BACH'S GOLDBERG VARIATIONS:
A STUDY OF TECHNICAL AND STYLISTIC
TRANSFERENCE TO THE PIANO

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N. 16.

Clavier Ubung

bestehend

in einer

ARIA

mit verschiedenen Veränderungen

vors Clavicimbal

mit 2 Manualen.

Denen Liebhabern zur Gemüths-

Ergetzung verfertiget von

Johann Sebastian Bach

Königl. Pohl. u. Churfl. Sächß. Hoff-

Compositeur, Capellmeister, u. Directore

Chori Musici in Leipzig.

Nürnberg in Verlegung

Balthasar Schmids.

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To all of these people I owe a deep debt of gratitude.

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ABSTRACT

Musical trends of the latter half of this century insist on the use of authentic instruments and techniques in the performance of eighteenth century music, (a Baroque harpsichord with two manuals in the case of Bach's Goldberg Variations). Pianists, on the other hand, are loth to relinquish the repertoire of that period and seek to find ways of preserving the style and character of the music whilst playing it on an anachronistic instrument.

The harpsichord and piano differ widely in construction, tone production and sound quality. The harpsichord was ousted by the fortepiano, an ancestor of the modern grand piano, in the second half of the eighteenth century. Musical expression tends to be a step ahead of the technical resources available, and the piano developed as a result of experiments aimed at improving "shortcomings" in the harpsichord.

In the eighteenth century music was regarded as a language of the "affections": it was meant to express the feelings aroused in Man by Nature. C.P.E. Bach, Quantz, Rameau, Couperin and de Saint-Lambert all wrote important treatises on the practical considerations of a musical performance. For the eighteenth century musician Baroque music was a living art, forming the bulk of his repertoire. Extemporisation was an important skill and instruments were often freely interchangeable in a composition. The closest modern parallel to this is in the field of Jazz.

The Goldberg Variations comprise a unique compilation of Baroque compositional techniques, making great technical demands of the performer. Each variation has its own character and special technical problems for the pianist which have to be overcome before the set can be performed successfully.

Several standard eighteenth century practices can be applied on the piano in the performance of the Goldberg Variations, including articulation, arpeggiation, tempo rubato, ornamentation, rhythmic alteration and the relating of tempi from variation to variation. To these can be added the possibility of a wide range of inflectional dynamics not available on the harpsichord, and the optional use of damper and *una corda* pedals.

In this dissertation my endeavour has been to bring under the microscope, so to speak, the harpsichord and piano and their techniques and performance style in relation to Bach's Goldberg Variations.

INTRODUCTION

We live in a musical age which makes ever-increasing demands on musicians for authenticity of performance. These demands include the stipulation that the music of a period be played on the instruments of the time, using contemporaneous techniques. The pianist is faced with a particular dilemma. Should he abandon Baroque music altogether, acknowledging that the pianoforte did not appear until the second half of the eighteenth century, and relinquish the works of composers like Bach and Handel for instance, that have formed a cornerstone of the pianoforte repertoire? Or is he justified in adding new dimensions to the music, of dynamic variation and sound qualities?

For the purposes of this essay, the transference of the Goldberg Variations from harpsichord to piano is a *fait accompli* for me. I have performed the work on the modern instrument, after studying it on the harpsichord, and am satisfied that the piece works extremely well on the piano despite some technical difficulties in playing the work on a single keyboard that has a deeper, heavier action and diminished crispness of articulