. In order to get into the firſt poſition of N° 18, Eb—F—G, 1—2—4, it will be neceſſary to quit the poſition at C—D, 1—2, on the firſt ſtring, inſtead of concluding at Eb, with the third finger, as in N° 19.

N° 65 is a joining of the two ſcales, N° 7 and N° 6; the degrees of the ſcale of Db, of the latter example, being changed into thoſe of the key of C♯. What is neceſſary to be obſerved, in joining theſe two ſcales, has been already mentioned, in the obſervations on N° 6.

N° 66 is a recapitulation of N° 1 and N° 26, being the four octaves of the ſcale of C major, with the fingering that has been given to each of theſe examples, excepting at C—D—E, on the firſt ſtring; which, inſtead of being taken 1—2—4, as in the firſt poſition of N° 26, is marked D—E, 1—2; C being taken with the ſecond finger, as in N° 1. Under this fingering is added another line of figures, which are the ſame with thoſe at N° 65, the ſcale of C♯. The latter figures are given with a view of drawing this inference, from comparing the general rules, and the fingering of every ſcale in the ſyſtem, that as the intervals or degrees of each are alike, ſo the fingering is in every inſtance the ſame, with this exception only, that the four open ſtrings of the inſtrument, when they occur, and are to be taken as ſo many of the degrees, occaſion a ſeeming variety. In the preſent ſcale of C, the four open ſtrings are all to be taken; and the fingering, on that account, is the moſt diſſimilar that can be imagined to that of Db, or C♯, where none of the open ſtrings are taken, excepting indeed the fourth open ſtring, as ſharp ſeventh of the key. But if the firſt finger be placed on the nut, which, in the open notes, does the office of a finger, the fingering of the ſcale of C will be neceſſarily ſimilar to that of C♯. And thus the ſame uniformity and ſimplicity that takes place in the degrees of the natural ſcale, will be recognized in the fingering of all the ſcales in the ſyſtem; which are nothing but an imitation, or rather a repetition, of the natural ſcale.

Scales

Scales of one or more octaves, and ſmaller portions of octaves, aſcending and deſcending, form no inconſiderable part of inſtrumental muſic; although paſſages conſiſting of greater intervals than the degrees of the ſcale will as frequently occur; and the knowledge of every property of the finger-board will be neceſſary to the learner, for the purpoſe of reſorting to that part of it, where any given paſſage can be taken with the greateſt eaſe, and produce the particular effect intended in the compoſition. From what has been already ſhown of the exact ſimilarity of the different ſcales in the ſyſtem, to the natural ſcale, it is evident, that whatever properties exiſt in the latter, will equally take place in the others. An inveſtigation of the properties of any one ſcale, will therefore be ſufficient for the whole.

To diſcover how many poſſible poſitions there can be in a key, and to inveſtigate their properties, it will be neceſſary to take every degree of the ſcale in ſucceſſion, and, conſidering each as forming a different poſition on the finger-board, to aſcertain the particular degrees of the ſcale that will occur in each. The firſt poſition will conſiſt of the key-note, ſecond, and third, of the ſcale, or major poſition, 1—2—4; ſhifting the hand to the ſecond degree of the ſcale, the poſition will conſiſt of the ſecond, third, and fourth, 1—3 4 or 1—2 3; and as this leſſer third, having a tone before the ſemitone, is the firſt that occurs in the ſcale, we have given it the appellation of a *firſt minor* poſition. Shifting the hand to the third degree of the ſcale, we have the third, fourth, and fifth, being a ſemitone and tone; and, in contradiſtinction to the former, we ſhall call this leſſer third a *ſecond minor* poſition; its fingering being 1 2—4. The hand then is ſhifted to the fourth of the ſcale, and will include the fourth, fifth, and ſixth, 1—2—4: on the fifth of the ſcale, it includes the fifth, ſixth, and ſeventh, 1—2—4, both major poſitions. On the ſixth of the ſcale, it comprehends the ſixth, ſeventh, and eighth, 1—3 4 or 1—2 3, being a firſt minor poſition; and on the ſeventh and laſt degree, it conſiſts of the ſeventh, eighth, and ninth, or firſt and ſecond degrees of the next octave, 1 2—4, being a ſecond minor poſition. We cannot diſcover any variety or new relation, in a further proſecution of theſe poſitions; nothing will occur but a replication of the ſame degrees of the ſcale, and a repetition of the ſame poſitions. The reſult therefore of this inquiry is, that the ſeven degrees of the ſcale produce ſeven poſitions on the finger-board, in the following order: 1. major poſition; 2. firſt minor poſition; 3. ſecond minor poſition; 4. major poſition; 5. major poſition; 6. firſt minor poſition; and, 7. ſecond minor poſition.

N° 67 and N° 68 are examples of theſe ſeven poſitions in the keys of Eb, and C♯ major. The four firſt poſitions are taken on one ſtring, and the remaining three on the next ſuperior ſtring; and it is worthy of remark, that on comparing the laſt three poſitions with the three firſt, they will be found to be of the ſame ſpecies of thirds in each poſition on both ſtrings. In the ſcale of Eb, for inſtance, the firſt or natural poſition of the hand, on the ſecond ſtring, is a major poſition, 1—2—4, and the ſame on the firſt ſtring; the ſecond poſition, or half ſhift, on the ſecond ſtring, is a firſt minor, 1—3 4 or 1—2 3, and the ſame on the firſt ſtring; and the third poſition, or full ſhift, on the ſame ſtring, is a ſecond minor, 1 2—4, and the ſame on the firſt ſtring. In both examples a ſecond octave is added, in which the ſame poſitions, in their order, and the ſame fingering, are repeated, excepting the diſuſe of the fourth finger, above G, on the firſt ſtring.

As all the ſcales of the ſyſtem are merely tranſpoſitions of one natural ſcale, it will follow, as an invariable rule of fingering in all ſcales, that a paſſage conſiſting of any degrees of the ſcale, excepting an open ſtring, that can be played in one poſition of the hand, in any given key, can be played in any other key in one poſition, and with the ſame fingering.

The two firſt bars of N° 69 is a paſſage in the ſcale of C, the fingering of which cannot poſſibly be different from that marked under the notes. The remaining bars of the example contain the ſame paſſage, tranſpoſed into the keys of F, C♯, F♯, B, E, A, D, Eb, Ab; in all which keys the paſſage is played with the ſame fingering that is marked in the key of C. The paſſage conſiſts of the key-note, third, fourth, fifth, ſeventh, octave, and ninth, of the key; which are taken with the fourth, firſt, ſecond, fourth, firſt, ſecond, and fourth fingers reſpectively.

At *b*, the paſſage is tranſpoſed to F, and the notes are to be taken in the ſame poſition as at *a*, only on the fourth, third, and ſecond ſtrings, inſtead of the third, ſecond, and firſt. At *c*, the paſſage is tranſpoſed to C♯, and the hand muſt be ſhifted a ſemitone ſharper than it was at *a*, taking the key-note C♯ with the fourth finger, and the other degrees as before; at *d*, it is in the key of F♯, taken in the ſame poſition as at C♯, but beginning on the fourth ſtring; at *e*, it is in the key of B, and the hand muſt be ſhifted a ſemitone nearer the nut than at *a*; at *f*, it is in the key of E, the hand continues in the ſame poſition as at *e*, but begins on the fourth ſtring; at *g*, it is in the key of D, and notwithſtanding the open ſtrings correſpond to D and A, the firſt and third notes of the paſſage, D muſt be taken with the fourth finger, on the third ſtring, a ſemitone ſharper than C♯ at *c*, and the reſt of the fingering muſt be like that at *a*; at *h*, it is played in the key of G, in the ſame poſition with D, but beginning on the fourth ſtring; at *i*, it is in the key of E♭, a ſemitone ſharper than D at *g*; at *k*, it is in the key of A♭, in the ſame poſition with E♭, but beginning on the fourth ſtring; at *l*, it is in E, the ſame key as at *f*, but an octave higher; this poſition is of courſe a ſemitone ſharper than that of E♭; and, laſtly, it is in the key of A, at *m*, the hand being in the ſame poſition as at *l*, only beginning on the fourth ſtring.

It is evident, that in every one of theſe keys, the paſſage muſt be equally eaſy, the fingering being the ſame in all. This example will ſerve to diminiſh that apprehenſion, which beginners are apt to have, on ſeeing a number of flats or ſharps at the clef; and will alſo evince to them, that a competent knowledge of the finger-board will, in general, render a paſſage equally eaſy on one key as another. Let the learner always remember the degrees of the ſcale that are practicable in one poſition, and be equally well acquainted with them when he ſees them in the notation; he will ſoon know where to take any paſſage, in the lower compaſs, in the eaſieſt and moſt natural way the caſe will admit of. Throughout the whole of this example, the hand is in the ſecond minor poſition, 1 2—4; which ſee, *Fig.* 16.

PART II.

THE PRACTICE OF FINGERING.

CHAP. I.

Of Accompaniment, or proper Baſſes.

WHETHER it would be moſt advantageous to the learner, to acquire a knowledge of the firſt principles of muſic, and of the theory of the finger-board, before he enters upon the ſtudy of the practical or mechanical part, I am not as yet ſufficiently warranted by experience to determine.—All I would at preſent contend for, is, the propriety and advantage of theory going at leaſt hand in hand with the practice.

In the ſtudy of the human ſciences or arts, but little real progreſs can be made at a time, nor can the mind be ſucceſsfully employed on more than one object at once. At the end of a given time, however, an incomparably greater progreſs will be made, by theſe conſtant, though ſmall, advances, and by purſuing every object ſeparately, than by vainly attempting to proceed by more rapid ſtrides, and allowing a greater number of objects to obtrude on the mind, and divide the attention.

attention. But this rational plan of ſtudy is, of all things, the moſt difficult to adopt, in the practice of inſtrumental muſic; for while moſt other ſtudies have their different parts gradually and ſucceſſively unfolded, and any one part can be made the object of a diſtinct attention, unembarraſſed by the conſideration of another, this naturally requires an union of all its conſtituent parts, and an equal attention to be given to each at the ſame inſtant; for, to the actual production of two or three muſical ſounds on the Violoncello, and other inſtruments of that claſs, the following acts of the mind and body are neceſſary at one and the ſame time: 1. An accurate diviſion of the finger-board, and placing the fingers of the left hand on it properly. 2. The more difficult and complicated action of the right-hand in conducting and preſſing the bow on the ſtrings. 3. The mind of the learner attending to and directing theſe different movements, at the ſame time reading and eſtimating the different muſical characters before him; as he is not only to produce the neceſſary ſounds, but to produce them in a certain given time: to which may be added, the difficulty of holding the inſtrument and bow in their reſpective poſitions, which muſt take place for ſome time. Hence the awkwardneſs of the firſt attempts, when it is impoſſible to give a proper attention to ſo many different objects; and the greater perplexity, at this time, both to the ſcholar and maſter, than at any future period of the ſtudy.

The more theſe different actions are naturally united, the more art and method are neceſſary to divide them, and to ſubject each to a ſeparate and diſtinct attention and ſtudy; and from the difficulty of always keeping this in view, and the want of unerring principles for the production of all the requiſite qualities in ſounds, tune alone excepted, the laws of which are ſufficiently known, ariſe the great intricacy of the ſtudy, and the uncertainty of attaining to excellence in it.

The moſt varied, complicated, and perfect inſtrumental performance, is reſolvable into the accuracy and purity of the ſeveral notes that it conſiſts of; and the cauſes of theſe qualities, into the mechanical action of the fingers, in ſtopping, and of the bow, in giving a proper degree of vibration to the ſtrings; and principles of fingering and bowing are to be received, in ſo far only as they tend to accompliſh theſe purpoſes.

It is apprehended, that every neceſſary rule for the former may be collected from the foregoing part of this treatiſe; but, in reſpect of the number of other objects that ought equally to engage the learner's attention, the remaining examples, being a ſeries of practice for every part of the finger-board, have the fingering added to them, for the further exemplification and illuſtration of the rules before given. With reſpect to the latter, which comprehends the whole art and management of the bow, by which every quality in ſound, excepting that of tune or pitch, is produced, although we have made this more particularly an object of our attention and ſtudy, both on account of its importance, and becauſe its principles are involved in greater intricacy and obſcurity, we do not profeſs an ability of delivering ſuch definitions of the minute and complicated motions employed in its various offices, but what would be very inadequate to convey our meaning, or might miſlead the learner, and bring the imputation of error on our principles. Beſides, the principles of bowing are themſelves ſo far from being properly aſcertained, that almoſt every maſter ſeems to have adopted different principles. Hence that difference in tone, which diſtinguiſhes almoſt every performer, but in a ſmaller degree thoſe of the ſame ſchool, who have followed nearly the ſame principles of bowing. Theſe conſiderations diſcouraged us from entering with any confidence on this part of the ſubject; but, willing to impart the knowledge of whatever we conceive to be uſeful to the learner, we ſhall give ſuch occaſional directions for the attaining this important part of the ſtudy, as ſhall appear well founded, notwithſtanding that, from the conſciouſneſs of the comparative imperfection of theſe, we have only ventured to give to this treatiſe the name of The Theory and Practice of *Fingering*.

Principles for the management of the bow, may be collected, à priori, from a ſtudy of the laws of the vibrations of ſtrings, and of different forces, or degrees and manner of percuſſion, applied to them; and, à poſteriori, from conſidering the effects of repeated experiments made on ſtrings by various degrees of preſſure of the bow. This will enable the learner more accurately to obſerve and aſcertain the particular force and manner made uſe of by other performers; to compare which

with

with the different qualities of ſound thereby produced, will lead to a knowledge of tone, and of the manner of producing it, in their relation of effect and cauſe.

We now proceed to ſtate, in their order, what will more immediately demand the attention of the learner.

His firſt care muſt be to hold his inſtrument and bow in a proper manner; both which particulars are far from being indifferent. He may proceed to a certain degree with an inartificial method; but afterwards many paſſages will be rendered doubly difficult to him, and ſome altogether impracticable, merely on that account; and it will be worth his while, even after having made ſome progreſs, to correct any miſtake he may find himſelf to have been in, in this reſpect, or in the poſition of his left hand. The end to be anſwered, in holding the inſtrument, is, that it ſhall be ſteady, and admit of the action of the bow without being impeded by the left knee or the right thigh. The firſt of theſe purpoſes is beſt anſwered, by preſſing the upper edge or rim of the Violoncello againſt the ſide of the calf, or thickeſt part, of the right leg; and the ſide of the inſtrument againſt that of the left: and, for the latter purpoſe, it is neceſſary that the right leg be perpendicular to the ground, and that the left leg be extended in an oblique direction until the left foot be four or five inches more advanced from the body than the right; and it is alſo neceſſary, that the inſtrument be raiſed ſufficiently to admit of the free action of the bow, on the fourth ſtring, near three inches from the bridge, without touching the right thigh. The bow muſt be held betwixt the ſecond finger and thumb, in ſuch a manner, that the firſt and ſecond joint of the thumb ſhall form an angle, and the point of the thumb be oppoſite to the middle of the ſecond joint of the ſecond finger; the hair of the bow will be then preſſed by the middle of the firſt joint of that finger, or by the point of it: the firſt finger ſhould be ſeparated about half an inch from the ſecond. The preſſure is in a great meaſure given to the bow by the firſt finger; but, at each turning of the bow, this preſſure on it is to be taken off, by the firſt and ſecond joint of that finger advancing farther from the ſecond. The third and fourth fingers are to lie on the bow, at nearly the ſame ſeparation, but without any preſſure on it, their office being only to keep the bow properly balanced.

The next thing will be, to ſtudy the manner of drawing the bow along one of the ſtrings, the ſecond for inſtance, ſo as it ſhall be always parallel to the bridge. This is a matter of conſiderable nicety; it cannot be otherwiſe effected, than by the diſtance from the ſhoulder to the points of the fingers continually varying, whilſt the bow is drawing; for, ſuppoſing the arm remained at the ſame extenſion, while conducting the bow, inſtead of drawing it parallel to the bridge, it would act as a radius of a circle, or leg of a compaſs, deſcribing a ſegment of a circle, of which the body would be the center. The arm, therefore, being at its utmoſt extenſion, will be nearly parallel to the right thigh; and in conducting the bow along the ſtring, in the neceſſary direction, the motion will proceed from the joint at the elbow (the arm from that to the ſhoulder being kept without motion), and will bring the wriſt, from a little beyond the right knee, towards the breaſt; and both parts of the arm will then be nearly at right angles: in reconducting the bow, the arm will again be extended to a line nearly parallel to the right knee, or rather a ſmall curve that is natural to the arm in its utmoſt extenſion; and this is to be the conſtant motion of the arm, from nearly a right line, till it form nearly a right angle, and from a right angle to a ſtraight line; the wriſt, at the ſame time, being kept looſe, as it muſt have a ſeparate motion from the arm, at every turn of the bow.

Having acquired the proper direction of the bow, by theſe different motions, it will next be neceſſary to endeavour to produce an even vibration of the ſtring, by a ſteady, uniform preſſure of the bow; and having ſucceeded with a moderate degree of preſſure, to try the effect of an increaſed preſſure, which will give a proportional increaſe of ſound, till you make it vibrate in its greateſt courſes and recourſes (ſee *Fig.* 15. and the annotations on it, in the firſt Chapter of the Theory).

It will then be neceſſary to place the fingers of the left hand, on the finger-board, in the poſition at *Fig.* 16, ſeparating the fingers at about an inch aſunder, and raiſing them into the form of an arch; the fingers will then be at about the interval of a ſemitone from each other, but the firſt at that

that of a tone from the nut; and the fingers will, by the moſt ſimple movement, in croſſing the ſtrings, come to the proper diſtances for any of the notes on the other ſtrings; a great advantage which this poſition of the hand has over that formerly in uſe (ſee *Fig.* 18.), where the natural tendency of the fingers would be to move in the oblique direction, ſhown by the dotted lines; a tendency which can be counteracted but with great trouble.

When this poſition of the hand, and ſeparation of the fingers, become ſomewhat natural, and they can be kept ſteadily in it, when raiſed from the ſtrings, ſo that every finger will return to the ſame point of the finger-board it preſſed before, it will be eaſy to play any note under that poſition of the hand, by preſſing the ſtring with the finger required. Being thus prepared, the learner may begin the firſt octave of C, in the two firſt bars of N° 1. of the examples; which ſee, with the explanation above given of it. Each bar contains a tetrachord, or half octave; and as every ſcale in the ſyſtem has been ſhown to be only a repetition of one octave, which conſiſts of two ſuch ſimilar parts, the particular attention of the learner will now be neceſſary, to the *tune* of every degree of the ſcale; and he muſt endeavour to diſtinguiſh, and feel, the peculiar character and effect of each note of an octave, and of their ſeveral relations to the key-note. Each tetrachord of the octave will form a chant, or muſical phraſe, cloſing with the ſemitonic interval of the fourth, and of the octave; and the better to perceive their ſimilarity, and to compare their characters, it will be proper to make a ſhort pauſe after the fourth, as well as after the octave. Holden, a very ingenious writer on the ſcience and practice of muſic, has obſerved, that if the ſeveral degrees of the ſcale are taken with accuracy, a peculiar expreſſion will be found to characteriſe every note. The key-note is bold and commanding; the ſecond is a kind of plaintive ſound; the third has ſomething ſupplicative in it; and it is on this note, or on the ſeventh, which has the ſame relation in the other tetrachord, that the beggar chiefly dwells, if he uſes any tone at all; the fourth, which brings the phraſe to a concluſion, is grave and ſolemn; and the fifth, ſixth, ſeventh, and octave, are marked by ſimilar expreſſions. Theſe properties are not, however, inſeparable from the ſounds; becauſe, if the ſame notes are introduced in a different relation, as on a change of key, they will have different effects. The deſcending octave will form a chant, different from the aſcending octave, but likewiſe divided into two ſimilar phraſes, the firſt ending on the fifth of the key, and the ſecond on the key-note.

Theſe being the elements into which every variety of air or melody, and its accompanying harmony, are reſolvable, the greateſt care muſt be taken by the learner to acquire a juſt idea of each note; and, if a mere beginner, he ought not to depend entirely on his own ear or judgement, but ſeek every opportunity of the accompaniment of a well-tuned voice, or that of an inſtrument in the hands of a judicious performer, until the proper ſound of each note become quite familiar to him.

Let the notes of the octave be thus played with a ſlow, even, and lengthened bow, to employ the full motion of the arm; and, afterwards, quicker and ſtronger, by the greater velocity and preſſure of the bow, but always drawn its full length; and it may be proper to remark, that when the ſecond, third, or fourth finger is directed to be put down, it is meant that the finger or fingers immediately below them ſhould be alſo on the ſtring, at their proper diſtance of tone or ſemitone; their continuing on will give them greater ſtrength and firmneſs of ſtopping, and ſooner form a good poſition of the hand.

After having repeatedly practiſed this, and the ſecond octave of N° 1, aſcending and deſcending, the learner may proceed to N° 2, by adding the three notes D—E F, 1—3 4, on the firſt ſtring, uſing this fingering for ſome time, till he can take them well in tune; after which he may take the two laſt notes with the ſecond and third finger.

I underſtand the uſual practice in teaching to be, after ſhowing the learner a ſingle ſcale, to give him ſome familiar eaſy tune, in one poſition of the hand, for the purpoſe of making his fingers and bow go together. The difficulty of attending to the number of different actions neceſſary to performance, is ſo great at the beginning, that maſters are glad to take advantage of any inducement that can be held out to the learner, to make him practiſe; but I am afraid this method, ſometimes

neceſſary at firſt, is purſued too far. Having obſerved, that a ſuperficial manner of bowing, at beſt, and often bad habits of bowing and fingering, very difficult to be corrected afterwards, were contracted in this, too early, ſtudy of tunes; and that, after a conſiderable time, but little or no progreſs was made in tone, time, or accompaniment, (the latter being the principal office of the inſtrument); I ſuſpected the fallacy of this method, and turned my thoughts to a more ſyſtematic analyſis of the ſtudy, and to the eſtabliſhing of principles of bowing and fingering, which might not only facilitate the ſtudy of the inſtrument, but would remove the imperfections in playing, which I have ever found to be the conſequence of a want of proper principles, adopted at the beginning. The following plan of ſtudy is the reſult of my reaſoning and obſervations on the ſubject, confirmed by a very extenſive, and, I may venture to add, a ſucceſsful, experience for ſeveral years.

When a proper motion of the bow is acquired, and made to go with the fingers, I have found that any further attention to the ſtudy of tunes, for ſome time, is improper: the very imperfect manner in which they can be played in this ſtage of the ſtudy, cannot give any permanent ſatisfaction to the learner; and it will be for his advantage to poſtpone the further ſtudy of air or melodies for ſome time, when it will be reſumed with a much greater proſpect of ſucceſs and advantage, and form a proper part of the progreſs of his plan. In the mean time, it will be proper to proceed to the ſtudy and practice of accompaniment, or the proper baſs parts of vocal or inſtrumental compoſitions; and as a proper end is propoſed in every rational ſtudy, ſo the means taken to attain that end, ought not only to be the moſt ſimple, and adequate to it, but be alſo productive of the greateſt number of preſent advantages; theſe being, in the preſent caſe, ſubordinate ends, and perhaps more immediately the view of the learner, than the principal, which is the attaining to perfection, or rather excellence, in the art. The plan of practice now to be recommended to the learner, will, in conformity to this rule, extend to the following ſubordinate ends: 1. The ſtudy and practice of tone, which, when ſimplified, we preſume is very attainable in all its important qualities; the impediments to its acquiſition being chiefly the attempting, at firſt, too great a complication of bowing and fingering, and not confining the practice of the bow, at this period, to ſimple notes. 2. The ſtudy and practice of time. 3. An early acquaintance with pure harmony, and a habit of accompanying, and attending to, a part different from that of the baſs. And, laſtly, The powers, habits, and knowledge, acquired in the practice and ſtudy of theſe, will be not only of immediate uſe in themſelves, but be the proper means of rendering the ſucceeding part of the ſtudy eaſy and intelligible.

N° 70, and the three following numbers, contain the baſs part of the firſt ſonata of the ſecond opera of Corelli. It will be eaſieſt to begin with the laſt movement, N° 73; and when the learner has practiſed the notes, ſome little time, by himſelf, it will then be proper to get the part of the firſt violin played, which he is to accompany, by playing the movement, at firſt with ſlow, and afterwards with quicker, bows; but, in both caſes, the full length of the bow, and the greateſt preſſure of it, is to be employed. He is then to proceed in the ſame manner with the firſt movement, N° 70, obſerving to divide each bar into eight ſlow equal parts, each conſiſting of a quaver: but the bow is not to continue on the ſtring during the whole time of each; it muſt be drawn with ſpirit and rapidity, from one end of it to the other, by the full motion of the arm, above deſcribed; and a conſiderable ſtop muſt take place, betwixt each quaver, to fill up the time; but on the notes G and D, in the fifth bar, the motion of the bow muſt be as ſlow again; and on the two laſt notes of the example, four times as ſlow. Having played this, ſeveral times, with the part of the firſt violin, the learner will next proceed to the allegro, N° 71; and, notwithſtanding the greater quickneſs of the movement, the bow muſt be drawn to its full length on the quavers. At *a*, the hand muſt be moved back a ſemitone nearer the nut, for the purpoſe of playing the ſeven notes of that paſſage in one poſition of the hand; and the learner ought to compare this with the paſſages at *e* and *f*, of N° 69, in order to know the caſes in which this poſition will be neceſſary: at *b*, in the preſent example, the former poſition is to be reſumed. Until the learner can play this movement perfectly in tune, he muſt adhere to the fingering marked next to the notes; after which, he may practiſe, on the full ſhift, that is, the firſt finger brought

brought to the place of the fourth, the paſſages that may be taken with propriety on it, the proper fingering for which is marked under the other figures. That the learner may know from the aſpect of a paſſage, whether it is adapted for the full or half ſhift, he may obſerve, that the notes, in general, where this double fingering is marked, are ſituated in the ſpaces between the lines: this aſpect of a paſſage will always indicate the full ſhift, if any is neceſſary; and ſuch notes proceeding from one ſpace to the next above or below, being at the interval of a third from each other, will always require the firſt and fourth finger alternately. If, on the contrary, the intervals of thirds are from one line to the next above or below it, this will indicate the half ſhift as a proper poſition; and ſuch notes will be always taken with the firſt and fourth finger. An inſpection of N° 80 will impreſs the diſtinguiſhing character of each of theſe ſhifts ſtrongly on the mind of the learner: paſſages adapted for both occur frequently in this example; thoſe taken on the half ſhift are all marked with the letter *a*, and thoſe taken on the full ſhift with the letter *b*. The practice of N° 72 will complete the ſonata; and the end more immediately to be kept in view, in the frequent practice of it, beſides accuracy in tune and time, is the improvement in tone, by a firm preſſure of the bow on the ſtrings, and always drawing it to its full extent with velocity and ſpirit.

Being furniſhed with a ſet of Corelli's ſonatas, and procuring a proper perſon to play the part of the firſt violin, the next ſtep will be to proceed to the tenth ſonata of the laſt opera, in the key of G major, the ſcale of which is N° 14. Here alſo it will be beſt to begin with the gavot, or laſt movement, taking care to draw out the bow arm freely, and with velocity, in croſſing the ſtrings, in the firſt bar, and throughout the movement: then proceed to the firſt and ſecond movements, in the laſt of which will be found two bars, in which D♯ occurs: the paſſage muſt be taken on the back ſhift, as at *a*, N° 71, and the notes F♯—G♯—A♯ (the firſt and third notes, being on lines, point out the half ſhift) are to be fingered 1—2—4; and the following B muſt be taken on the firſt ſtring, in the natural poſition of the hand. This allegro muſt be played throughout with a lengthened and ſpirited bow, and be a daily practice, until it become quite eaſy. The next in order may be the twelfth ſonata of the ſecond opera, entitled Ciaconna; and will, after the foregoing, be attained with little trouble. It contains a few bars of ſix quavers each, towards the end, in which the ſtrings are more croſſed than in the former ſonatas; and care muſt be taken, that the action of the arm is not diminiſhed, nor the bow drawn ſhorter, or with leſs force, in executing theſe; and the bar with only five quavers in it muſt begin with an up-bow, that is, drawing the wriſt, from the full extenſion of the arm, near the right knee, in a direction towards the breaſt. And it may be here obſerved, that an elevation of the arm, that will admit of free bowing on the firſt ſtring, is to be preferred, not only on account of its natural power in communicating more preſſure to the bow in that elevation, but alſo becauſe it will prevent any unneceſſary motion of the arm in paſſing from a lower ſtring to an upper one, or the contrary, which can be ſufficiently accompliſhed by a ſmall turn of the wriſt alone; not to mention, that this poſition of the arm looks much better than a lower one; and I think it will always hold true, from ſome general principle in nature, connecting pleaſure with utility, that whatever movement is beſt adapted to attain its end, will alſo be the moſt graceful. In this view, ſometimes practiſing before a glaſs will be an excellent leſſon to acquire good habits, and prevent bad ones.

The above three ſonatas of Corelli, practiſed frequently, will be a good preparation for the firſt ſonata of the fourth or laſt opera, the laſt movement of which will be very good practice for ſome time, if proper attention be always given to the tone, and manner of bowing. It ſhould be firſt taken ſlow, and with a full tone; and as it becomes more eaſy, it may be taken quicker, but always ſo as to employ a conſiderable length of bow. The third ſonata of the ſecond opera is ſomewhat ſimilar, in its laſt movement (but rather leſs difficult), to the preceding; but there will be conſiderable improvement made in the knowledge of time, by a ſtudy of the ſecond movement; in which reſpect it is more difficult than any of the foregoing.

Theſe five ſonatas of Corelli, being in the keys of D, G, and C, no difficulty, it is hoped, will occur in the fingering. It will now be proper to introduce the practice of the flats, and begin with the ſeventh ſonata of the fourth opera, in F major; preparatory to which, let the ſcale

of

of F, N° 2, be again practiſed and conſidered. The laſt movement but one of this ſonata will require care in the bowing, ſo as to keep up tone and ſpirit. After this ſonata has been practiſed, the fifth ſonata of the ſecond opera, in B flat major, may be entered upon; and afterwards, the eleventh ſonata of the ſame opera, in E flat major; but previous to this, the ſcale of E flat, N° 19, and the diagram or analyſes of that key, N° 67, ſhould be carefully conſidered and played over; and, in general, it will greatly facilitate and ſhorten the ſtudy of the lower compaſs of the inſtrument, if the learner make a ſimilar analyſis of every new key he comes to; which will make him acquainted with every poſſible poſition that can occur in any key, in this part of the Violoncello.

The ninth ſonata of the fourth opera will further extend the knowledge and practice of the key of B flat; and for a further acquaintance with that of E flat, the eleventh ſonata of the ſame opera will be good practice; but the laſt allegro muſt be taken very ſlow, for a conſiderable time.

The learner will have now got eight or nine of the ſonatas of Corelli, which he may practiſe in rotation, or rather more frequently practiſing thoſe he may be leaſt perfect in; and it will be of conſiderable advantage at this time, if he can find the means of playing the Violoncello part, of thoſe he can perform moſt accurately, along with the parts of the firſt and ſecond Violin; and when his ear and attention can be given more to the upper parts, he ought more particularly to attend to the effect of the whole, in order that he may diſcover in what reſpect his own may be deficient, and how he may improve it. An early attention to theſe particulars will lead him more accurately to obſerve the manner of playing of better performers than himſelf, and to conſider the difference of the effects produced, compared with their cauſes.

About this period, I have found that the practice of airs or melody is moſt advantageouſly entered upon; and it will now be more uſeful, as it will induce a practice of that mixed bowing, and frequent ſhifting of the hand, which the learner will now find neceſſary, to enable him to proceed with the more difficult baſſes or accompaniment that will now fall in his way. What I ſhall have to obſerve on the ſtudy of air or melody, and the manner of purſuing it, will be contained in the next Chapter. At preſent it will be neceſſary to diſcuſs the remaining examples of proper baſſes for the practice of the lower compaſs of the inſtrument, and to continue what obſervations may occur on the manner of purſuing the ſtudy of accompaniment.

Previous to the entering on the practice of melodies, or before proſecuting the further practice of proper baſſes, the ſtudy of the principles of fingering before laid down, and the practice of the different ſcales in the ſyſtem, will be proper, and will beſt explain any difficulties the learner may meet with. He may then proceed, with reaſonable expectation of improvement, to the practice of any other of the ſonatas of Corelli; and, to diverſify the ſtile of muſic, he may begin to play, with one or two violins, any eaſy modern trios, ſuch as Kammel's Notturnos, and innumerable others he may meet with, and play the accompaniment of harpſichord muſic. In the latter, he muſt be careful, however, not to overpower the inſtrument he accompanies, and, in this inſtance, totally lay aſide that powerful manner of bowing we have been recommending. For the purpoſe of neatly accompanying inſtruments of this kind, a particular mode of bowing a repetition of the ſame note, in quavers, muſt be practiſed, inſtead of the common method, by the alternate action and reaction of the bow; namely, to play four or more of ſuch notes, with the bow in the ſame direction, by giving a new impulſe to it for every note. But a cloſe attention to the manner in which good performers play accompaniments of this nature, will give the learner a clearer idea of it, than can be derived from any deſcription of it in words.

But to proceed with the examples. N° 74, and the three following numbers, contain the baſs of the tenth ſonata of Corelli's ſecond opera, in the key of E. Theſe examples will require much more ſhifting of the hand than any of the preceding ſonatas. The two firſt notes are taken on the back ſhift, as at *a*, N° 71; the third, fourth, and fifth notes, on the full ſhift; the three following notes, B E D♯, on the back ſhift; C and B, in the natural or common poſition of the hand; A G♯—F♯, ſemitone and tone, on the fourth ſtring; and the reſt will be made out from the fingering marked, and give the learner much knowledge of the lower compaſs of the inſtrument: it

it is, moreover, a beautiful ſonata; which will induce him to endeavour to be perfect in it. It will, however, be proper to play the two laſt movements, N° 76 and N° 77, before the ſecond, N° 75, which is the moſt difficult; but the progreſs that the learner will now be making in the practice of airs or melodies, will greatly contribute to render theſe, as well as the following examples, more eaſy to him.

While the learner is employed with his maſter, in ſtudying the duets and other melodies to be mentioned in the next Chapter, the following examples of the more difficult baſſes will be equally improving, if they are practiſed conſtantly by himſelf, in the intervals betwixt his other leſſons. They will be not only found to be uſeful in themſelves, but will, perhaps more than any other practice, give him that firmneſs of fingering, and keep up that fullneſs of tone, and ſpirited bowing, which will carry him ſucceſsfully through the more difficult parts of the ſtudy, and give effect to his performance; advantages by no means to be got from the languid ſtyle of the more eaſy duets he muſt neceſſarily practiſe at firſt.

N° 78 is the Violoncello part of the ninth concerto of Corelli, being one of thoſe baſſes denominated *obligato*, meaning a part more than commonly difficult, or when it becomes a principal or ſolo part, the other parts being for the time only the accompaniments to it. The learner, in the practice of theſe and the following baſſes, ought to be more ſolicitous about playing them with purity and fullneſs of tone, than about playing them with rapidity: the latter will in due time follow, as a natural conſequence, from its becoming more eaſy; but the former will by no means follow, as a matter of courſe, but by keeping it conſtantly in view.

N° 79 is perhaps the moſt difficult part of Corelli's concertos, for the Violoncello, for its length; it does not come in here in its natural order, which is rather after N° 82; and its being placed where it is, was only becauſe of there being a proper ſpace to contain it there. The practice of this example ſhould only take place after that of N° 82.

N° 80, an obligato movement for the Violoncello, in the tenth of Corelli's concertos; an excellent practice to acquire tone with a lengthened bow, and comprehending almoſt every poſition, from the nut to the middle of the firſt and ſecond ſtrings. The letters *a* and *b* ſhow when the half and full ſhifts are to be uſed, as already taken notice of in the obſervations on N° 70, and three following numbers. When an opportunity occurs, the practice of the Violoncello of Corelli's concertos, with all the other parts, will be improving in the higheſt degree, as ſoon as the learner can play the preſent example and N° 78; the other concertos, excepting the firſt, third, and eleventh, being all eaſier than the ninth and tenth.

N° 81 will be an excellent practice for the fingers and bow, and if taken ſlow for a conſiderable time, with the attention directed chiefly to a free, lengthened bow, and made a regular daily practice, will tend to give great firmneſs in fingering, as well as bowing. This is the baſs to one of Corelli's ſolos; and the whole of that opera will be of the greateſt advantage to the learner, if played with the Violin, with which the Violoncello plays rather on the equal terms of a duet, than in the ſubſervient office of a common baſs accompaniment. A great improvement in tune, time, bowing, and the knowledge of accompanying, muſt reſult from this practice, properly conducted.

N° 82 is a celebrated Violoncello ſolo, in the eleventh concerto of Corelli. If begun ſlow, and continued ſo for ſome time, with a ſtrict attention to tone, and to lengthened bowing, this example will prove of infinite advantage; nothing can be better calculated to give ſtrength and firmneſs to the bow arm, and finger, than the practice of this leſſon, perſevered in for ſome time; but the good purpoſes it is admirably fitted to anſwer, will be entirely defeated by a premature attempt at rapidity.

N° 83 is the accompaniment to a beautiful air of Handel: this ought to be attentively ſtudied by the learner who wiſhes to be well grounded in the lower part of the inſtrument, as it requires more frequent ſhifting of the hand than perhaps any other piece of an equal number of notes, and is beſides on a difficult key, with modulations ſtill more difficult as to fingering. The learner will obſerve frequent uſe made of the ſlur, for the purpoſe of connecting and rendering ſmooth many of the notes, which would, without this, appear diſlocated and uneven. When the learner can play this movement perfectly in tune, he may with juſtice think more highly of his progreſs, than

if he played imperfectly many ſolos, with paſſages carried to the utmoſt extent of the finger-board; and it may be here obſerved, that the practice of all Handel's muſic, particularly the accompaniments to his opera and oratorio ſongs, his overtures and grand concertos, will be extremely beneficial.

N° 84 is the concluding part of Corelli's ſolos; and, of the many difficult moving baſſes of Corelli, this is by far the moſt difficult. By the common manner of fingering, which is marked in a ſecond line of figures, it ſeems almoſt impracticable: but the fingering that would give it any degree of ſmoothneſs, appears to me to be that which is marked neareſt the notes; and this will be ſupported by analogy, from a paſſage very ſimilar to it in N° 96, at *b*, where the thumb muſt, in conſiſtency with the reſt of the paſſage from *a*, continue to be uſed.

N° 85, and the two following numbers, contain the baſs to a very fine overture of Haydn, in the difficult key of F minor; the practice of which will increaſe the learner's knowledge and command of the lower part of the finger-board. All Haydn's other overtures may be practiſed with much profit; as they contain a greater variety of paſſages, and require more neat and mixed bowing, than the full pieces of any other compoſer; and many of his latter overtures may be played by two Violins, Tenor, and Violoncello, the parts of the other inſtruments being occaſionally inſerted in a ſmaller character.

N° 88 is a paſſage in one of Haydn's quartets, given for the purpoſe of practiſing a ſmooth round tone, and different changes of the bow. The further practice of Haydn's quartets will be recommended, with others, in its proper place, in the next Chapter. N° 89 is a Violoncello accompaniment to one of Marcello's pſalms, given alſo for the management of the bow. To aſcend from a lower ſtring to the next, or ſecond above it, will always require an up-bow for the lower ſtring, and a down-bow for the upper one: this occurs in the laſt three notes of every bar in this example; and unleſs this rule be obſerved, theſe ſorts of paſſages will be always awkward, and often impracticable. At *a*, there muſt be an up-bow, which will come again in courſe at *b*, and render the laſt three notes of that bar properly: at *c*, there will be an unavoidable violation of the rule; but the remaining part of the ſecond bar will have the ſame bowing with the firſt bar, which will then be continued to the end, according to rule, excepting the movement of the arm from the firſt to the ſecond note of every bar, which is without a remedy. Throughout the voluminous work of Marcello's pſalms, the Violoncello is the principal accompaniment; and the practice of them with the voices will be very improving.

The foregoing examples, with the works of the different authors occaſionally mentioned, will form a complete body of practice for the lower compaſs of the inſtrument, which is in many reſpects more difficult than the upper one. Several of the examples above given ſurpaſs in difficulty many ſolos, which may, at firſt ſight, from their great compaſs, and rapidity and brilliancy of their paſſages, appear to require greater powers and practice; and I hold one of the chief advantages of the ſtudy of melodies, duets, and ſolos, to be, that the command of the inſtrument thereby gained, will enable the ſtudent more eaſily and elegantly to perform the more difficult or obligato accompaniments, which in the more modern muſic conſiſt in a great meaſure of melody or ſolo paſſages; and with that view the ſtudy of melody ought to be entered on ſoon after a competent knowledge in fingering, and a proper method in bowing plain notes, is acquired.

CHAP. II.

Of the Practice of Melodies, and mixed Accompaniments.

IT will now be neceſſary for the learner to begin a new ſtudy of the bow. The powers of bowing he will have acquired by a proper practice of the eight or nine ſonatas of Corelli, recommended in the preceding Chapter, will be of the greateſt uſe to him; but the manner of giving force and velocity to the bow, muſt be greatly altered. While it is ſufficient that the notes of a baſs be played with an equal preſſure on every note, and they are for the moſt part ſeparated by a conſiderable reſt between each, it is neceſſary in melodies that the preſſure ſhall be greatly varied, even on a ſingle note; and that ſeparation or ſtaccato, which is proper in accompaniment, is

is of all things the moſt improper in air or melody, which requires the tones to be ſwelled, ſoſtenuto, and flowing. The bow being conducted, but with a ſlow motion, in the manner above directed, let the preſſure at firſt be very light, and gradually increaſed, until the greateſt force be given to it, and then diminiſh the preſſure by the ſame degrees it was increaſed; the ſtring will give a tone always proportioned to ſuch degree and manner of preſſure, and have the effect of what is called a ſwell, on the ear; the former part being ſtyled *creſcendo*, and the latter *diminuendo*, in our muſic. The means of producing this variety in tone, are not unlike to thoſe employed in drawing a line with a pen, light at firſt, ſwelling gradually, and diminiſhing in the ſame proportion. Theſe appear to me to be the only elements into which the various degrees of tone are reſolvable, and ſuch the only means employed in producing them.

The learner, to begin this ſtudy, ſhould be provided with a good maſter, and have a ſecond Violoncello for the latter. As I can only venture to recommend, what I have found, by experience, beſt to anſwer the purpoſes of improvement, and what will moſt induce the learner to practiſe; the plan, therefore, that I have purſued, with moſt ſucceſs, will now be given.

Let the learner, after having heard the firſt movement of Schetky's duets for two Violoncellos played, and having attentively obſerved the manner in which it was bowed, practiſe it principally with a view of imitating the manner of bowing, for in the fingering of it he will not find any difficulty, and afterwards play it, accompanied by the ſecond Violoncello: after a few trials he will be ready to ſtudy another movement; which, if he has had no more practice in bowing than is here ſuppoſed, muſt not be the next in order, this being too complicated in its bowing to be entered upon till after ſome time. I have found the laſt movement of the third duet to be moſt ſuited to the learner's powers; it is ſimple and pleaſing in its air, and very regular, but improving, in its poſitions. The *minore* of this movement will be explained and ſtudied beſt in a future leſſon; after which, the firſt movement of this duet, being in a more ſpirited ſtyle, and more analagous to the bowing the learner has been formerly accuſtomed to, will be ſoon learned. For the purpoſe of proceeding by a ſtep, ſufficiently well marked, in the progreſs, as well as to increaſe the learner's knowledge and practice of the flats, which he will have been pretty well initiated in by the practice of Corelli, the fourth duet of Schetky, in Eb major, may be now entered upon; but the laſt movement, being a very pleaſing minuet, of regular fingering, will be beſt to begin with. The firſt five bars of this minuet, the learner will diſcover, by the directions above given, to be all on the full ſhift; the ſixth bar in the common poſition; and the ſeventh on the full ſhift. After this movement has been practiſed and played with the accompaniment of the ſecond Violoncello, the firſt movement will then be ſtudied. The ſecond part of this movement begins on Eb, on the ſecond ſtring, and aſcends by the degrees of the ſcale to F, on the firſt ſtring; it is plain, therefore, that the octave of Eb, at N° 53, and that in the third and fourth bars of N° 19, will not ſuffice for this paſſage, which comprehends alſo the next degree F: it muſt therefore be taken Eb—F—G, and Ab—Bb—C, on the ſecond ſtring, and D Eb—F on the firſt, by N° 4 and N° 54, ending in the full ſhift; in which poſition the three following bars muſt alſo be taken.

After having ſufficiently practiſed this duet, the fifth may be omitted, and the ſixth be entered upon: after which, the ſecond movement of the firſt duet, and the whole of the ſecond duet, with the ſeventh, may be either practiſed or omitted, at the diſcretion of the maſter, and the practice of the tenth begun, which takes in a greater compaſs than any of the foregoing, but is not in fact more difficult than the ſixth: the eleventh and twelfth are both conſiderably more difficult than the former; but are very attainable, if the learner wiſhes to practiſe them: the advantage he will reap from it will amply repay him, as they are in a more maſterly ſtyle than the others.

If, however, a good maſter cannot be procured, it will not be adviſable for the learner to begin theſe duets, although admirably well anſwering the purpoſe of progreſſive leſſons, in this part of the ſtudy, taken in the order above directed: the practice of melodies will in that caſe be beſt purſued, by getting a good performer on the Violin, and with duets for a Violin and Violoncello. Thoſe of Breval, lately publiſhed, with the Violoncello part alſo adapted for the Tenor, being long known to me, before they were printed here, I think will anſwer beſt.

As

As this part of the ſtudy can proceed but by very ſlow ſteps at the beginning, even with a maſter, it is of much conſequence to know by what means it can be accelerated, and how the learner can moſt uſefully employ the intervals of his leſſons by his own private practice or ſtudy: and here, it is preſumed, the practice of the ſcales aſcending and deſcending will very much facilitate any difficulty he may meet with, a conſiderable portion of all duets and ſolos being merely aſcending or deſcending ſcales; and the aſſiſtance of theory will at this period come in with peculiar propriety.

There are certain general principles which take place, both in the ſtructure and performance of proper air or melody, on which the pleaſure we receive from them depends; their not having been hitherto ſufficiently aſcertained, can be no argument againſt their exiſtence. One remarkable quality it poſſeſſes, in common with ſpeech, is that of rythm, or the ſubdiviſion of an air into phraſes, leſs or more concluſive, correſponding to ſentences, and their component ſmaller members, in diſcourſe; and there are certain laws in conducting the beginning, middle, and end, of theſe ſubdiviſions, or phraſes, in reſpect to expreſſion and variation of tone, which cannot be violated, without offending the feelings of mankind, almoſt equally as by a violation of the laws of tune. A better knowledge of theſe general principles, would greatly facilitate the ſtudy we are now conſidering, correct the licentious, fantaſtic wanderings of a falſe taſte, and bring us nearer to the ſtandard of a true one, by adhering more to nature, and keeping within her laws.

With a view, therefore, to a more methodical ſtudy of air, and to fill up a chaſm in the examples, which I ſhould have been greatly at a loſs to do, otherwiſe than by referring to the ſtudy of particular works, as above, I have, in a ſupplementary work, ſelected almoſt the whole of the original Scotch airs, which are moſt remarkable for their beauty and expreſſion. They are placed as much as poſſible in a progreſſive order, and are ſufficiently eaſy to be begun about the ſame time with Schetky's or Breval's duets. They are more eſpecially intended for private practice, as their beautiful and ſimple ſtyle will always induce the learner to play them very frequently; and, that this practice may be attended with the greateſt advantage to him, they are purpoſely ſet in a variety of keys, and in ſuch a compaſs of the inſtrument as will beſt promote the knowledge and practice of fingering and bowing. The ſeveral ſubdiviſions, or phraſes, are marked with an aſteriſk on the concluding note of the phraſe, which is to be ſeparated from the following by a ſhort reſt, like thoſe uſed in the ſeparation of the different ſentences, and their parts, in common diſcourſe; and it will be even proper to purſue the analogy with language ſtill further, in the method of ſtudying theſe airs; namely, to learn one phraſe, in its proper time and expreſſion, before proceeding to the next, in the ſame manner that ſentences in a language are analyſed and conſtrued. The proper fingering is marked under the notes; and as the ſtudy of theſe ought to be followed by that of other national airs, and the beſt regular vocal compoſitions of the Italian and other maſters, theſe Scotch airs are ſet on the treble clef, which will prepare the learner to play any airs, that he may afterwards wiſh to practiſe, without the neceſſity of tranſpoſing them to another clef than that of the treble, in which they are always printed. At the ſame time, if it is thought that any advantage will accrue from ſetting them in the tenor clef, which is moſt uſed in compoſitions for the Violoncello, there will be nothing more to do, than to write out every note one tone or ſingle degree higher, which will ſtill be in the ſame key as before, and the fingering and baſs will require no alteration.

In the courſe of this ſtage of playing, it will be extremely proper for the learner to continue the practice of thoſe ſonatas of Corelli, he has already learned, along with two Violins, and proceed to the ſtudy of the others, or of ſuch modern trios, and the accompaniment of harpſichord muſic, as he may have an opportunity of practiſing; and afterwards, he may begin ſome of the more eaſy quartets, ſuch as the firſt ſet of Davaux, and Kammel's quartets. Having ſucceeded in theſe, he ſhould now aſpire to the practice of compoſitions of a higher claſs and greater name, ſuch as the quartets of Pleyel and Haydn, confining himſelf for ſome time to ſuch as have the eaſieſt baſſes, and are leaſt intricate in the time, until their ſtyle begin to be ſomewhat familiar to him, when he may proceed to others that are more difficult; and if he is ſometimes embarraſſed in the time, he being ſuppoſed, in this ſtage of playing, to perform among his particular friends, or

with ſuch as will not be unwilling to repeat any piece he may have failed in, it will be moſt to his advantage to go over it until he gets right; and, in caſe this cannot be altogether accompliſhed at one time, he ſhould endeavour to find out, by himſelf or others, the cauſe of his miſtake, and never fail to try the ſame piece occaſionally, until he has at laſt ſucceeded in it: he will find this the moſt effectual way of underſtanding the piece, and ſtyle of the author; and from the attention he will have been accuſtomed to give, by theſe means, to the ſtyle of a particular author, he will more eaſily enter into that of another, and be leſs liable to commit faults ariſing from inattention. While the learner is engaged in this practice, it will greatly avail him to obſerve the manner in which the beſt performers accompany, and more particularly to attend to the effects produced from the different degrees of force given to the paſſages, and the very exact degree of ſound, and time, that is requiſite to obſerve in every part, to produce a good effect from the joint performance. He will then obſerve how much it is in the power of the Violoncello, by inattention to the other parts, to deſtroy their fineſt effects, and to counteract the moſt beautiful expreſſion; and, on the other hand, by a judicious management of it, how much fullneſs, mellowneſs, and ſpirit, it can give to the whole, without injuring the ſofteſt paſſages, or moſt delicate expreſſion, in any of the other parts. Hence it follows, that to accompany well comprehends the beſt uſe of the inſtrument, and conſtitutes the greateſt praiſe of a performer; as it not only requires a command over the chief powers of the inſtrument, but the utmoſt attention to be given to the other parts, as well as to his own, to enter fully into the ſpirit of the muſic and preciſe meaning of the performer, ſo as to give additional effect to it, but never to counteract, never to deſtroy or obſcure it.

In the courſe of this practice, the learner will meet with Violoncello parts of a mixed nature, partly accompaniment, and partly conſiſting of ſolos, frequently in the upper compaſs of the inſtrument. Theſe he muſt ſtudy and practiſe by himſelf, or with his maſter; and the further practice of melodies muſt be proſecuted, chiefly with a view to attain that command of the inſtrument, that will become neceſſary to execute theſe more difficult or obligato accompaniments. After having practiſed the duets of Schetky or Breval, above recommended, another ſet of Schetky's duets for a Violin and Violoncello, or Breval's duets for a Violin and Violoncello, opera 19, more difficult than the former, will be a proper progreſſion; or, inſtead of either, or together with them, Schetky's ſolos for the Violoncello, the greateſt part of them being very little more difficult than the latter duets, while the beauty of their ſtyle and paſſages will incline the learner to practiſe them frequently by himſelf. Having made ſome progreſs in theſe, the learner may now ſtudy the ſolo parts of Trios, and Quartets, for Violins and a Violoncello obligato: of the former, the moſt beautiful, and leaſt difficult, in the ſolos, that I know, are the trios of Pichl, for a Violin, Tenor, and Violoncello, printed at Amſterdam, but not as yet imported into this country; the trios of Breval, for a Violin, Tenor, and Violoncello obligato, printed at Paris, conſiſting of very brilliant but naturally adapted paſſages for the latter inſtrument; three trios for Violin, Tenor, and Violoncello obligato, by Pleyel; the two ſets of Giardini's trios for a Violin, Tenor, and Violoncello obligato; Giordani's trios for a Flute, Tenor, and Violoncello obligato; and Boccherini's trios for a Violin, Tenor, and Violoncello obligato; all theſe publiſhed in London: but of Boccherini's trios, which are much more difficult than the others, but one of his beſt works, there is a foreign printed copy, often ſold here, leſs correct, and much worſe printed, than the Engliſh copy.

Having practiſed Schetky's duets or ſolos, and the duets of Breval laſt mentioned, the learner may now proceed to ſome of a more difficult, but ſuperior ſtyle. The duets of Borghi, for a Violin and Violoncello, I would now recommend to him, as being what he will find in the end to be moſt beneficial as well as moſt pleaſing to him; compoſitions of a leſs difficult nature will now be mere trifling, taken as a regular ſtudy, unleſs when they may fall in his way as a ſeparate practice. Borghi's duets may be practiſed in their order, the firſt being the eaſieſt.

N° 90 is the *minore* of the laſt movement of the third duet of Borghi. The learner is deſired to compare the effects of different methods of fingering, where there are two lines of figures under the notes. By the ſecond line of figures at *a*, the paſſage that was before done on one poſition, is taken by different poſitions, in deſcending on the firſt ſtring; and as the ſuperior effect produced, ought

always to be the prevailing motive for preferring one method of fingering to another, and not the greater eaſineſs of fingering, with a worſe effect, eſpecially in the act of ſtudying; this will be a proper place for the learner to form his opinion on that ſubject; and whatever method he may adopt, he will be a gainer, by being able to do the paſſage either way.

N° 91 is given principally with a view of making the ſame compariſon, as well as to explain the chief difficulties in fingering that may occur in theſe duets. It will appear very evident that it is impoſſible to make the ſhakes, and give that ſmoothneſs and expreſſion to the ſolo, which the author meant, at *a*, *b*, *c*, *d*, without the frequent ſhifting of the hand, directed by the fingering. By omitting the ſhakes, however, and with an inferior effect, it may be played to *e*, in one poſition of the hand.

Subſequent to the practice of Borghi's duets, or together with it, may be practiſed with infinite profit, Breval's duets, opera 6. and opera 23. They are procured with ſome difficulty, being hitherto only printed at Paris; and, although they are entitled Duets for two Violins, they are nevertheleſs intended for two Violoncellos, or for a Violin and Violoncello. The ſixth opera conſiſts of more notes or diviſions than Borghi's; but the paſſages are eaſier, becauſe the poſitions are regular, and natural for the inſtrument: the latter opera of Breval is more difficult, but contains excellent practice for bowing and fingering. It will now be alſo proper for the learner to continue the practice of the more difficult or obligato Violoncello parts of chamber muſic, both alone, and with the other inſtruments. Such trios as are already publiſhed, have been mentioned above. The ſeveral operas of Pleyel's quartettos, contain many of this deſcription; and Giardini's quartettos, opera 22. and opera 23. are all obligato for the Violoncello, but more difficult than thoſe of Pleyel. Two ſets of Hoffmeiſter's quartettos, opera 7. and 9. contain Violoncello ſolos of the beſt ſtyle and effect: they are lately publiſhed abroad; and their excellence will, no doubt, ſoon introduce them into this country. The numerous compoſitions of Boccherini contain ample ſtore of practice for the Violoncello player; the principal works beſides his trios and quartettos, which contain it, are the 12th, 13th, and 20th operas of his quintettos, for two Violoncellos obligati, Tenor, and two Violins; and his ſeſtettos, operas 15. and 21. the former of theſe being for two Violins, a Flute, Tenor, and two Violoncellos obligati.

Having practiſed the duets of Borghi, and the 6th opera of Breval, the learner may proceed to the duets of Reinagle, in which he will find paſſages of a different conſtruction, and leading to a more maſterly command of the inſtrument. As theſe are chiefly founded on the practice of aſcending and deſcending ſcales, a reconſideration and practice of ſuch of theſe ſcales as may be wanted, will greatly facilitate the difficult paſſages of this author, whoſe very early death has deprived the muſical world, and more particularly the admirers of the Violoncello, of the completion of a ſtyle of muſic abounding with novelty, and adapted to diſplay the powers of the inſtrument in their greateſt extent and variety; and whilſt this praiſe, and that of being, for the few years he had ſtudied it, the moſt *promiſing* performer of the inſtrument in Europe, cannot be denied him, it is not intended, by this ſmall tribute, paid to the memory of a much-loved friend, and the only maſter I am indebted to for whatever inſtructions I received for the Violoncello, to compare his merit, however great, with the two models, of maturer and more finiſhed excellence, it is ſtill a boaſt of this country, and I hope will long be, to poſſeſs.

The ſecond of Reinagle's duets is by much the eaſieſt, and next after that the fourth. The principal part of the firſt duet is contained in N° 92, and the paſſage in the ſecond and third lines muſt be done in different poſitions, on the firſt ſtring, by the fingering marked; and the ſame paſſage, a fifth lower, in the latter part of the example, muſt be taken in different ſhifts, on the firſt and ſecond ſtring.

N° 93 is in the laſt movement of the third duet, and muſt be taken in different poſitions, and by the aſcending and deſcending ſcale of D. The whole of this duet contains excellent practice for the bow and finger. The next example is not numbered, through miſtake; it comprehends the chief difficulty in fingering that will be found in the fifth duet.

N° 94 is the *minore* of the laſt movement of the ſecond duet; it is in the part of the Violin, which may be alſo played on the Violoncello. The learner may compare the fingering of the paſſage in the third line with N°s 58 and 59.

Together with Reinagle's duets may be practiſed Breval's duets, opera 25. for two Violoncellos, lately publiſhed, abounding with excellent paſſages, and great variety of bowing. The works of this ingenious compoſer form of themſelves a ſeries of progreſſive leſſons, from his eaſieſt ſet of duets, firſt mentioned, to the preſent ſet, including two ſets of ſolos, and ſeveral ſolo concertos.

N° 95, with the following number, contain a conſiderable part of the firſt and laſt movement of a beautiful ſolo concerto of Duport junior, publiſhed at Paris. In the third and fourth bars is a deſcending ſcale of two octaves and a fifth, from A to D, the open ſtring: the firſt octave is done in one poſition, and the remaining part on the ſecond ſtring. At *a*, is a regular deſcending paſſage, from the ſame poſition of A, to E on the ſecond ſtring: on the laſt note but one of every bar, the ſecond finger takes the place of the thumb, which deſcends a third, till you come to the end of the fourth line from the bottom, when the thumb poſition muſt be quitted, and B, the laſt note but one of the bar, taken with the fourth finger. In N° 96, at *a*, in the fourth line from the end, is a beautiful but difficult paſſage of octaves; and at *b*, although in the lower compaſs of the inſtrument, the two remaining bars muſt be played by uſing the thumb, as in the former part of the paſſage. The only other concertos that are publiſhed, deſerving the learner's attention, are Breval's concertos, conſiderably the eaſieſt; a concerto of Reicha, of which the *minore* of the laſt movement is given in N° 102, but the firſt movement is much eaſier; (both theſe are publiſhed at Paris;) and a ſet of ſix concertos by Trickler. There are many excellent concertos, however, not publiſhed, by Schetky, Reinagle, Mara, Roſetti, Reicha, and other compoſers.

N° 97, and the two following numbers, will ſerve as examples of the more difficult paſſages of double ſtops; of the more eaſy, many examples occur in the different works above recommended. N°s 98 and 99 are two well-known airs; the former is the march in Scipio, of Handel, and the latter the popular air *Je ſuis Lindor*, with two variations. The double ſtops of both theſe examples greatly contribute to form a good poſition of the hand and fingers, and accuracy of ſtopping; for which purpoſe, the practice of them may be begun at an early period. N° 97 is a part of a ſolo of Reinagle, not publiſhed; and N° 101 is a part of the laſt movement of the ſame ſolo. I very much regret that I am not at liberty to publiſh the whole of the ſolo, to give a more juſt idea of the fullneſs and richneſs of the ſtyle of this compoſer. A ſet of ſix ſolos of his are publiſhed, ſelected from many others, as being the moſt eaſy; but many of his latter ones, in his more improved ſtyle, are loſt. The other ſolos, moſt deſerving the learner's attention, are Galleotti's, printed in France, containing his two beſt ſolos, which are not in the Engliſh copy, Maſon's, Cervettos, Duport ſenior's, and Boccherini's; and the amateurs may expect to be ſoon gratified by the publication of a ſet of beautiful ſolos, by Schetky, ſelected from the moſt numerous and moſt applauded collection that ever was compoſed for this inſtrument by one man. The paſſages are brilliant and pleaſing, with the advantage of not being difficult; and a ſet of ſolos, in a very maſterly and brilliant ſtyle, are in great forwardneſs, by Mr. Joſeph Reinagle, brother to the late Mr. Reinagle.

The latter part of N° 99 is given as an example of paſſages in the higheſt compaſs of the inſtrument, and of octaves by more difficult intervals than the former. This, with the following number, is a part of a manuſcript ſolo of Luja, compoſed, as well as others I have ſeen of his, in a very lively and pleaſing ſtyle.

N° 100 is given as an example of Arpeggio. The three firſt notes of every beginning and middle of a bar muſt be taken on the third, ſecond, and firſt ſtring; and the whole of the example adheres cloſely to the air, of which it is a variation.

N° 101 is given chiefly to exemplify a rule of fingering, that a ſucceſſion of notes, taken firſt on two different ſtrings, cannot be afterwards continued on one ſtring, without altering the effect; therefore the paſſage at *a*, in the fourth line from the end of this example, requires the thumb to be ſhifted to C♯ and E, and afterwards to deſcend to its former place on A; at *b*, the thumb muſt deſcend one degree of the ſcale, at the beginning of every ſix notes, from E to G♯ on the firſt ſtring, and C♯ on the ſecond; and it afterwards aſcends to D, D♯, and E, by ſemitonic intervals, on the ſecond ſtring.

In N° 102 is a further exemplification of this rule, at *a* in the fifth line of this example; and at *b*, while the ſecond finger remains on F, the thumb muſt deſcend from A to G, on the firſt ſtring, and continue to deſcend a degree of the ſcale, on the ſecond of every ſix notes, till the poſition is quitted after B flat, in the fourth bar of the paſſage.

The

The above examples, with the works recommended, will introduce the learner to all the variety of paſſages, and ſtyles of compoſition, that have hitherto been adopted for the inſtrument; reſources of practice, it muſt be owned, which did not exiſt until within theſe few years, and conſequently could not have been the practice on which our greateſt maſters were formed. The earlier practice of ſuch, have been compoſitions for the inſtrument, at preſent not much in requeſt, together with the more difficult ſtudy of authors, not compoſing purpoſely for the inſtrument; and of theſe the learner may make what occaſional uſe he thinks proper: the compoſitions of the old ſchool, chiefly ſtudied, were Corelli's ſonatas and ſolos, Tartini's and Geminiani's ſolos; and of the modern, the ſolos of Giardini, Chabran, and the concertos of Borghi; all compoſed for the Violin.

In attaining the command of an inſtrument, the uſual failure of young performers is in point of tone and effect; they ſeem to think that the chief end of their practice is to overcome all difficulties in paſſages, excepting the greateſt, that of giving them fullneſs, ſmoothneſs, and effect. Unwilling to think they have entirely miſapplied their time, and miſled by the undiſcerning approbation of partial friends, they are flattered into a belief that ſuch imperfect execution muſt carry every thing before it; but the unprejudiced public judges better; and hence chiefly ariſes that diverſity of opinion reſpecting the talents of performers, ſome making quantity, and others making quality of notes, the ſtandard of excellence.

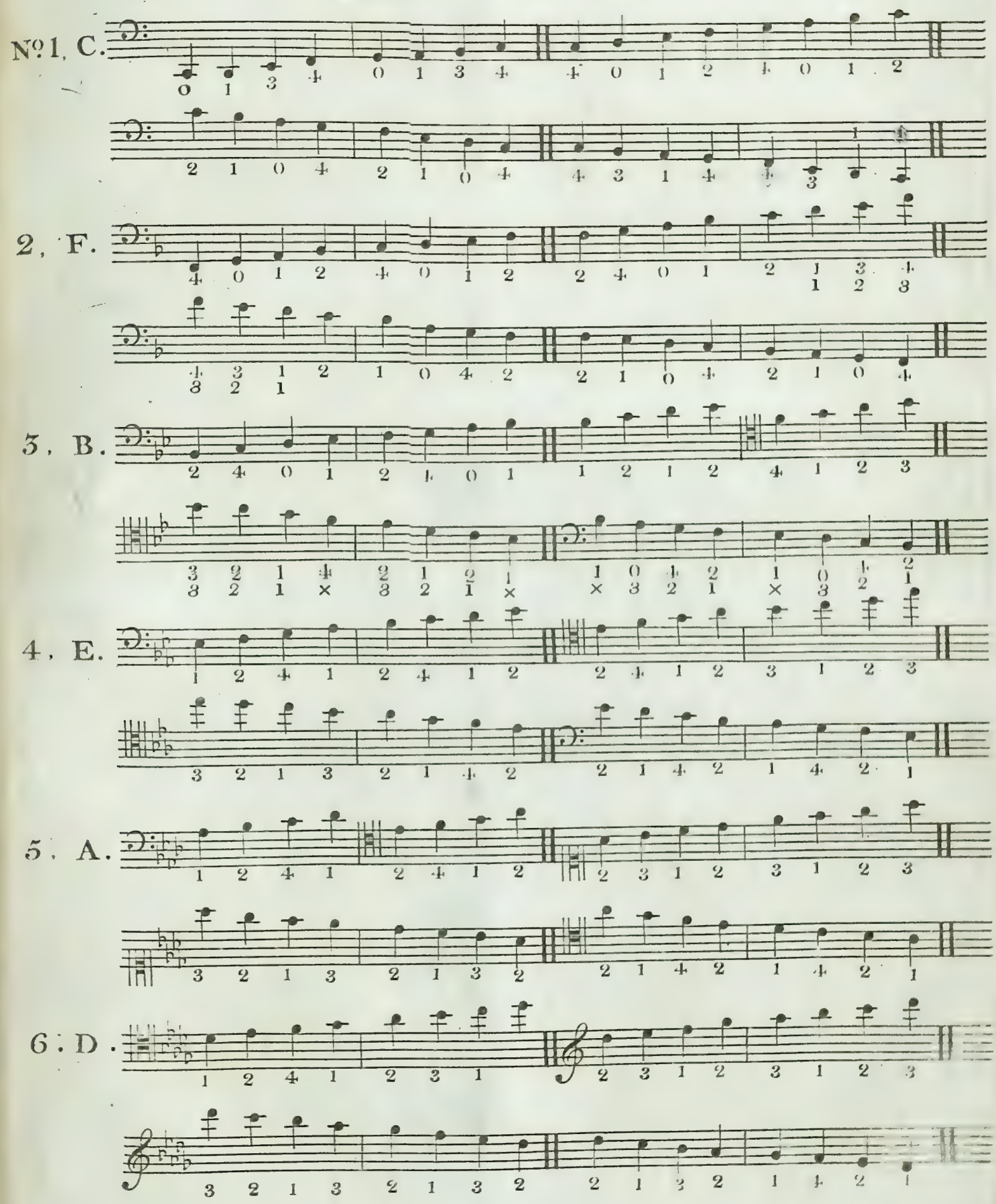
It has been held by many maſters, that a young performer ſhould acquire the command of his inſtrument before he adopts any particular ſtyle of playing; becauſe, ſay they, he can then imitate any ſtyle he chooſes. It muſt be owned there is plauſibility in the obſervation; but it is difficult to conceive that a performer of any natural taſte or ſenſibility can ſo long confine himſelf to the dead letter of the notes, playing them void of taſte or expreſſion until he overcome every difficulty in execution; and if he were capable of doing it, there is the ſtronger reaſon to doubt of his ever after being able to perform with feeling or taſte. There are numberleſs varieties of expreſſion, of which ſounds are capable, beſides their quality of tune; a knowledge of which is chiefly attained by imitation of the beſt performers, and by the learner's own ſtudy and efforts in forming and regulating his taſte. With reſpect to the models he is to imitate, there is ſome difficulty: the wiſeſt of the ancients, and moſt judicious of the moderns, have acknowledged the extreme difficulty of diſtinguiſhing what is proper to imitate, and what to avoid, in the beſt models.

There is a peculiarity of ſtyle in every artiſt, however eminent, to which his more genuine excellence has given a ſanction, or faſhion; and this ſingularity, or *manner*, has ever been deemed, by the profoundeſt judges, a fault; but, being the moſt prominent feature, is generally firſt ſeized by the injudicious imitator, and is often the only thing he copies with exactneſs. It has been ſaid, and I think with truth, that the moſt ſucceſsful way of imitating Shakeſpear, is to imitate nature. Rather than indiſcriminately to imitate any maſter, it were better to imitate him in the ſteps he has purſued to attain his excellence. There will be alſo ſomething peculiar in the taſte and judgement of every individual; from which many have haſtily inferred, that there are no fixed principles of taſte, and no certainty of producing effects that will be generally pleaſing. The ſubſtance of our minds, and nature of our feelings, like the ſubſtance of our bodies, have a common reſemblance, as well as particular differences; and they are affected by general laws. The principles of good, that is, general taſte, are therefore to be collected from a careful ſtudy of nature, and of the general feelings of mankind, and not from the particular taſte or judgement of any individual. The muſician will, conſequently, find his account in conſulting the general opinion of mankind, and more eſpecially of the unaffected admirers of his art, who are unqueſtionably the moſt competent judges of the *effect* of it, while the more ſcientific are to be conſulted about the rules of it, and the *means* to be uſed. Moliere's old woman, whom he made the criterion of the effect of his comedies, knew not the rules of Ariſtotle.

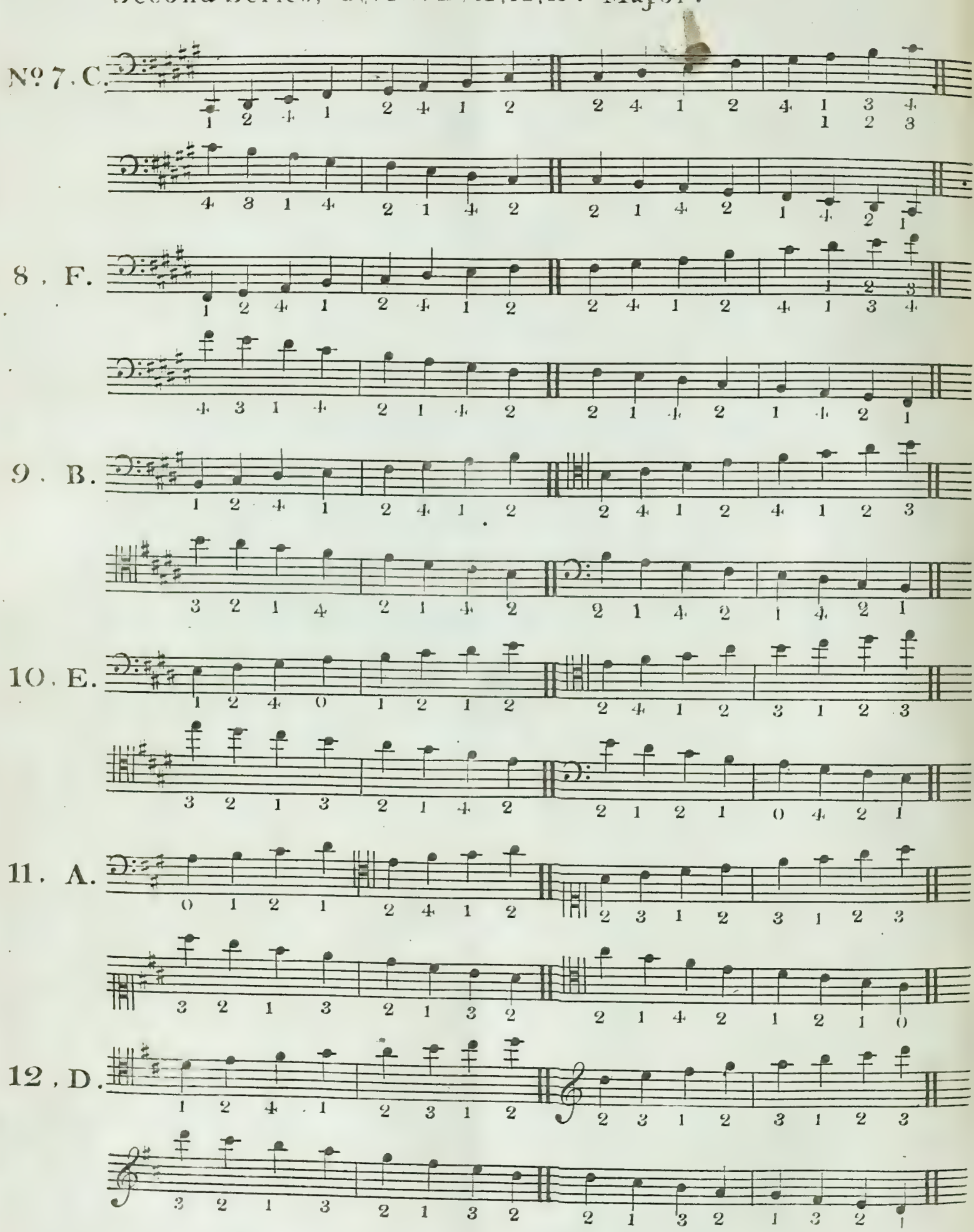
To practiſe properly, and with intelligence, appears to me to comprehend every rule of ſtudy; becauſe, to do that, is to be one's own maſter, and all true inſtructions ſhould tend to the learner's becoming ſuch; and becauſe, to practiſe properly, ſuppoſes the knowledge of adapting means to anſwer proper ends.

F I N I S.

First Series, C. F. B♭. E♭, A♭, D♭, Major.

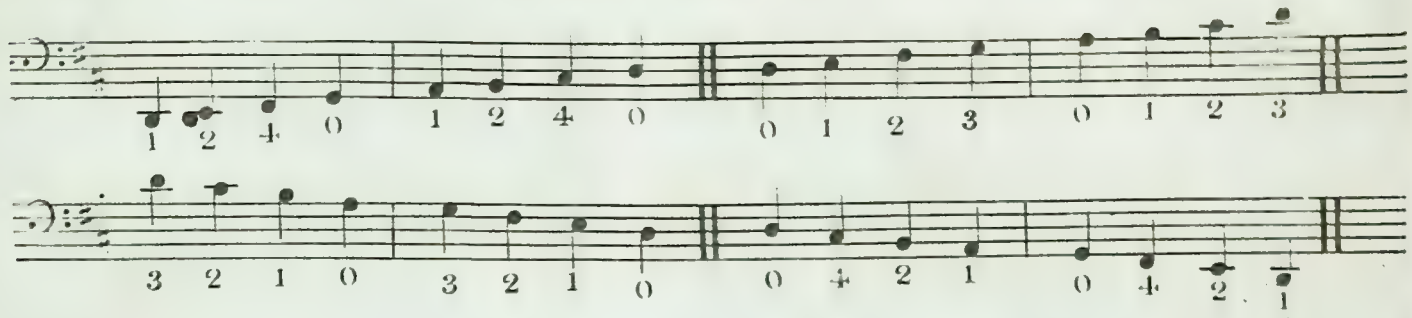


Second Series, C♯, F♯, B, E, A, D. Major.

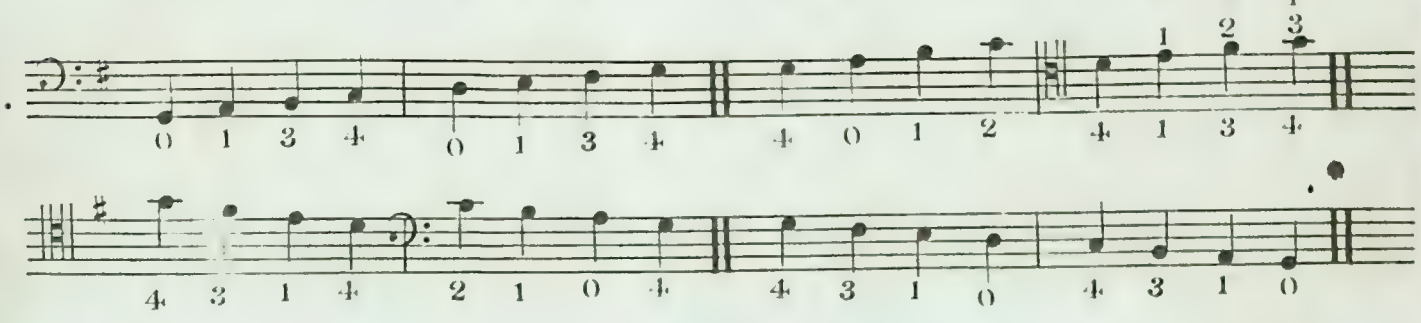


Third Series, D, G, C, F, B♭, E♭. Major.

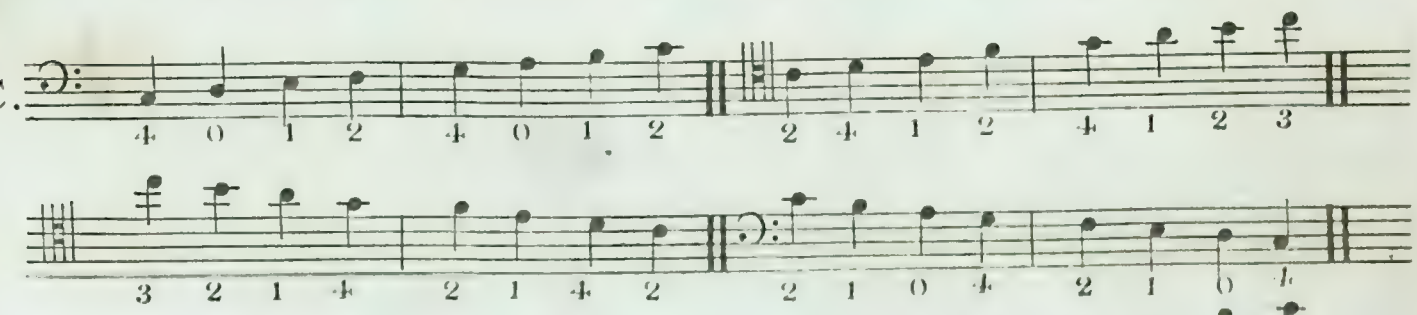
13. D.



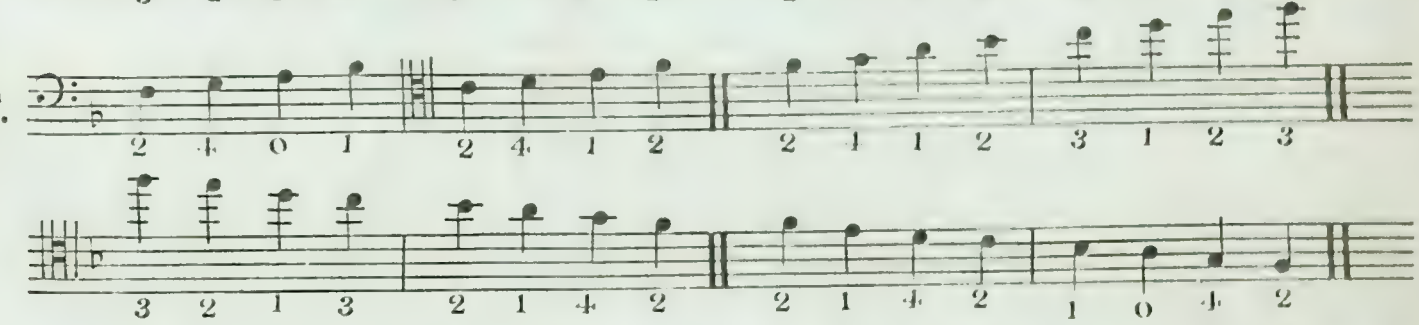
14. G.



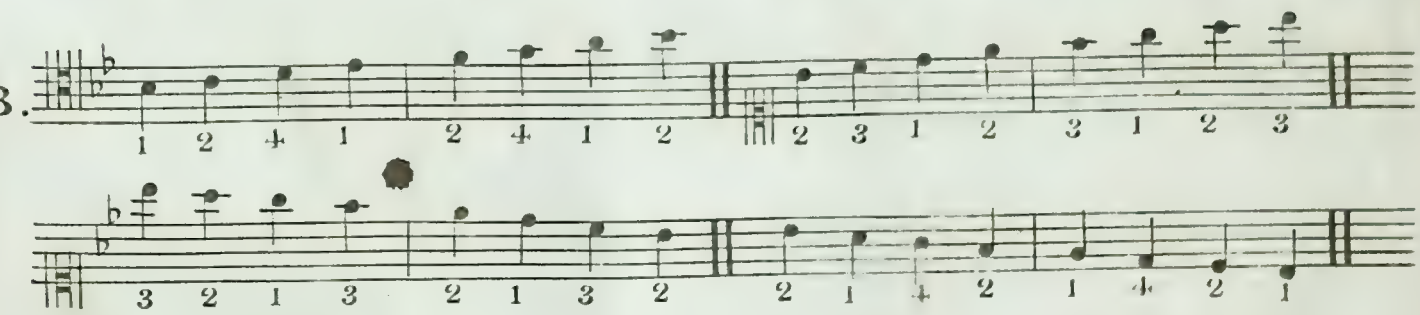
15. C.



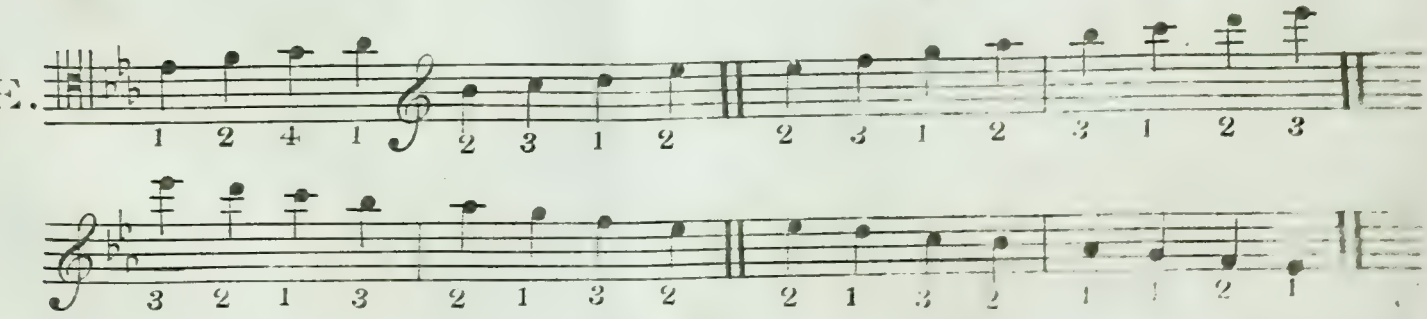
16. F.



17. B.

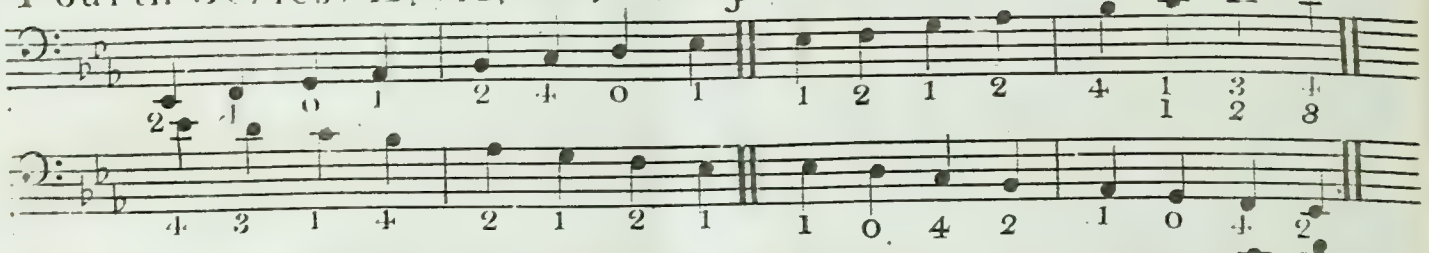


18. E.

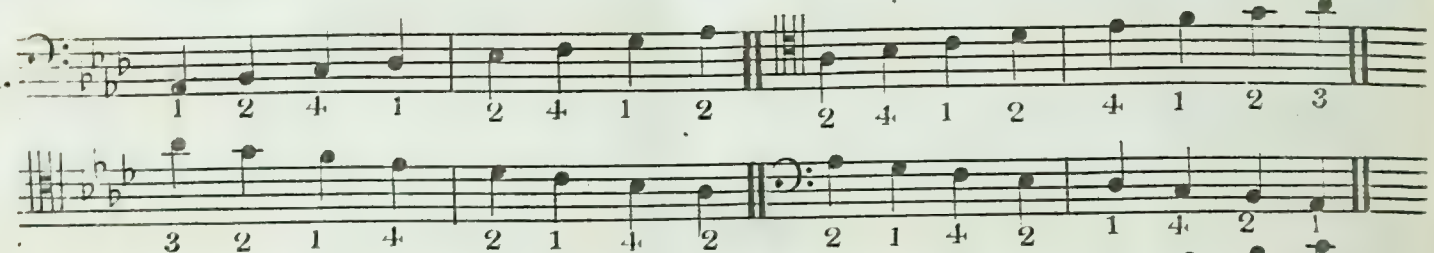


Fourth Series. Eb, Ab, Db, Major

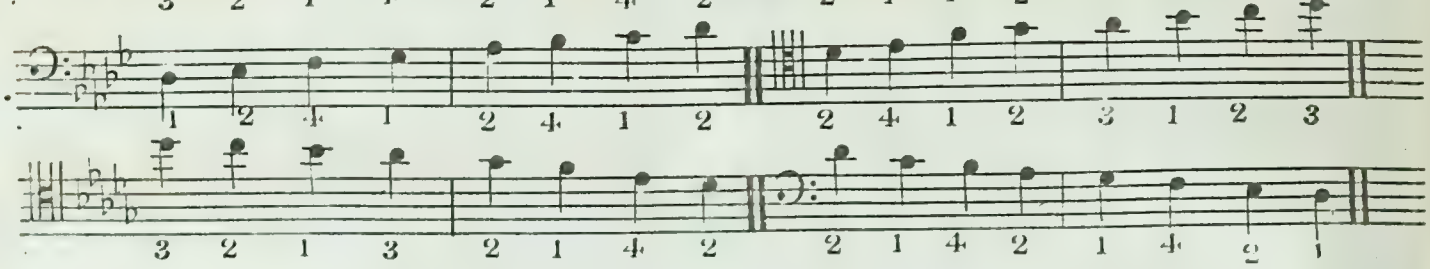
19. E.



20. A.

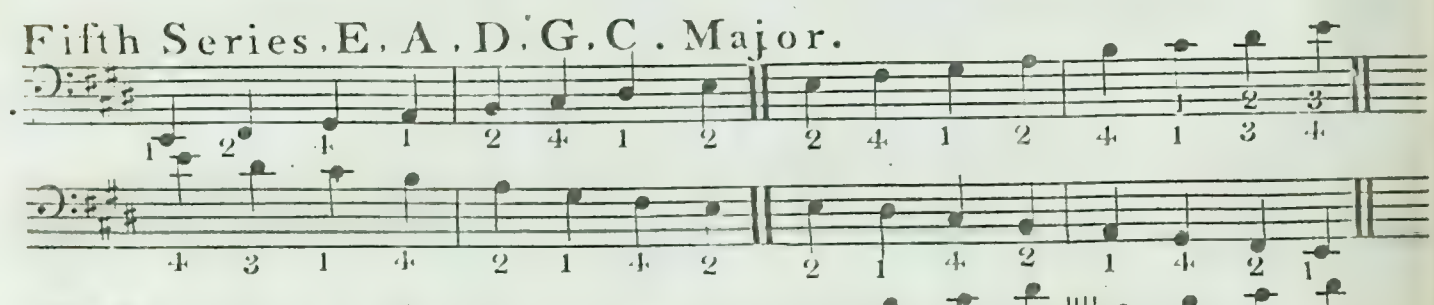


21. D.

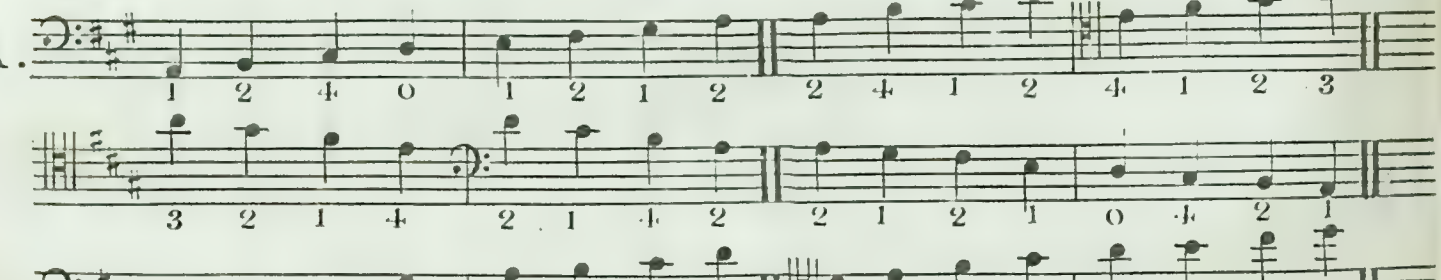


Fifth Series. E, A, D, G, C, Major.

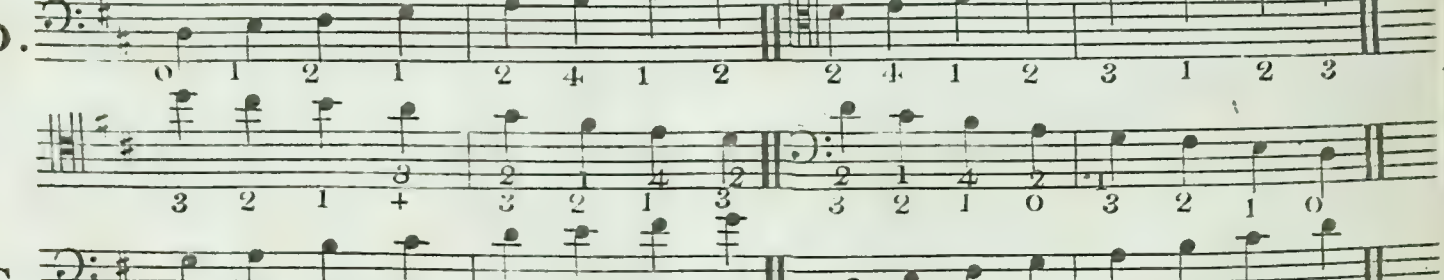
22. E.



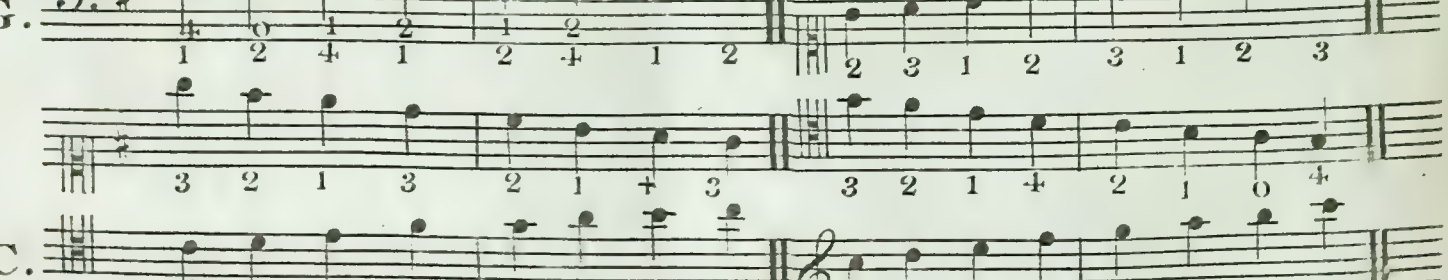
23. A.



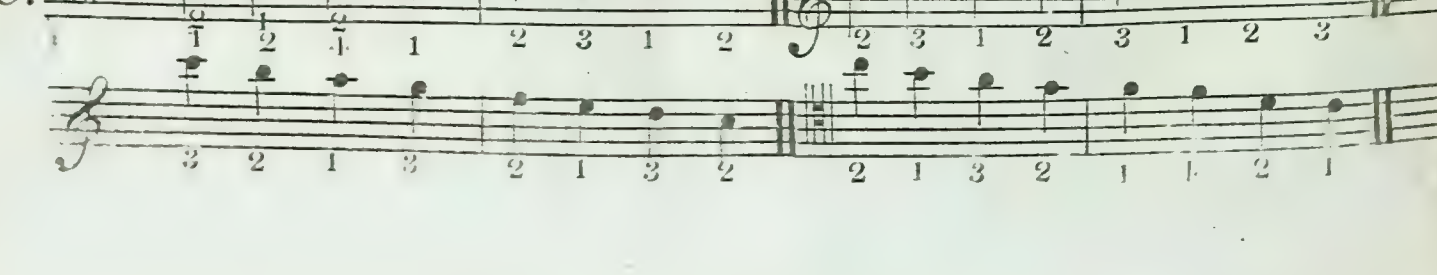
24. D.



25. G.

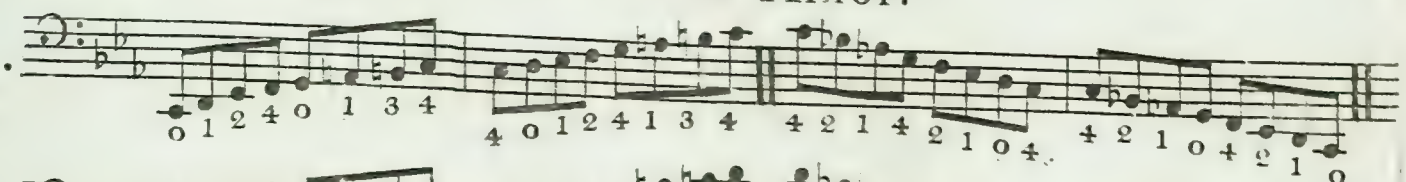


26. C.

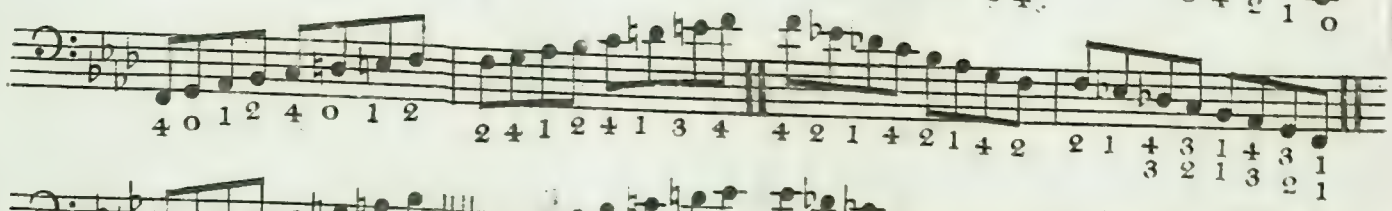


Firft Series. C, F, B♭, E♭, A♭, D♭. Minor.

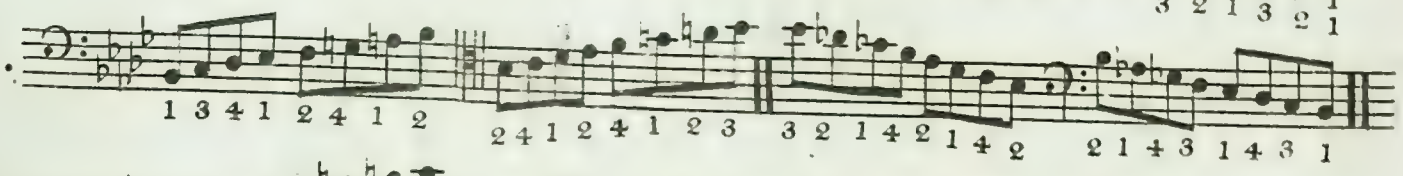
27. C.



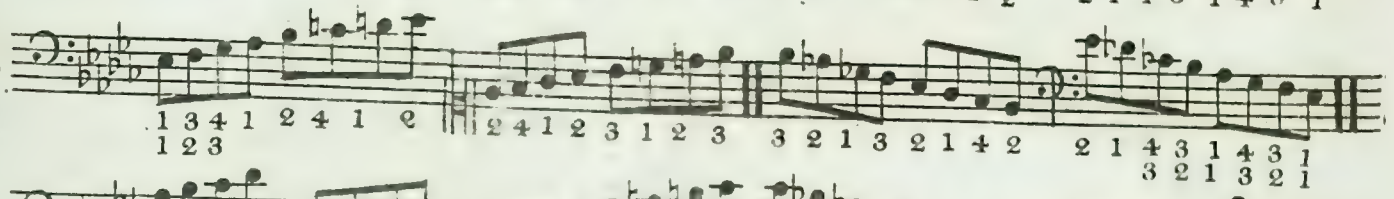
28. F.



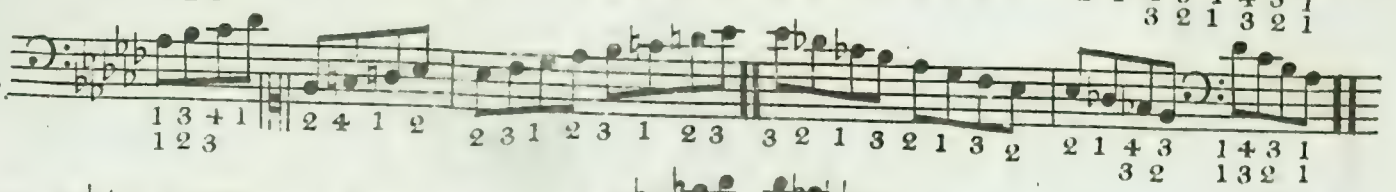
29. B.



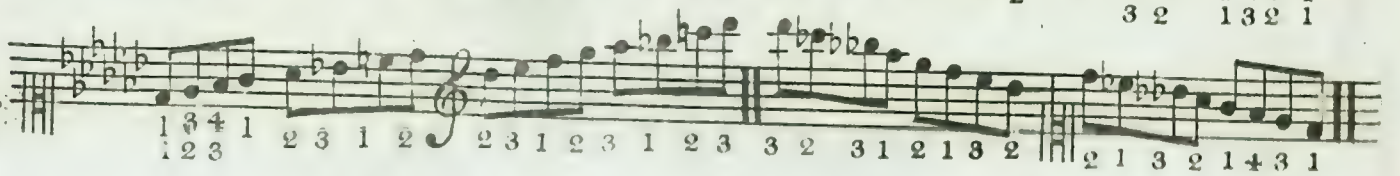
30. E.



31. A.

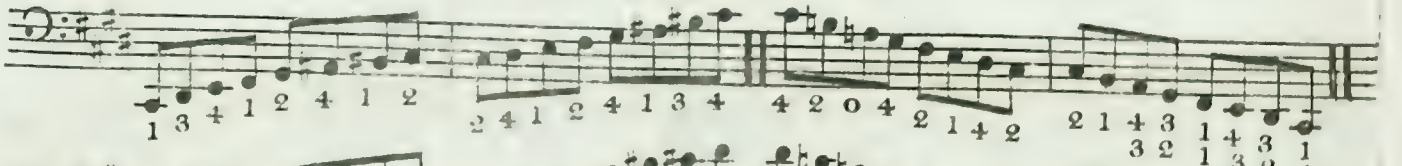


32. D.

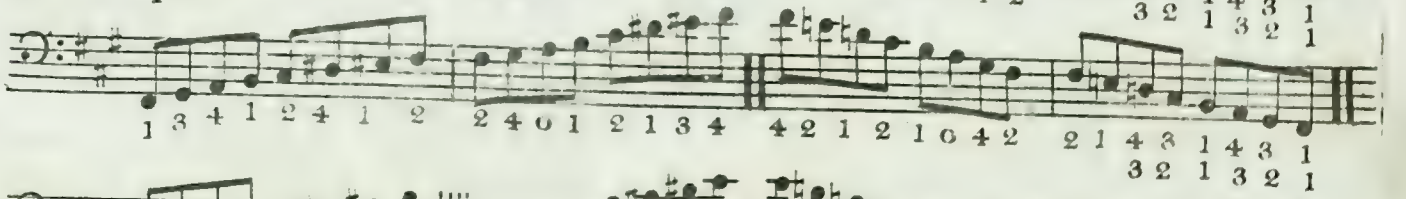


Second Series, C♯, F♯, B, E, A, D. Minor.

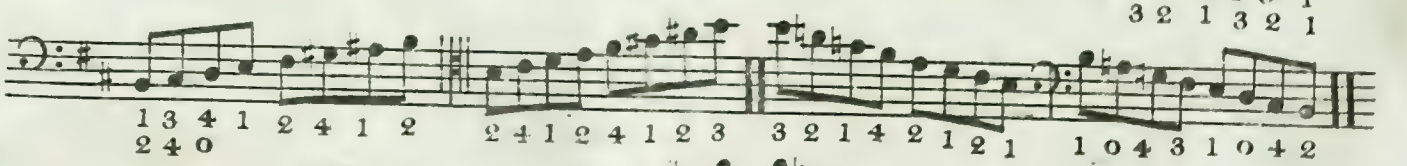
33. C.



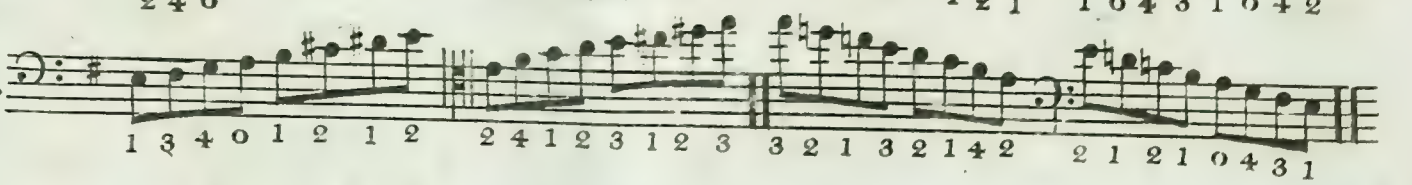
34. F.



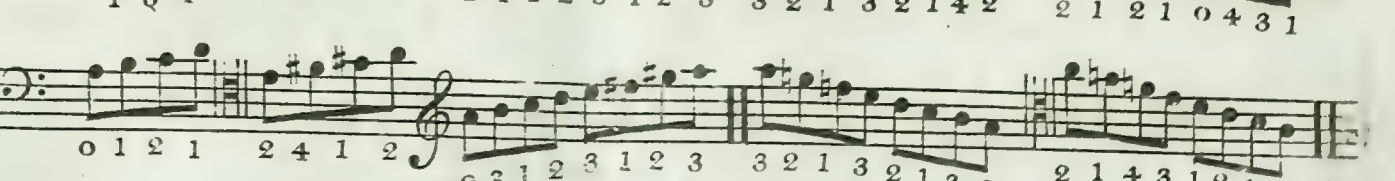
35. B.



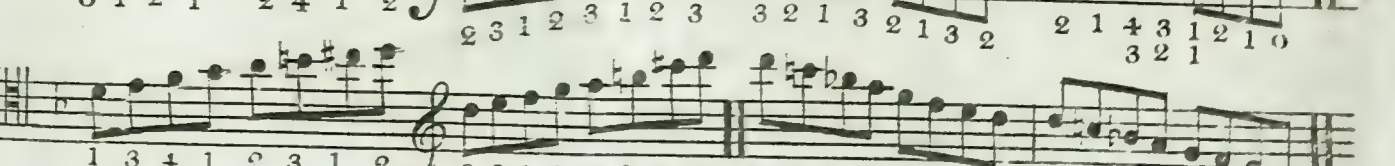
36. E.



37. A.



38. D.



Third Series. D, G, C, F, B♭, E♭, Minor.

39. D.

40. G.

41. C.

42. F.

43. B.

44. E.

Fourth Series. E♭, A♭, D♭, Minor.

45. E.

46. A.

47. D.

Fifth Series. E, A, D, G, C. Minor.

48. E.

49. A.

50. D.

51. G.

52. C.

53. See Nº 3 & 19.

54. See Nº 4.

55.

56. See Nº 11.

57. Compare Nº 24.

58.

59. Comp: Nº 4 & 5.

60.

61.

62.

65.

64.

65.

66.

67.

Major 1st Minor 2d Minor Major Major

1 2 4 1 3 4 1 2 3 1 2 1 2 4

1st Minor 2d Min: Major 1st Minor 2d Minor

1 3 4 1 2 3 1 2 4 1 2 4 1 2 3 1 2 3

Major Major 1st Minor 2d Minor

1 2 3 1 2 3 1 2 3 1 2 3 2

68.

Major 1st Minor 2d Minor Major Major

1st Minor 2d Minor Major 1st Minor 2d Minor

Major Major 1st Minor 2d Minor

69.

a b

4 1 4 2 4 2 1 2 1 4 2 1 4 2 1 2 2 1 4 2 1 4 1 4 2 1 2 2 1 4 1 4

c

4 1 4 2

d e

4 1 4 2

f

g h

i

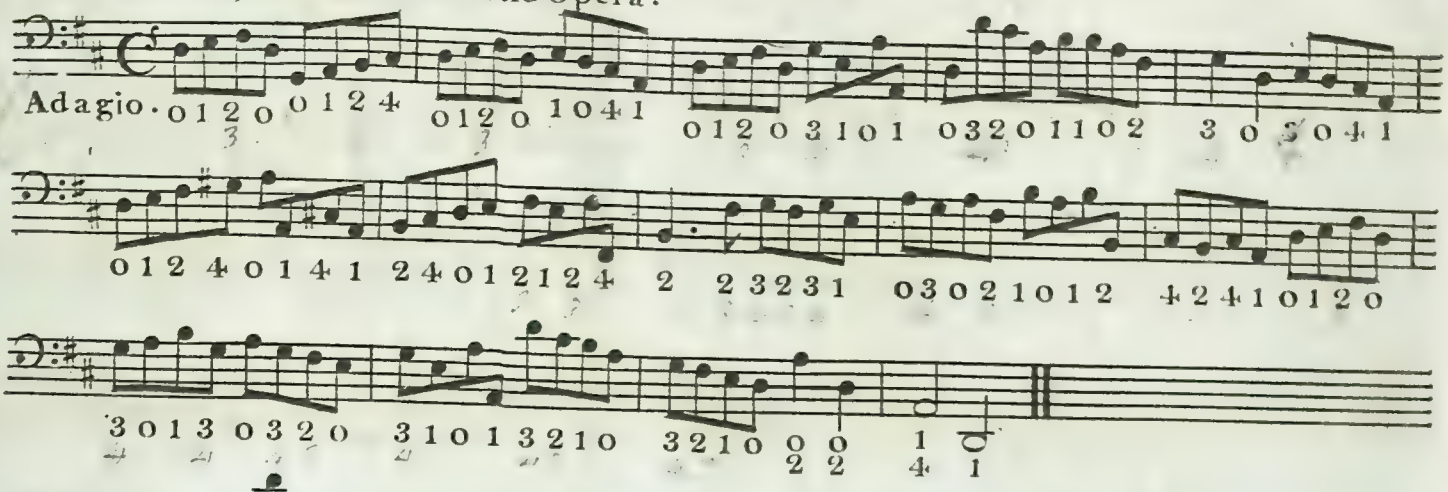
k l

m

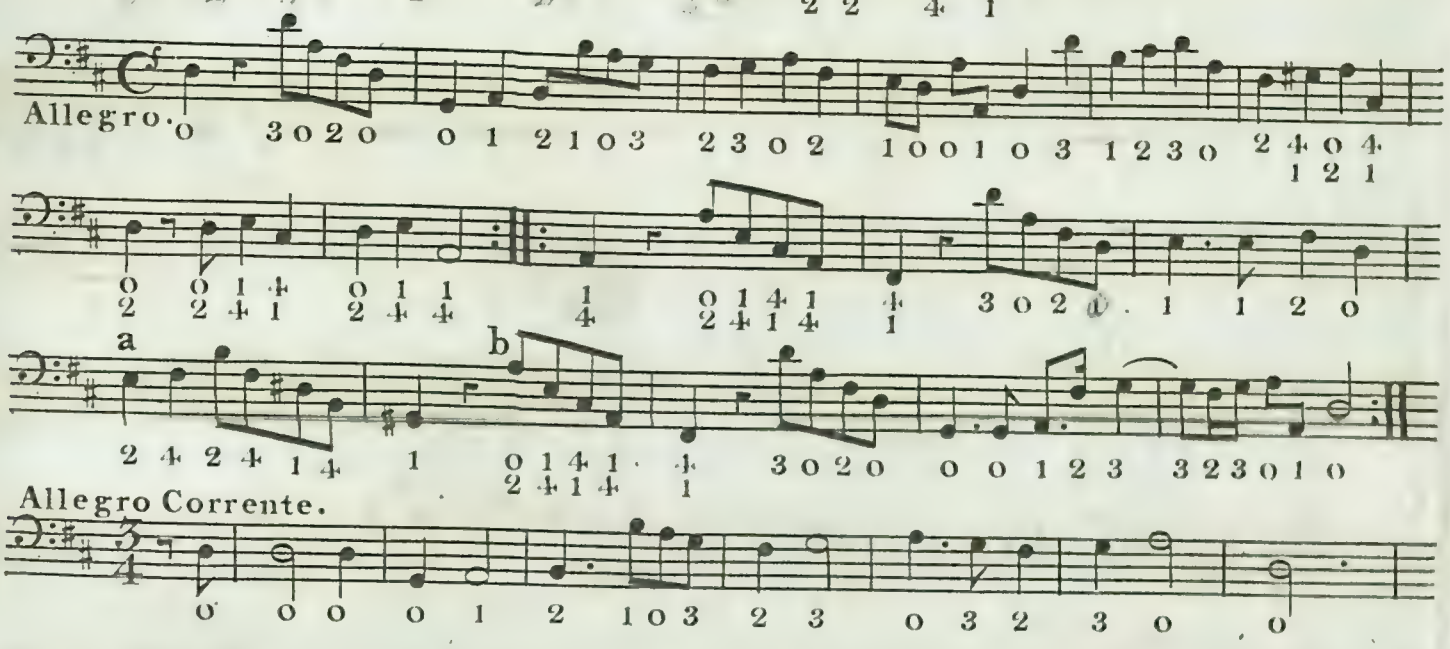
PRELUDIO.

First Sonata, of Corelli's second Opera.

70.

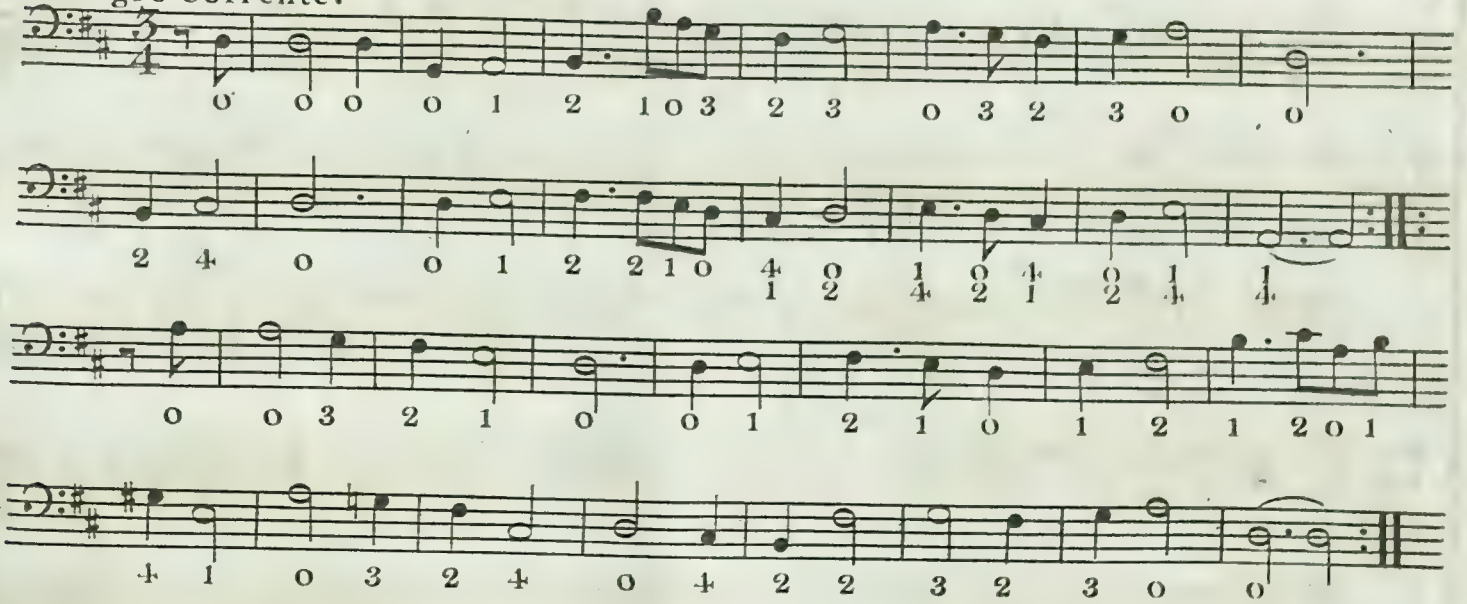


71.



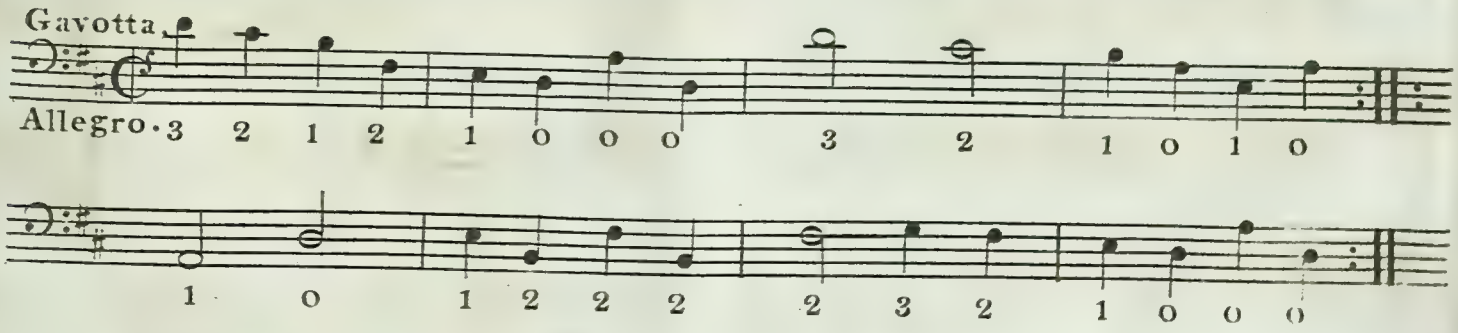
Allegro Corrente.

72.



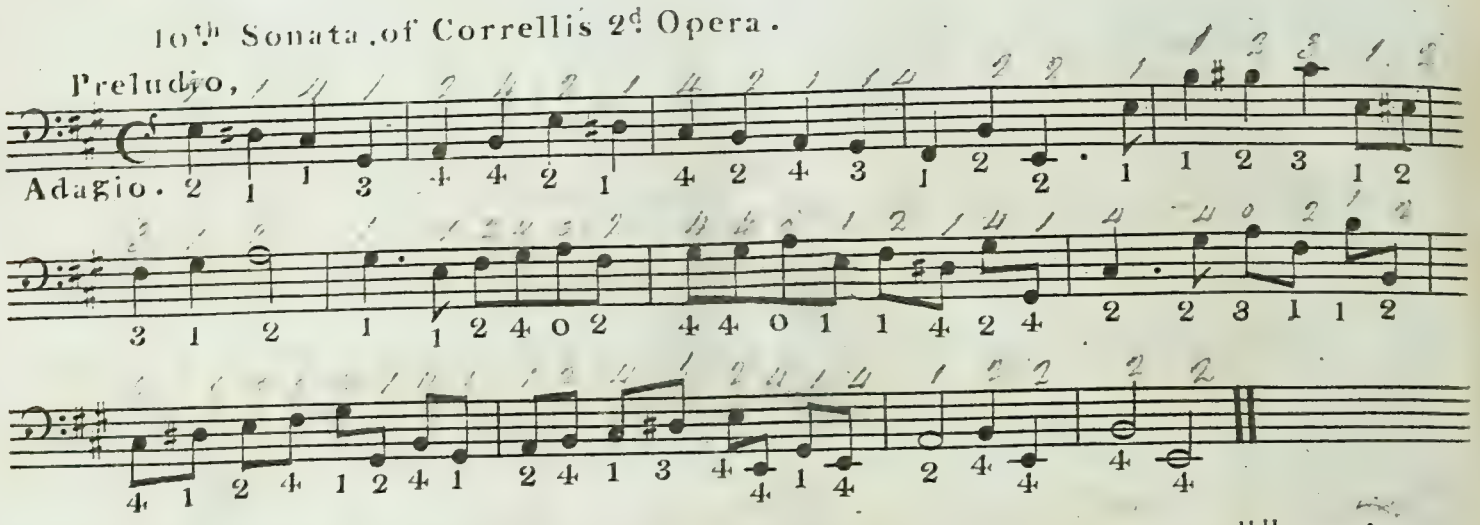
Gavotta.

73.



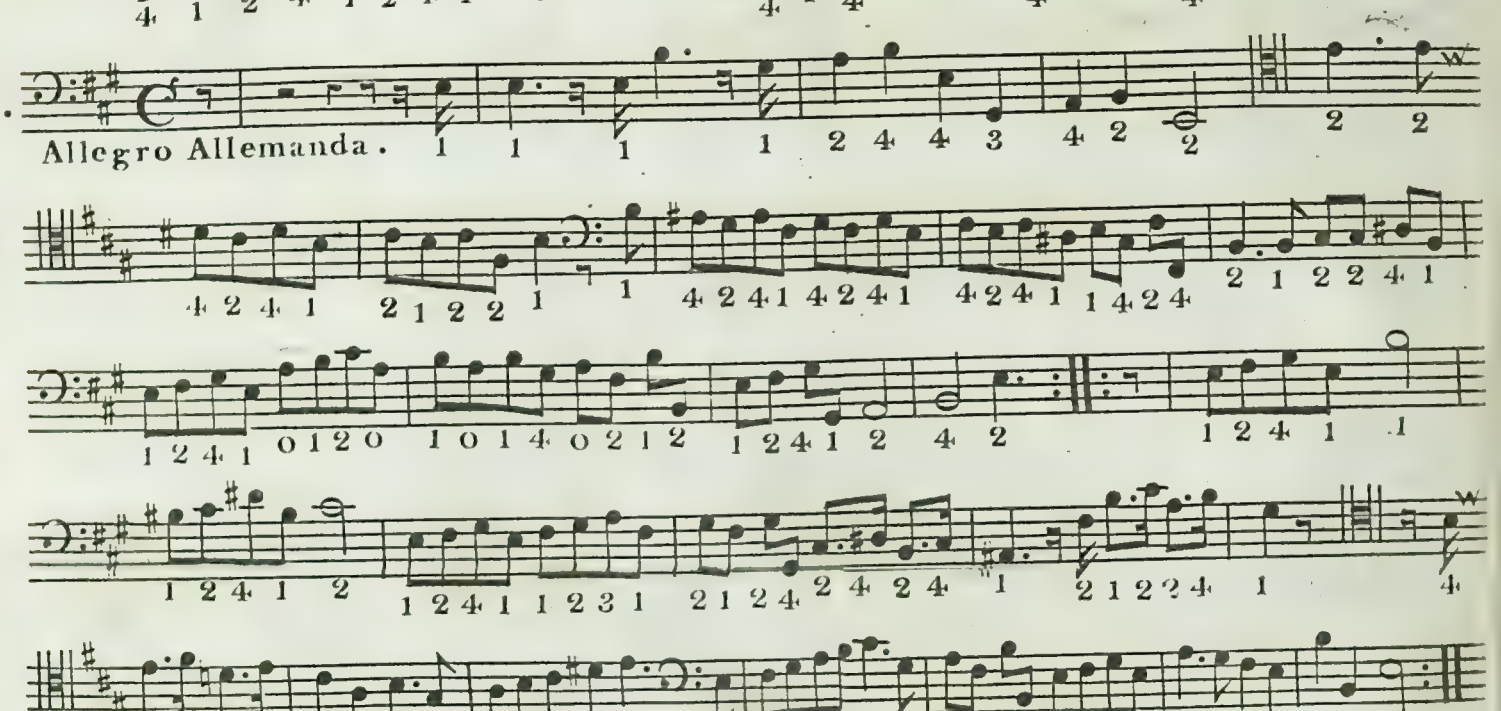
Preludio,

74.

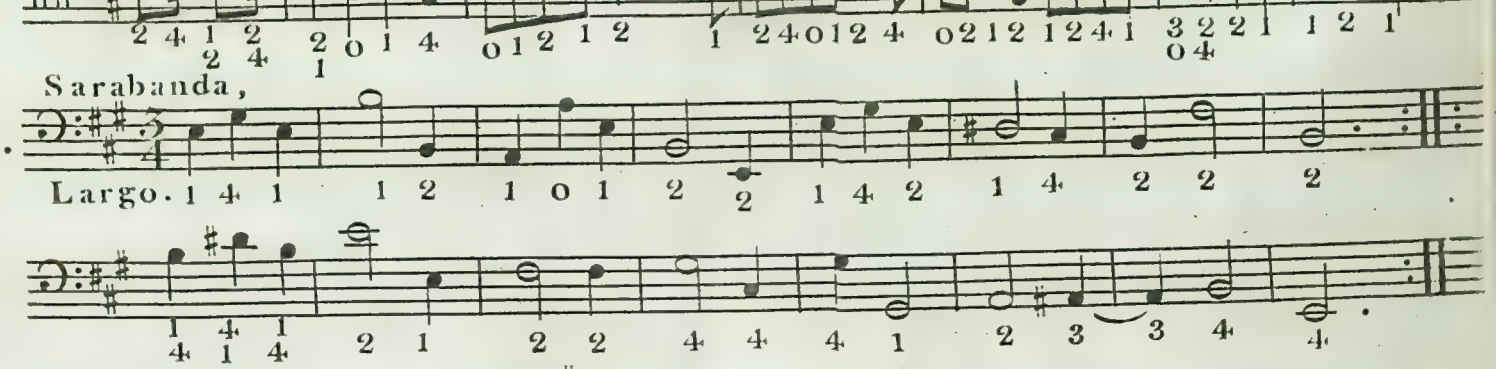


Adagio.

75.



Allegro Allemanda.



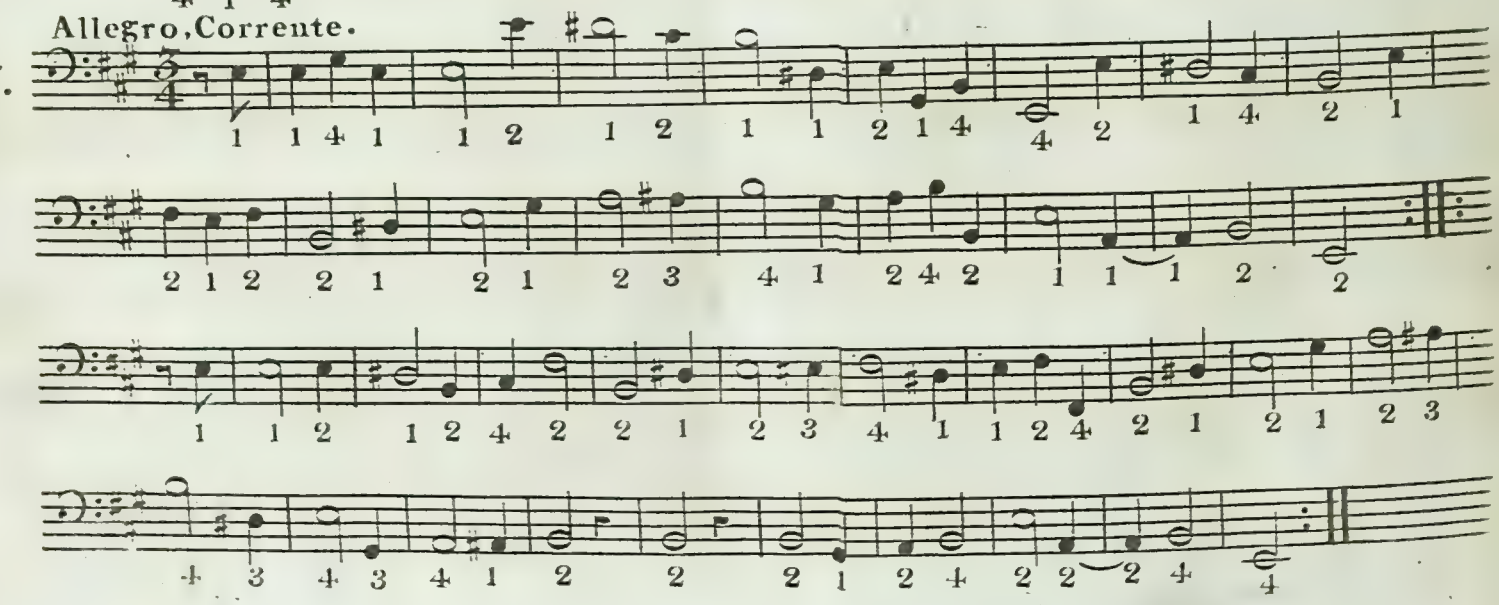
Sarabanda,

76.

Largo.

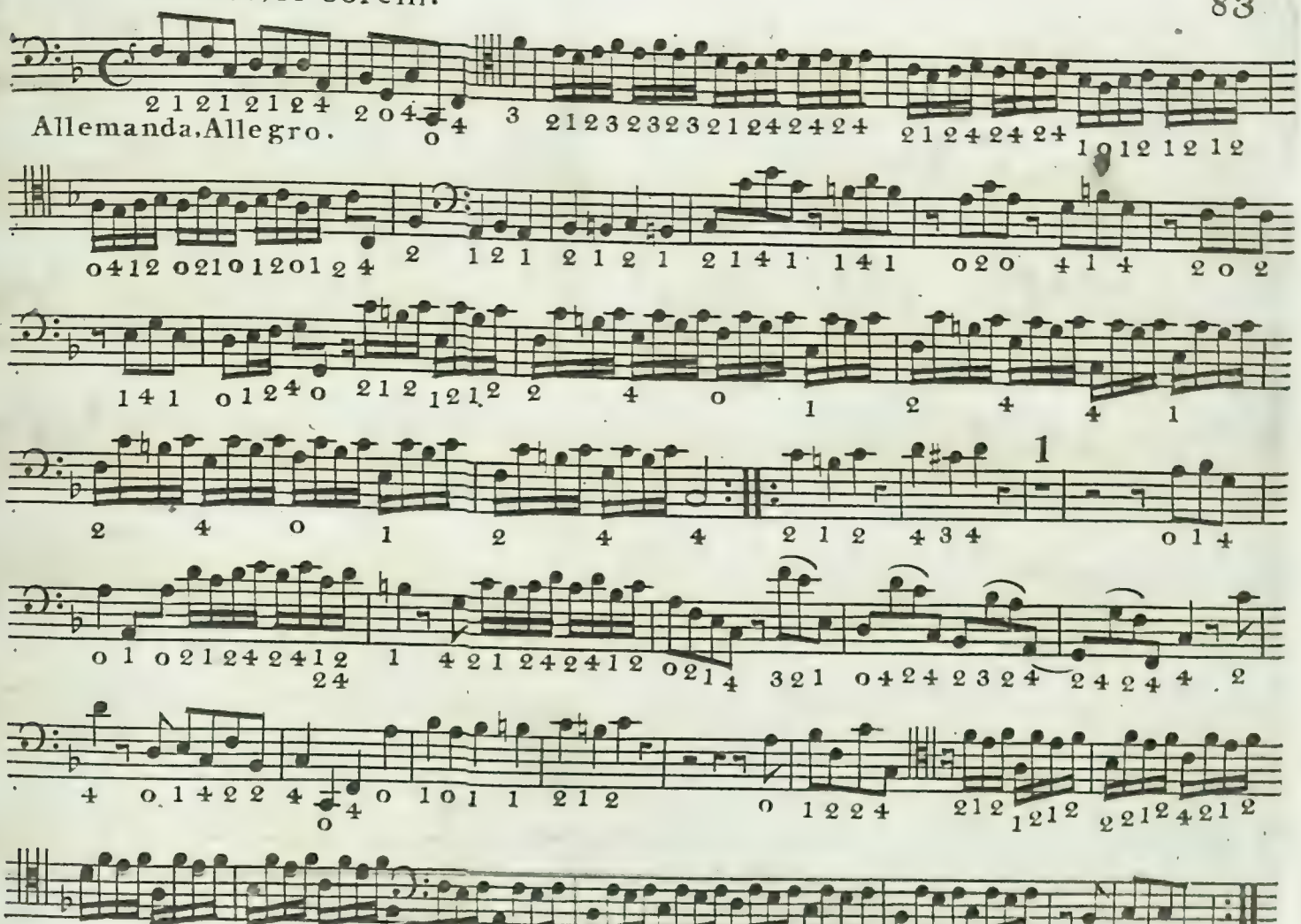
Allegro, Corrente.

77.



78.

Allemanda, Allegro.



1st Concerto, of Corelli.

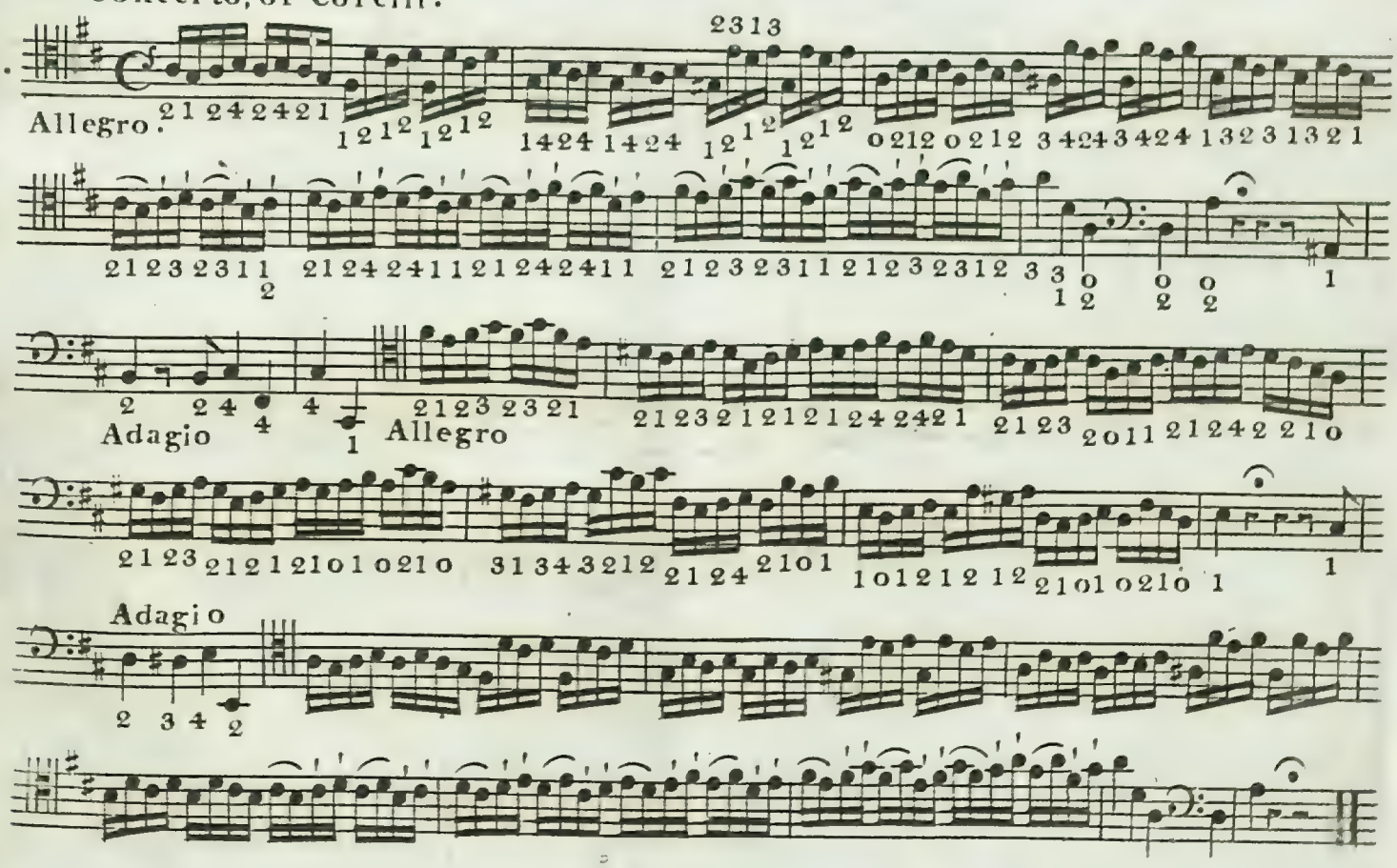
79.

Allegro.

Adagio

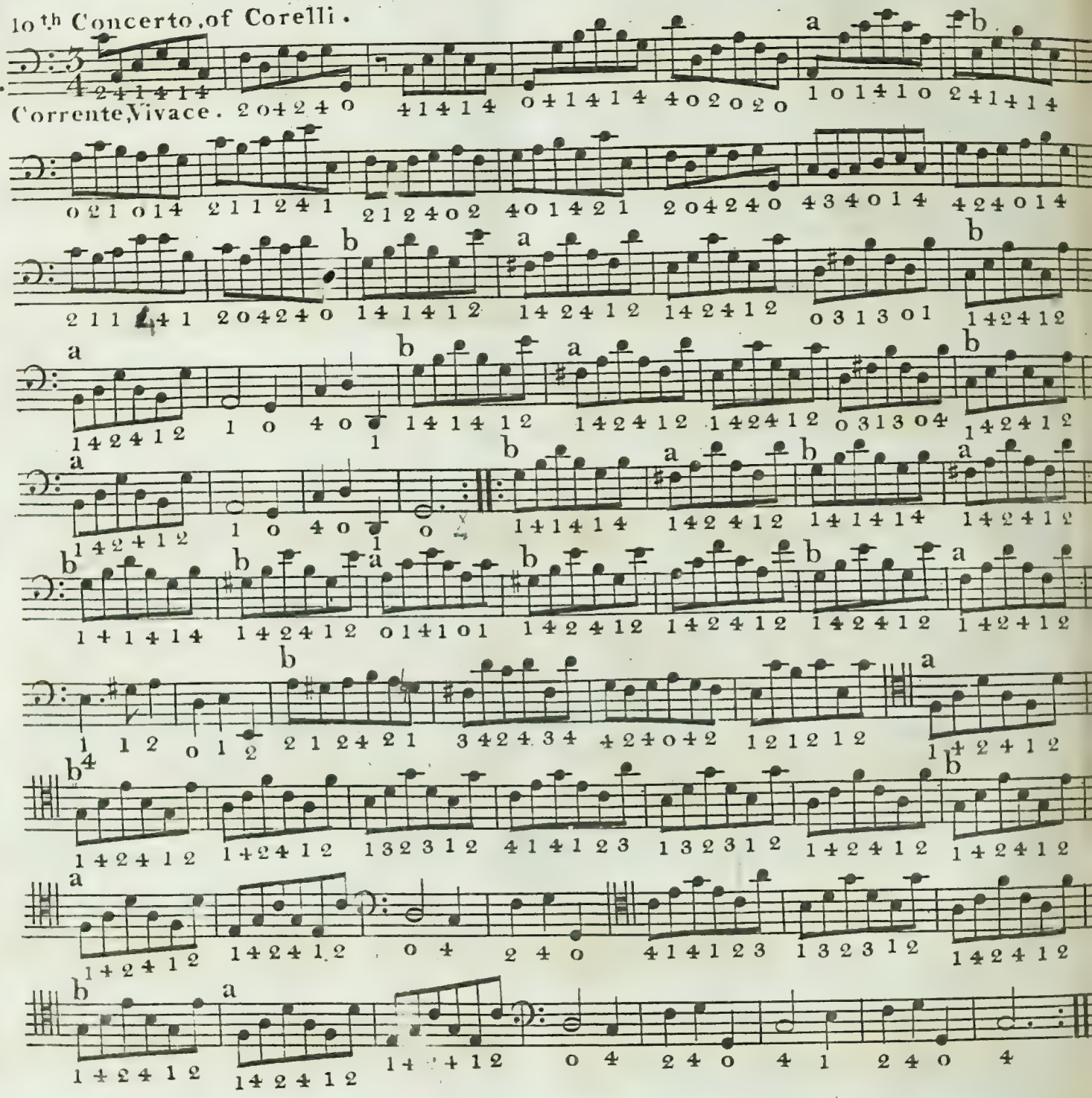
Allegro

Adagio



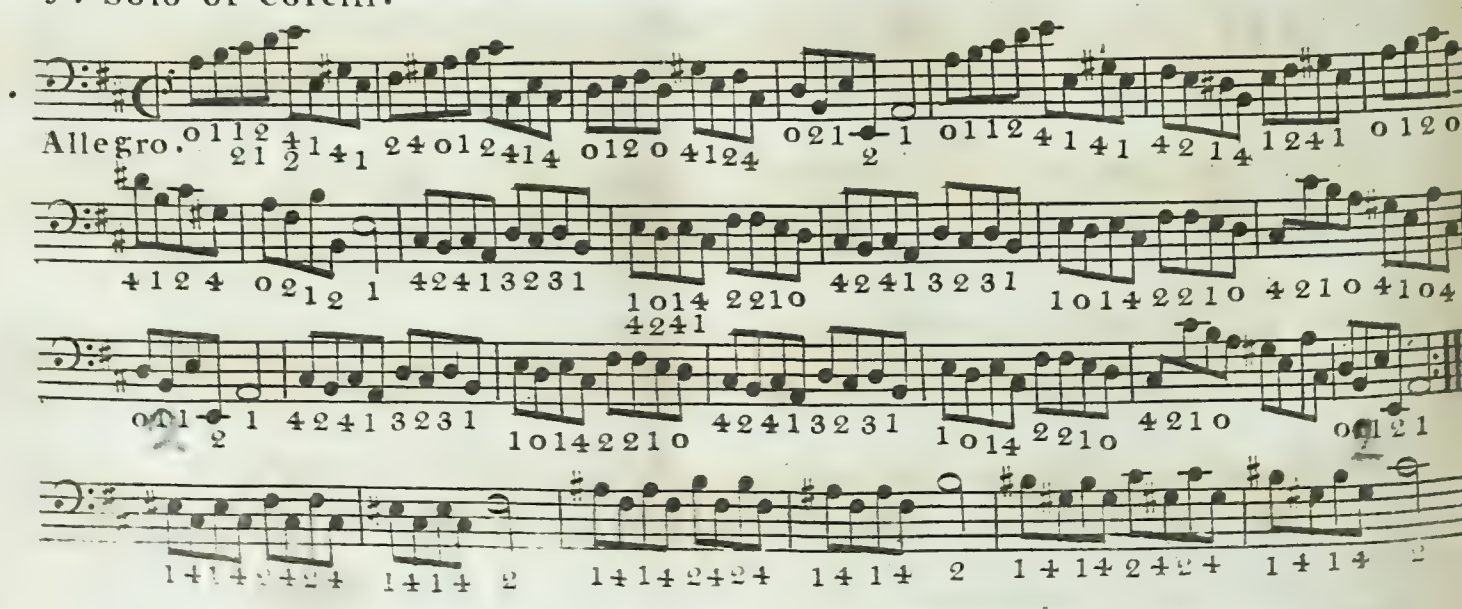
10th Concerto of Corelli.

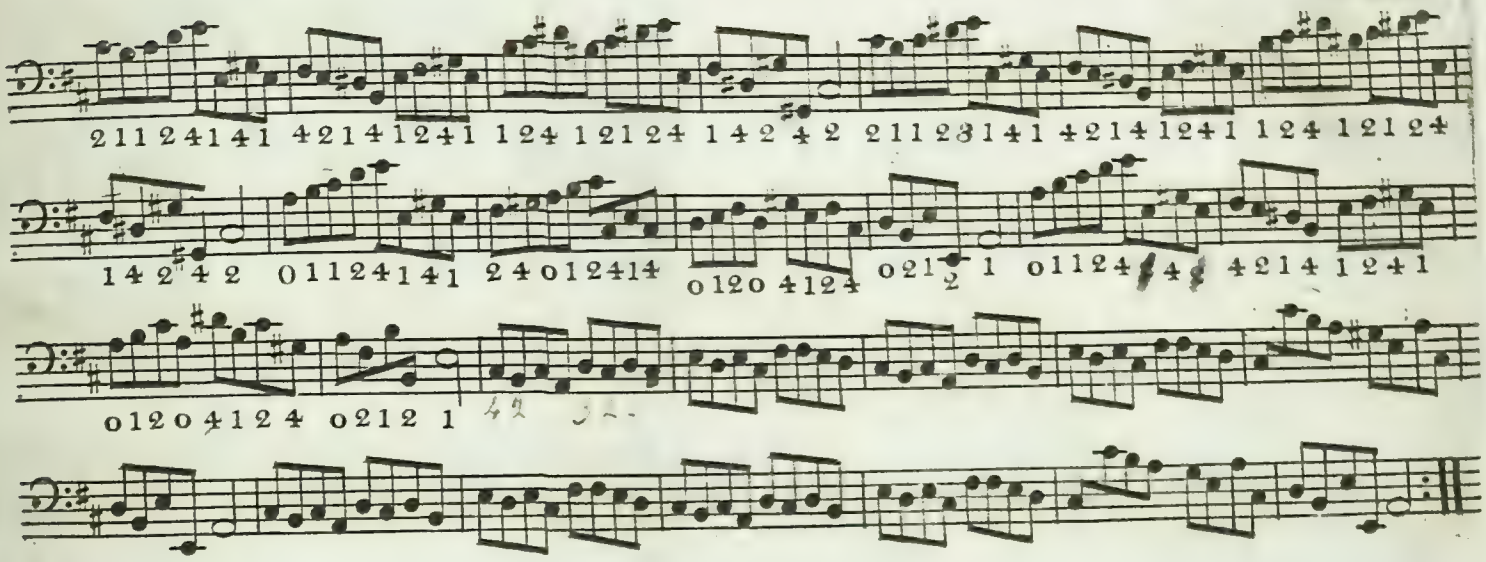
80.



9th Solo of Corelli.

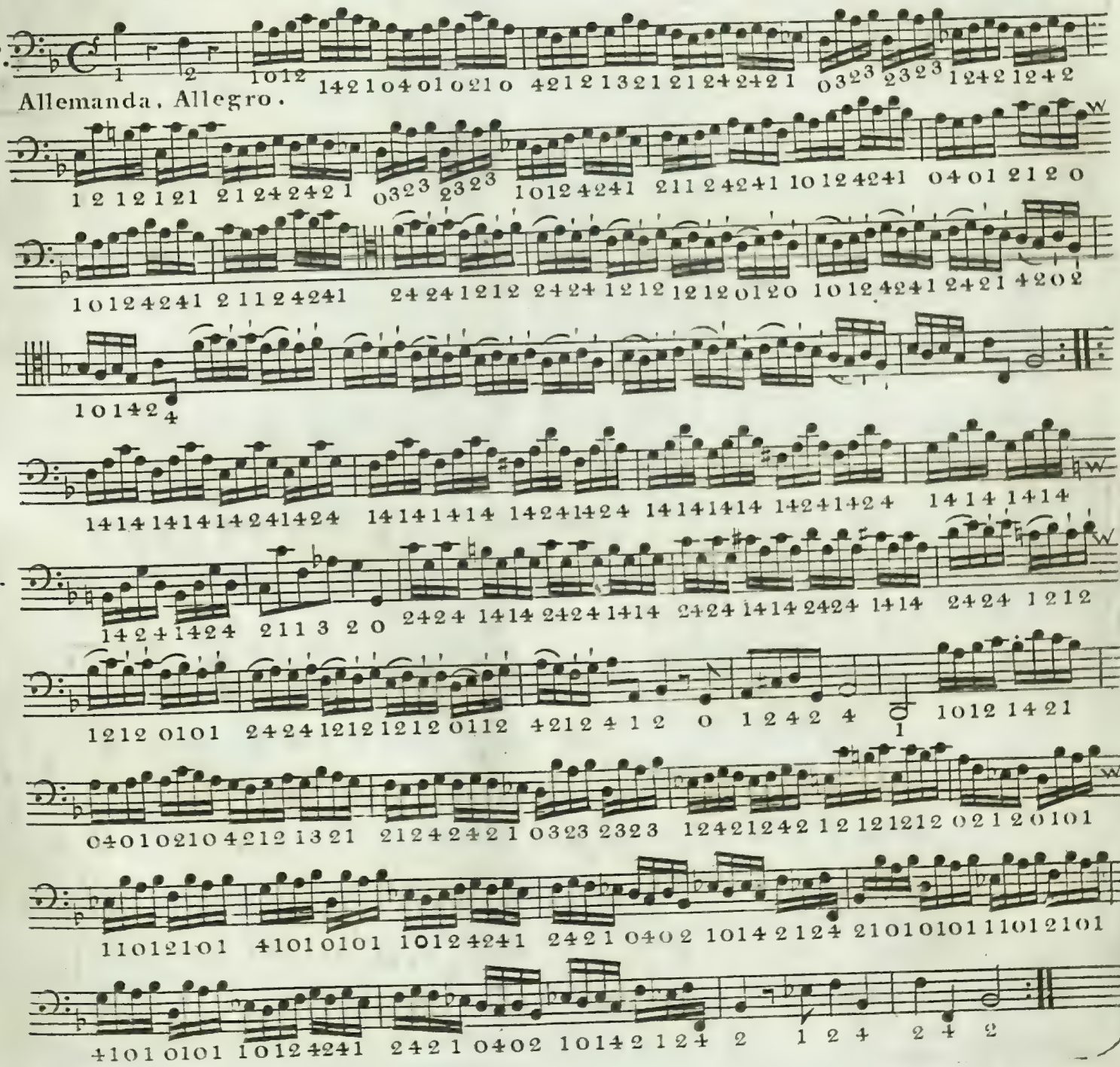
81.





The 11th Concerto of Corelli.

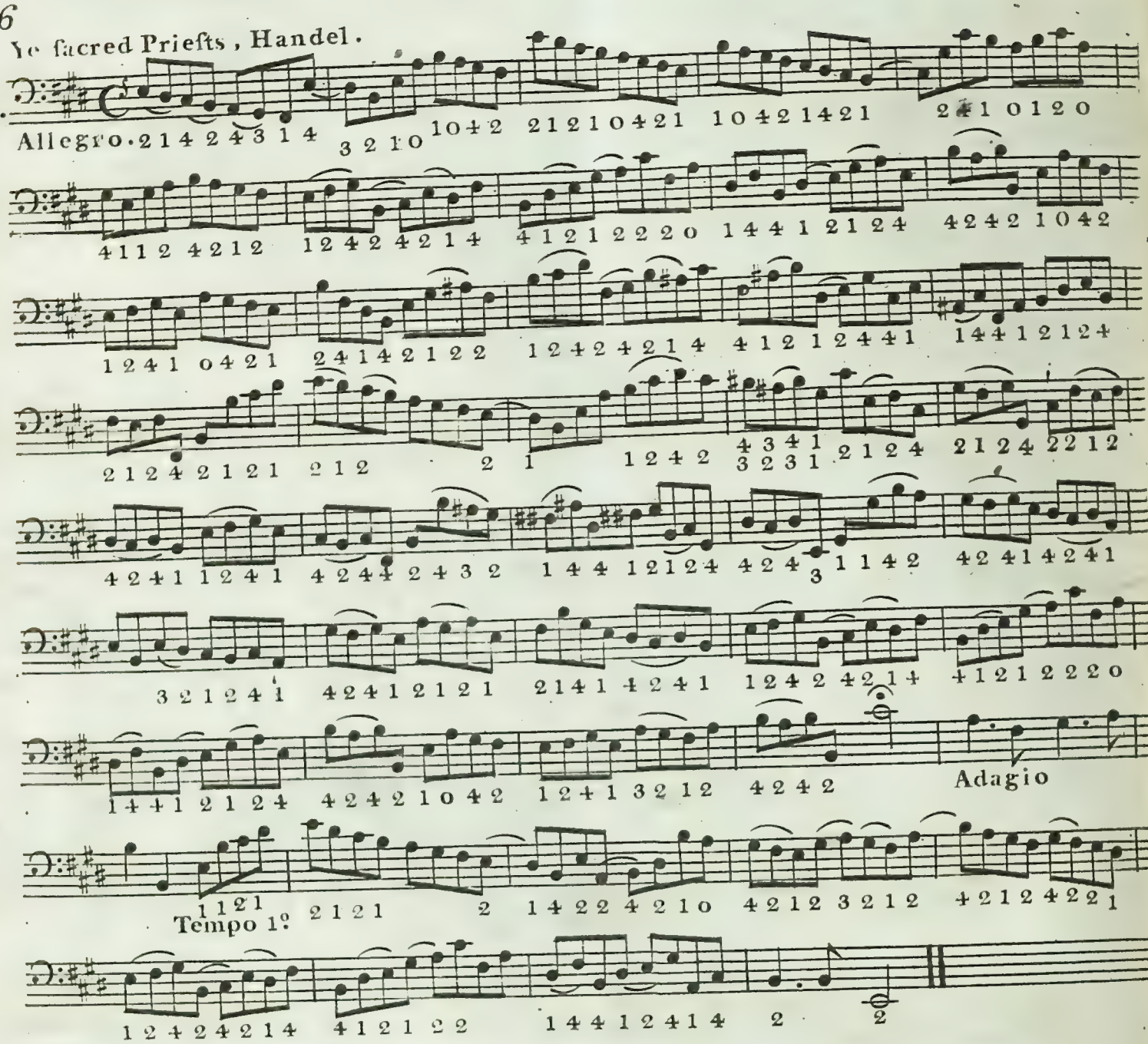
82.



Allemanda, Allegro.

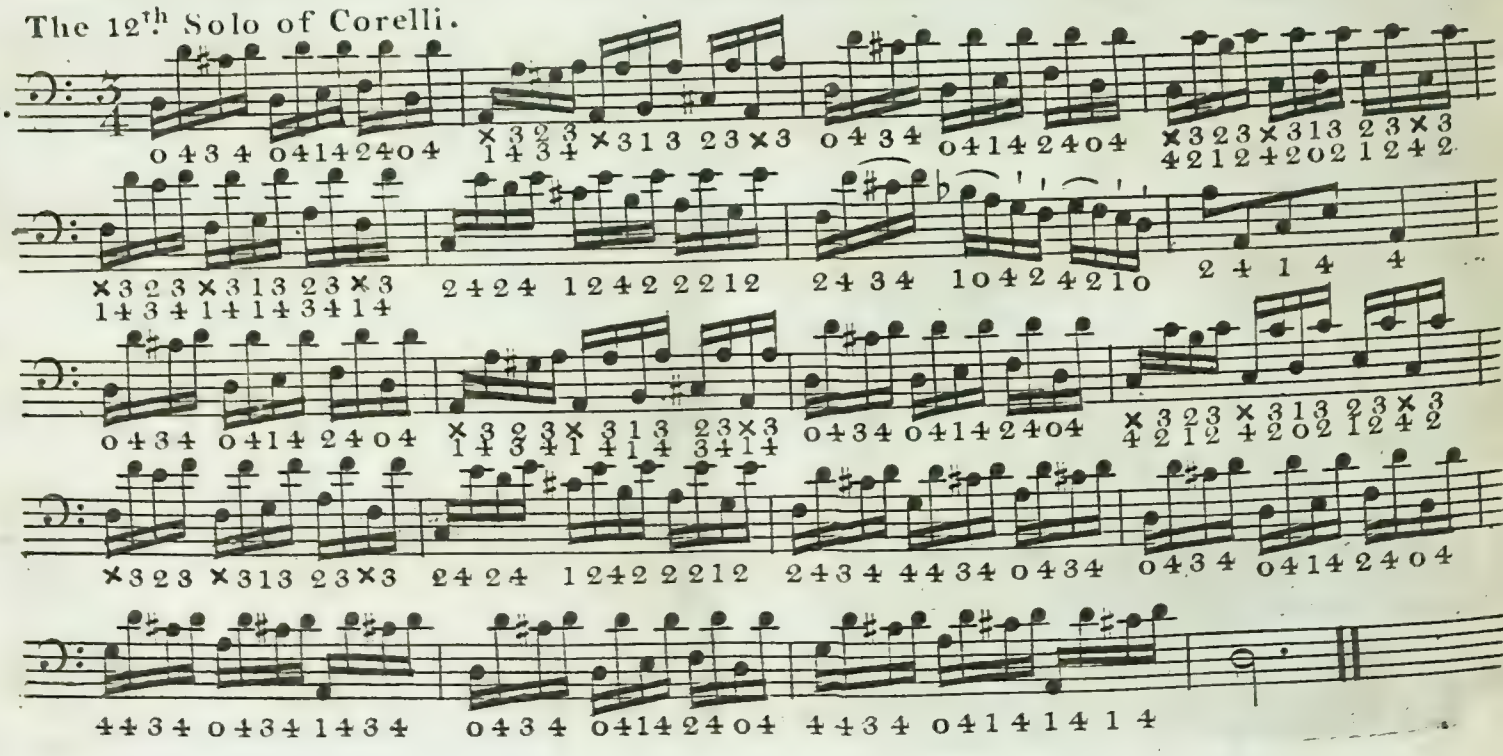
Ye facred Priefts, Handel.

85.



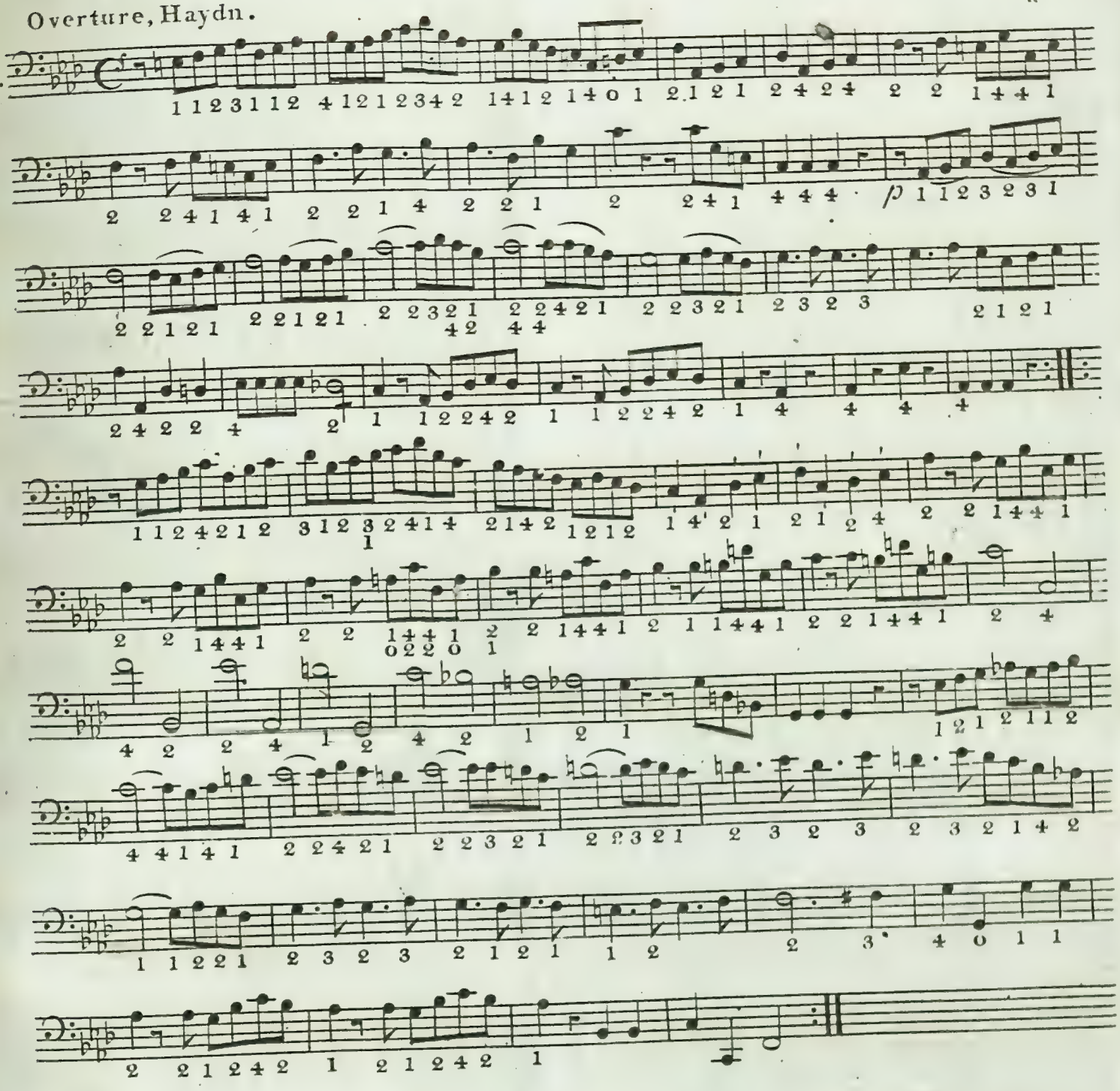
The 12th Solo of Corelli.

84.



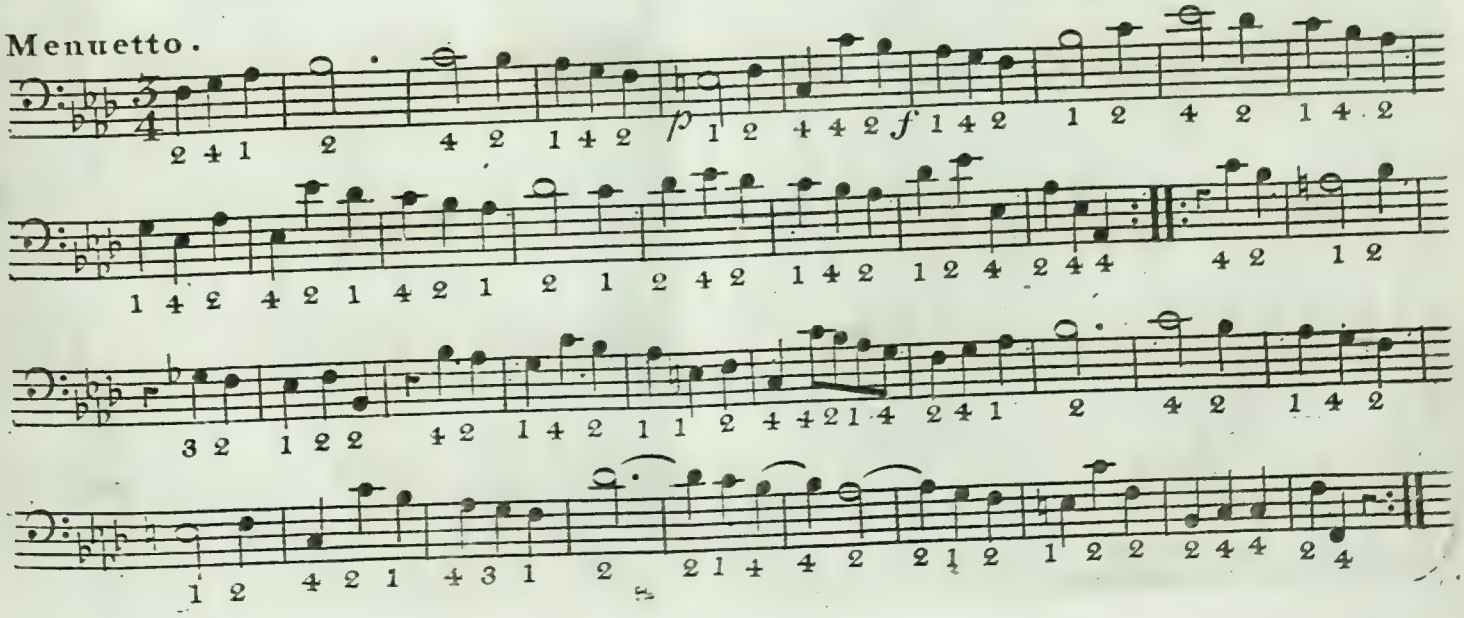
Overture, Haydn.

85.



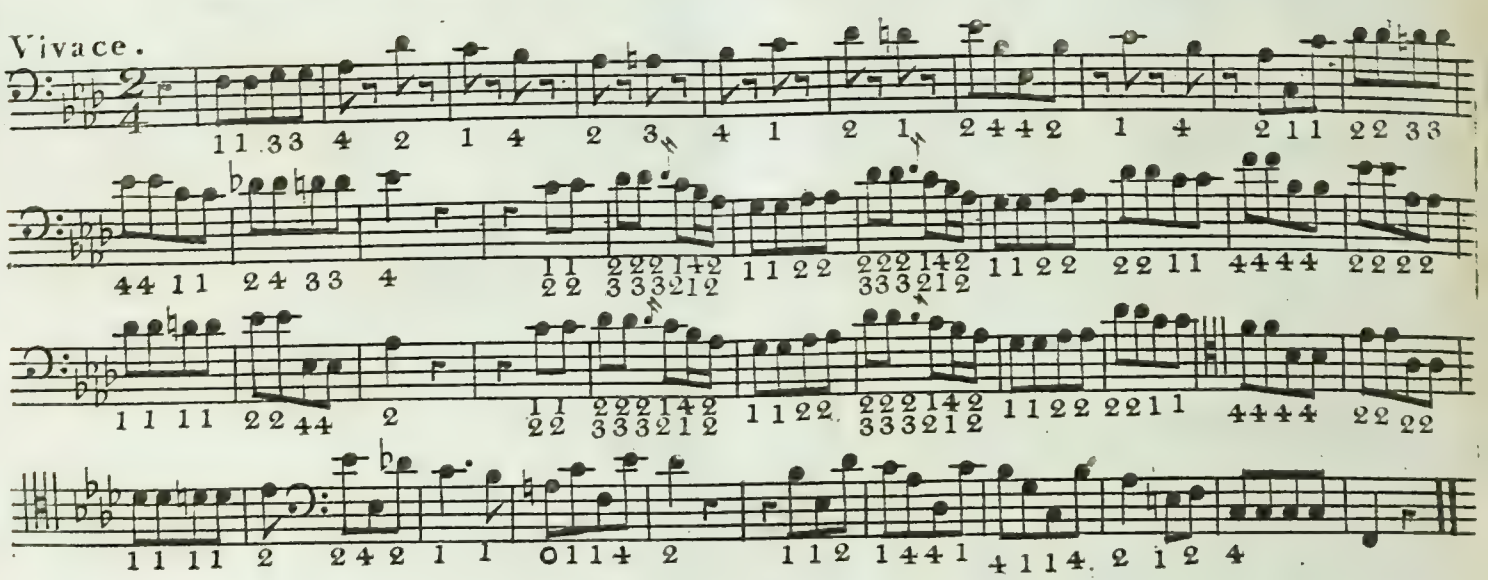
Menuetto.

86.



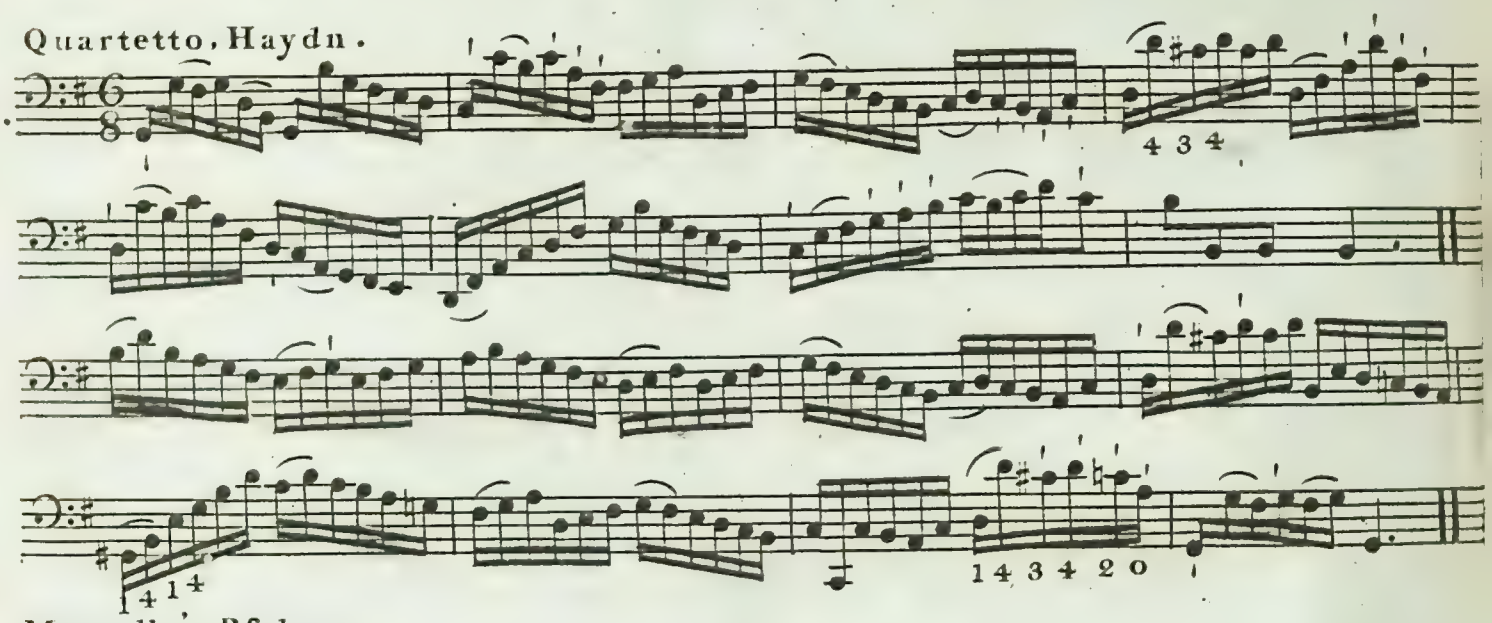
Vivace.

87.



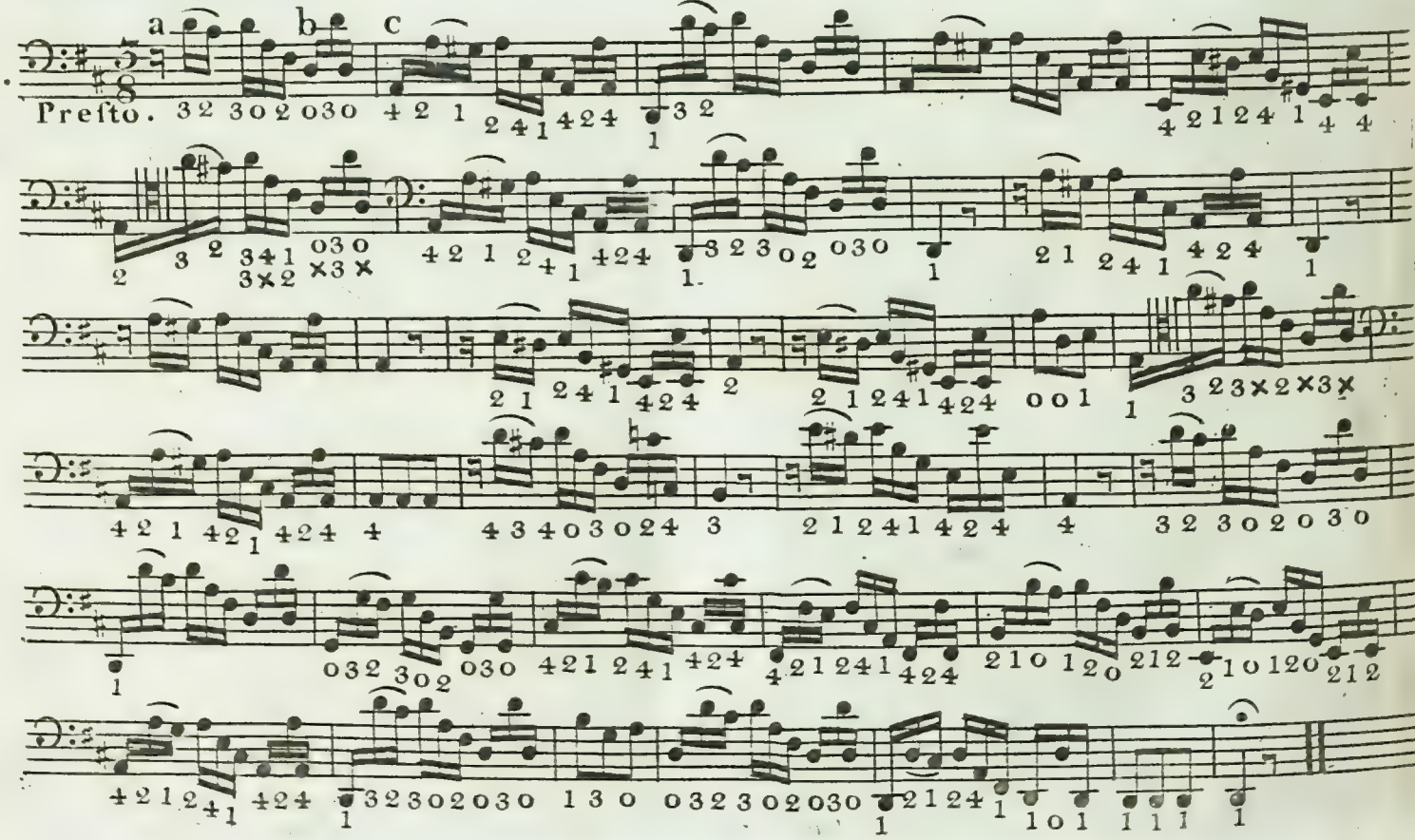
Quartetto, Haydn.

88.

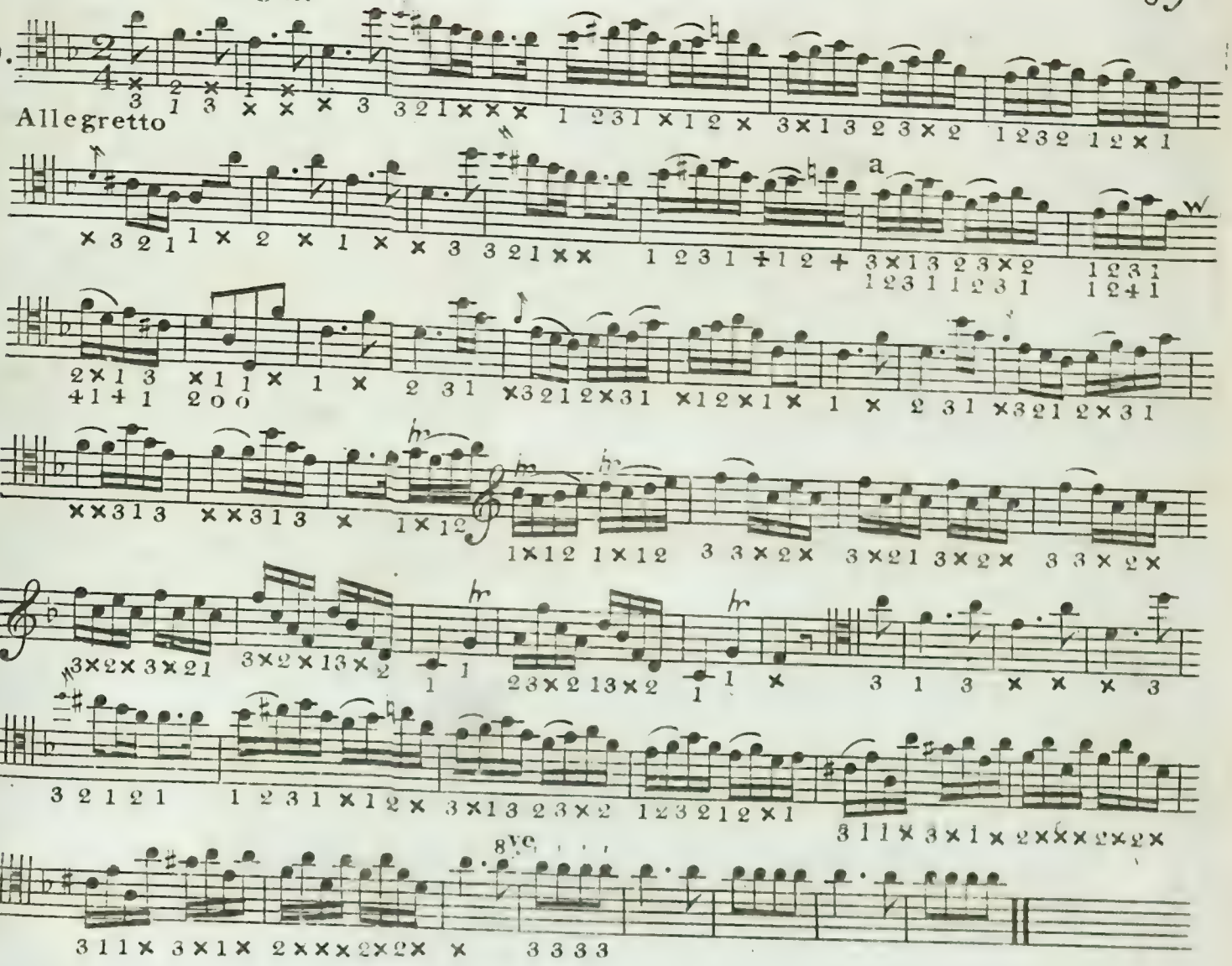


Marcello's, Pfalms.

89.

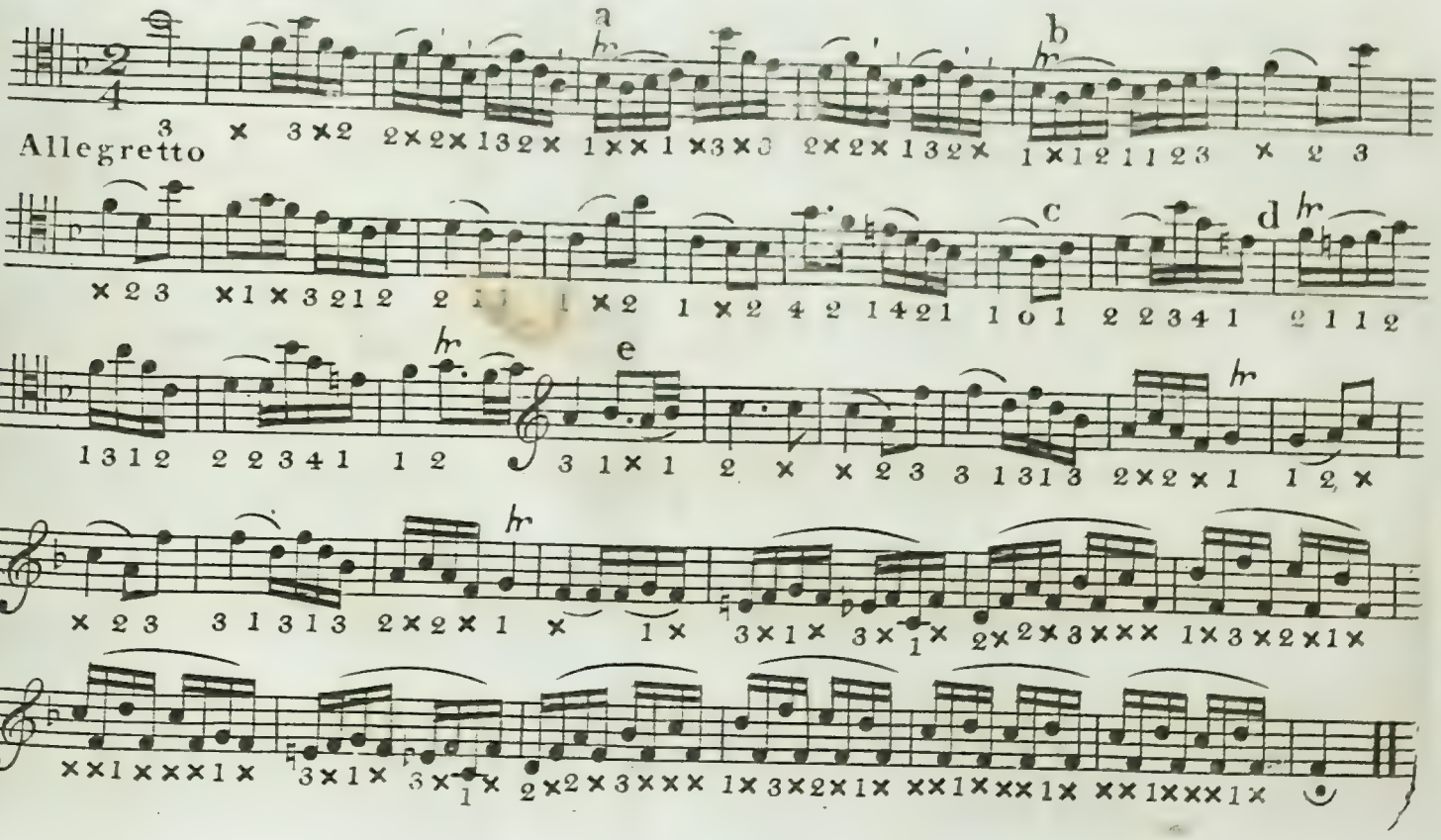


90.



2d Duett, of Borghi.

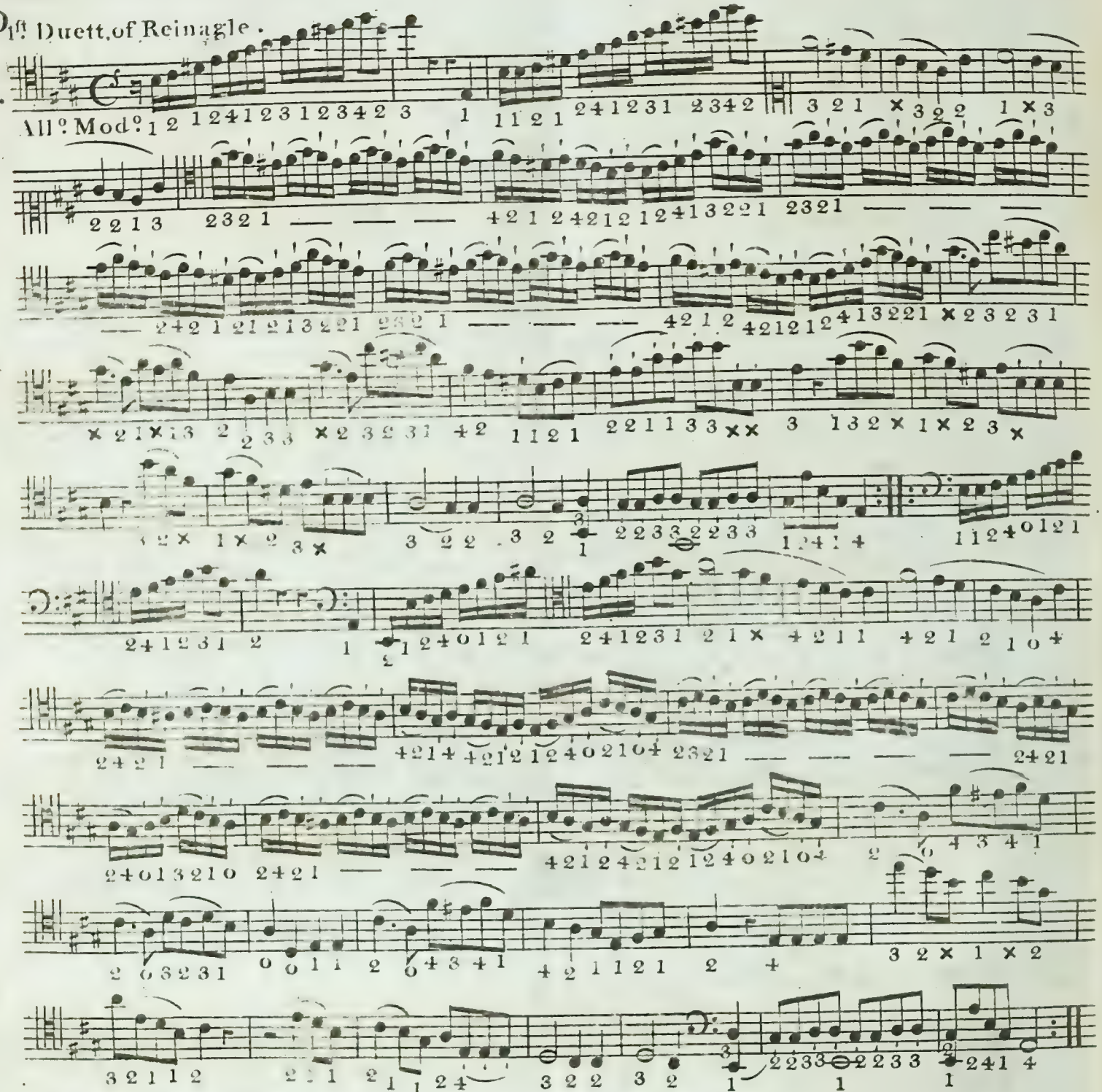
91.



90 1st Duett, of Reinagle.

92.

All.o Mod.o

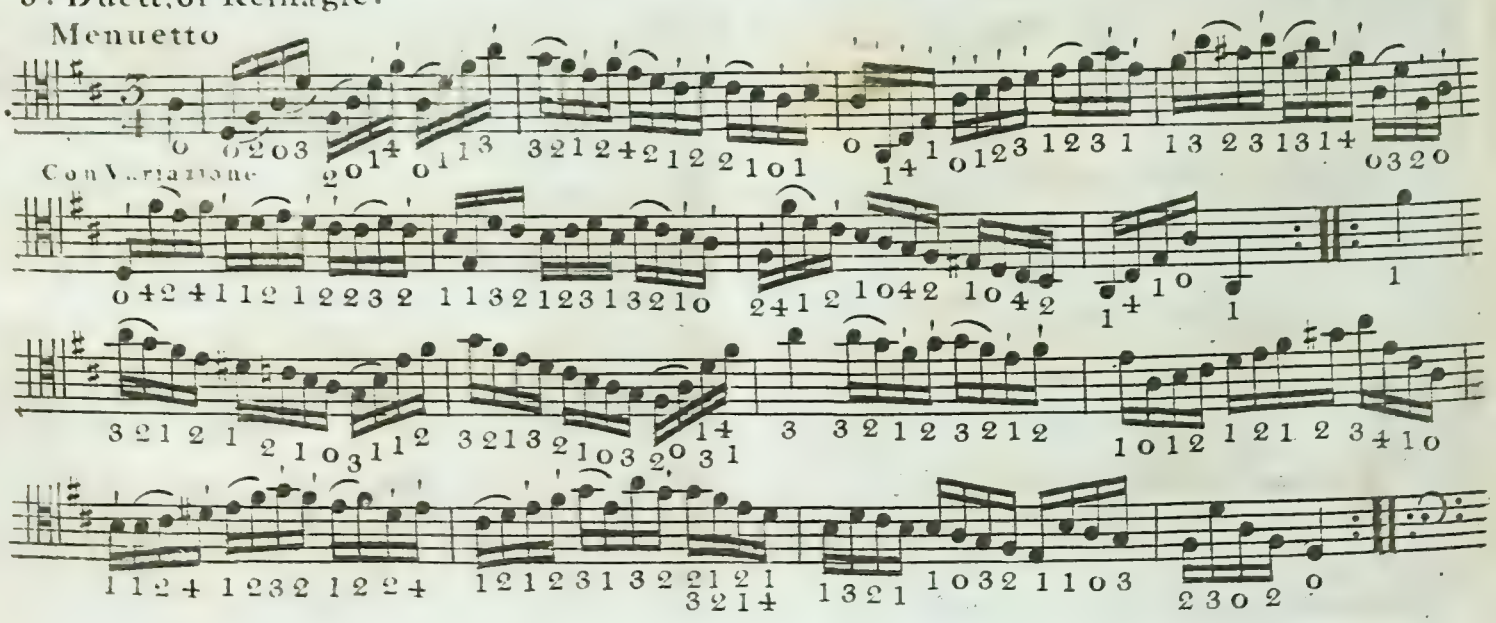


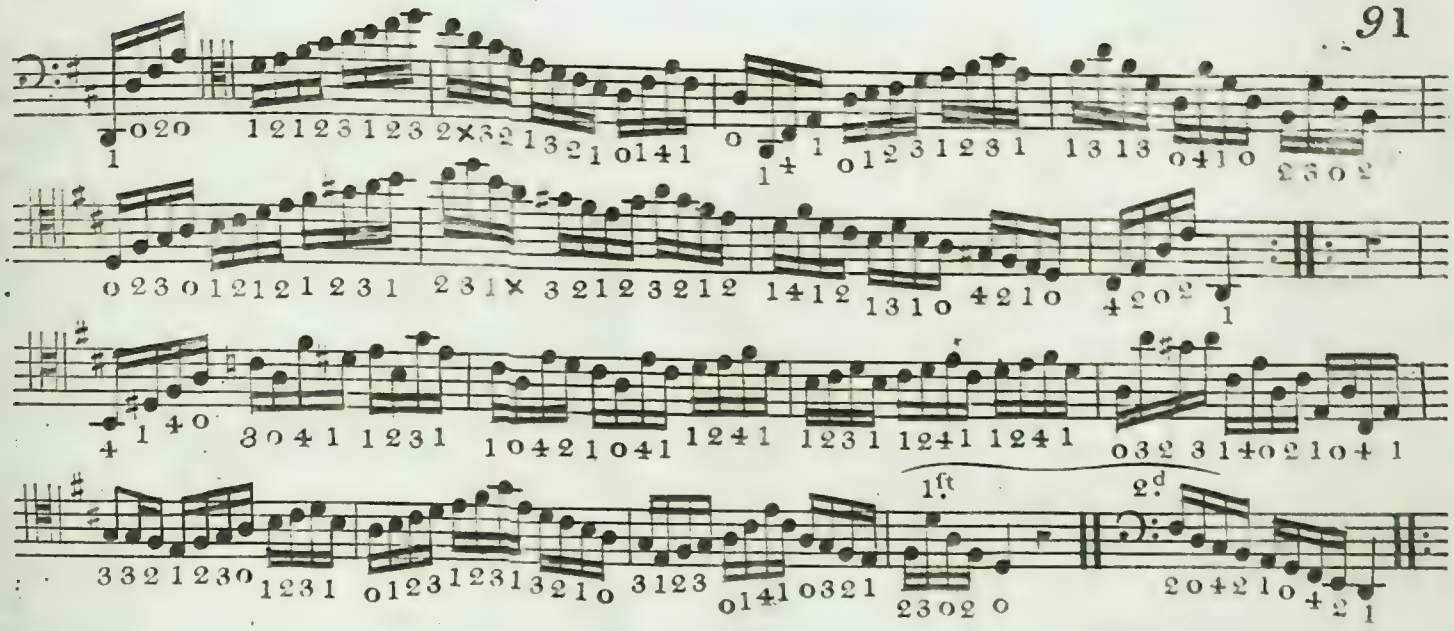
3d. Duett, of Reinagle.

Menuetto

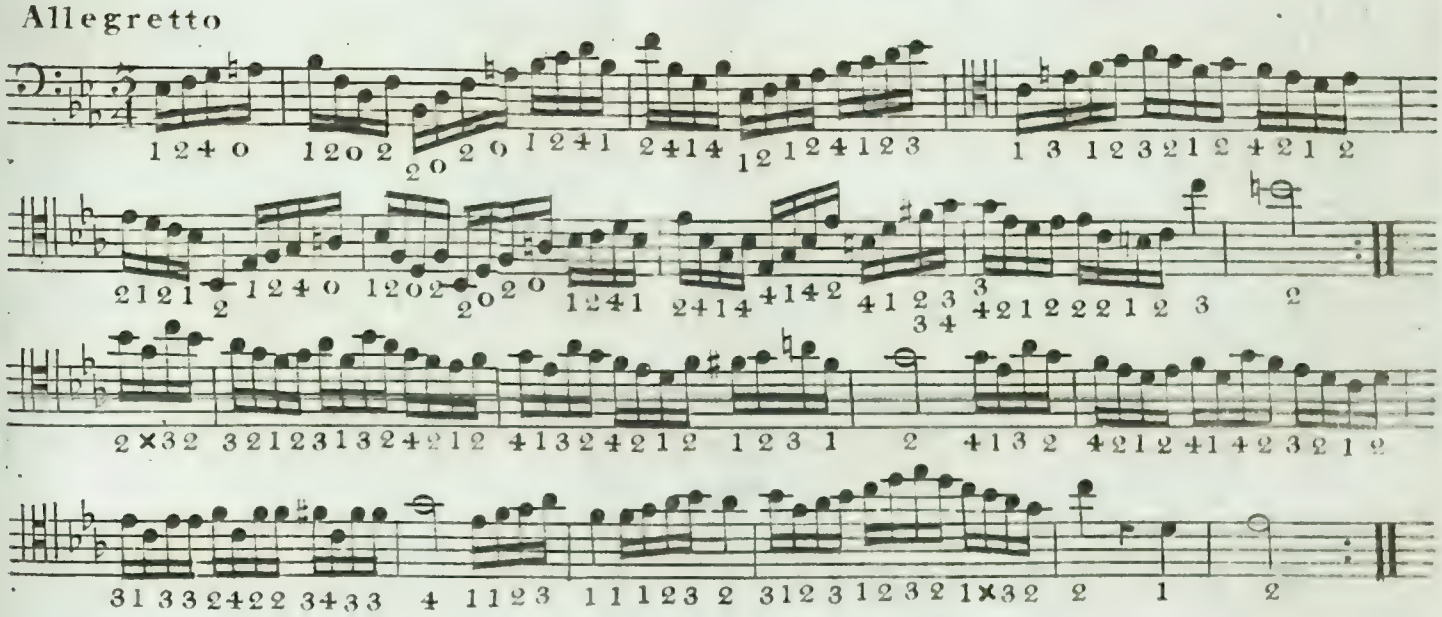
93.

Con Variazione



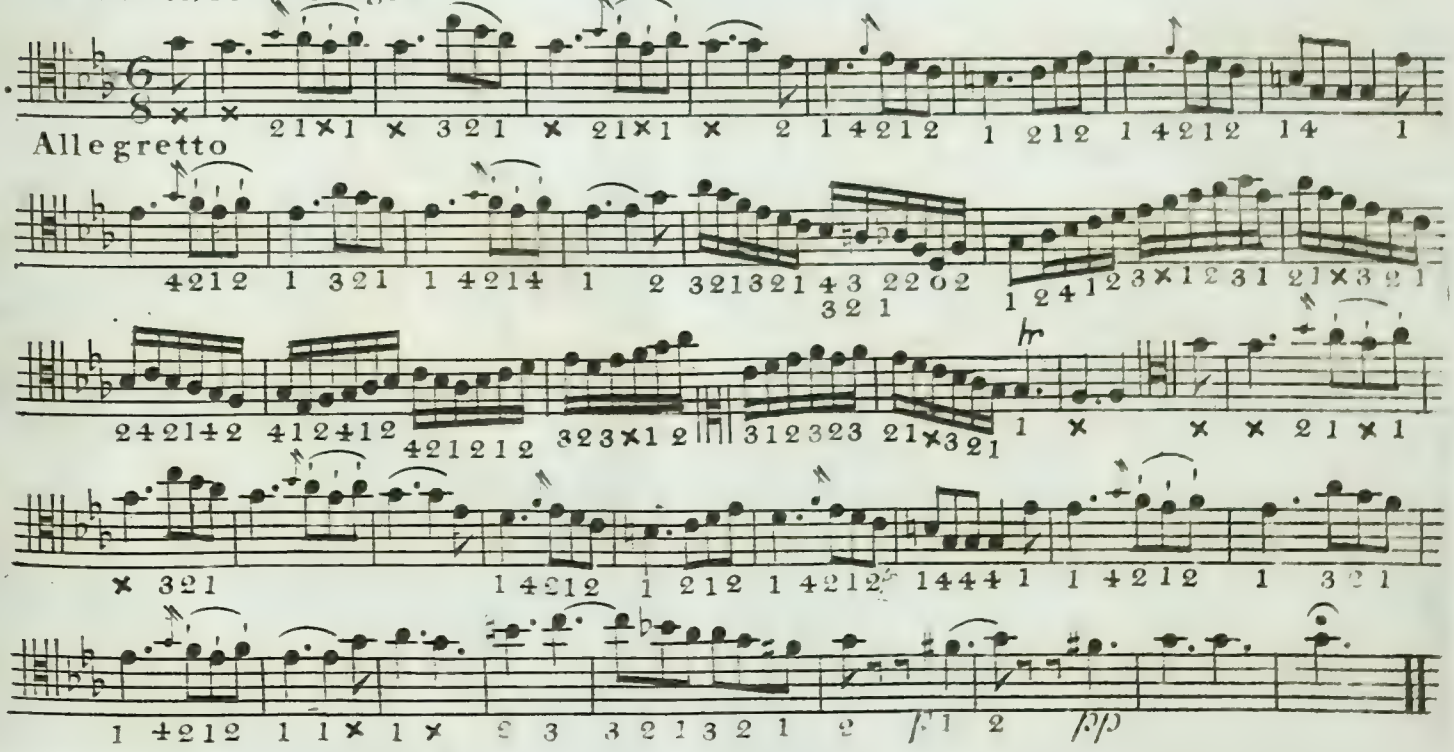


Allegretto



2d. Duett, of Reinagle.

94.



Laport..

95.

Rondo

96.

8ve

Allegro

Minore

a

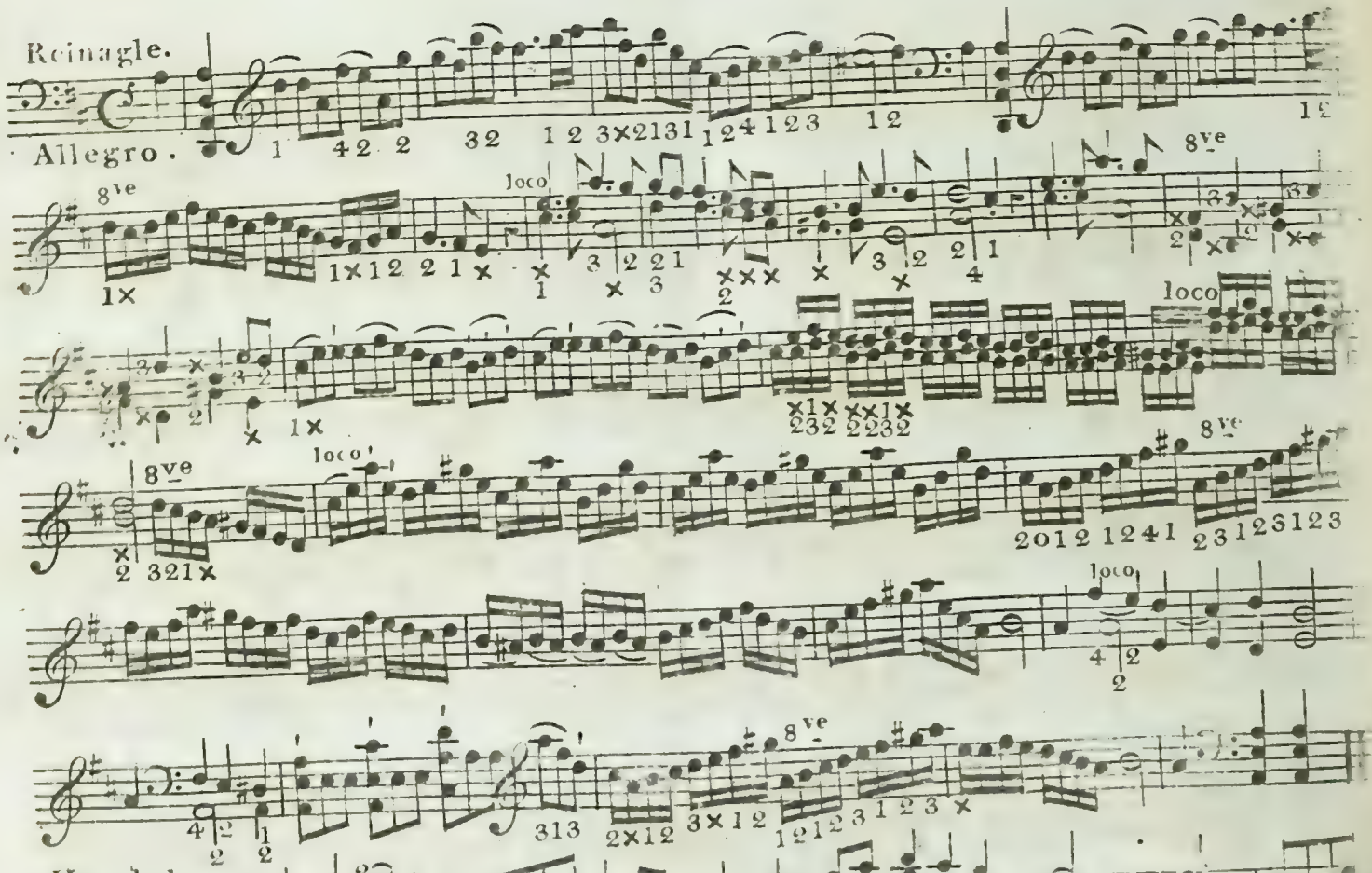
b

loco

94

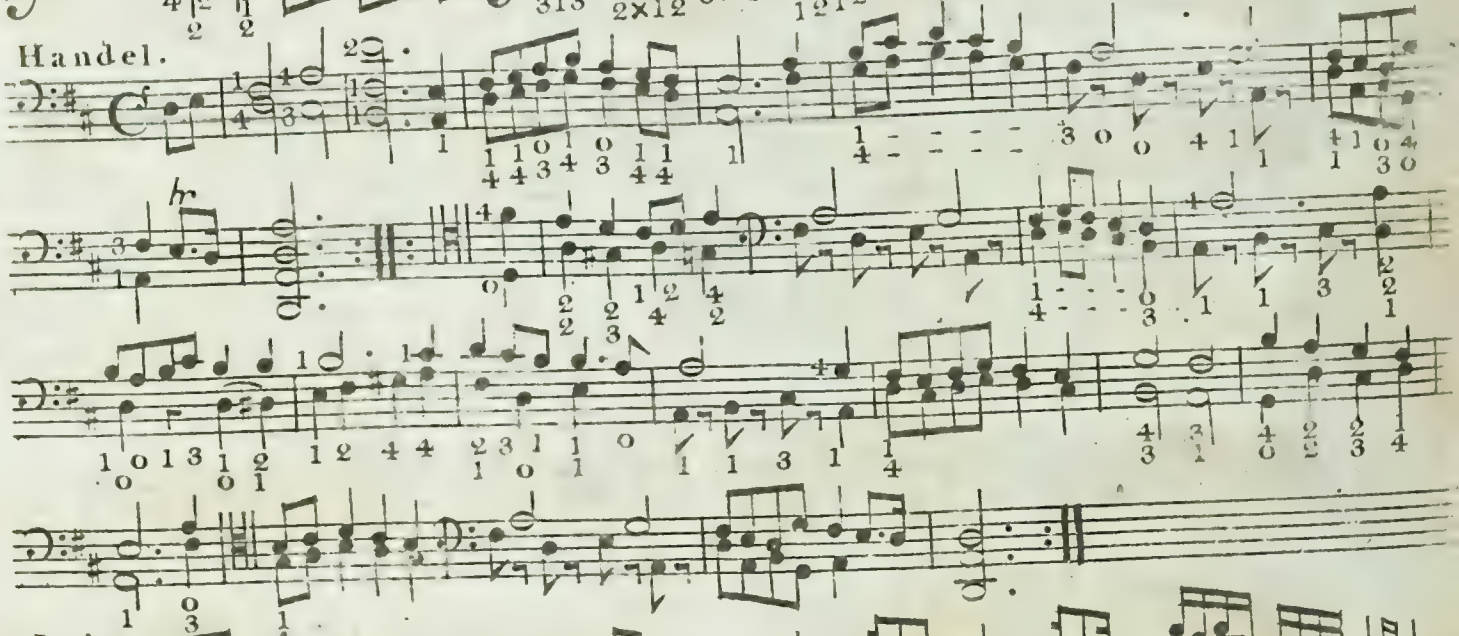
Reinagle.

97. Allegro.



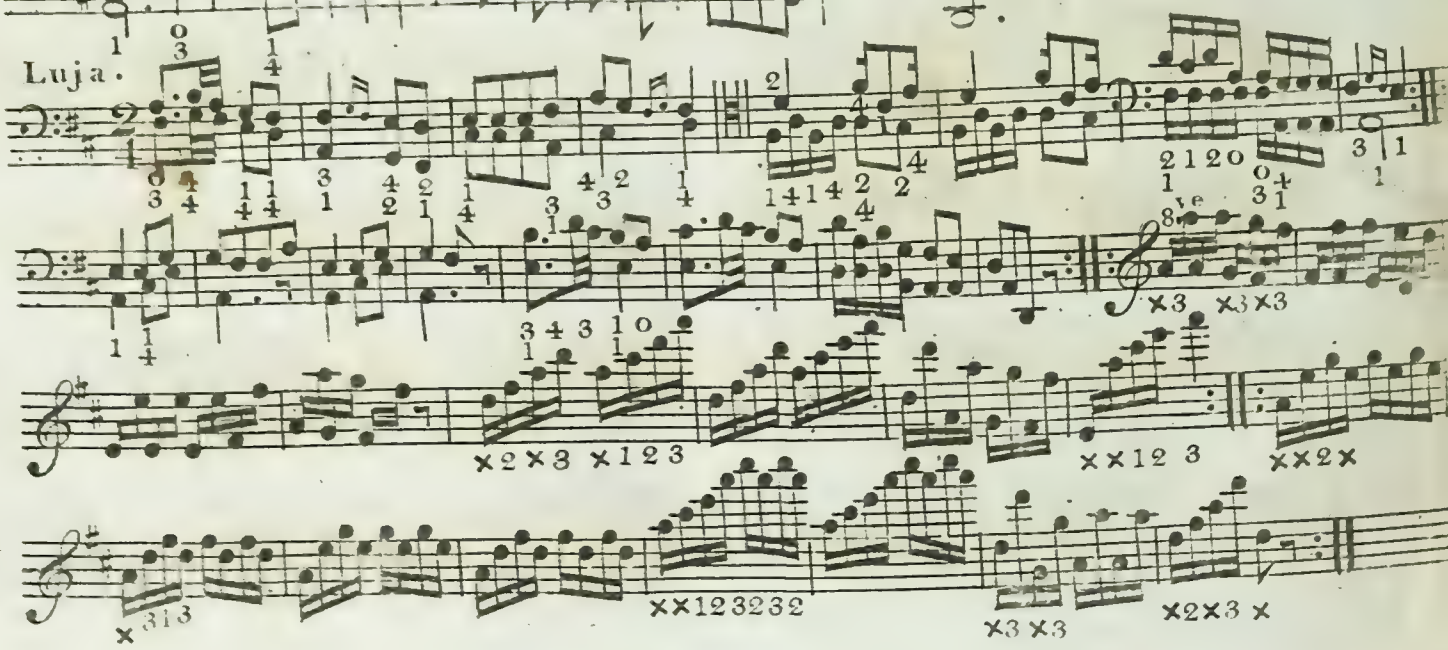
Handel.

98.



Luja.

99.



100.

Reinagle.

8ve

101.

Allegro

loco

8ve

a

b

D.C

Reicha.

102

Minore.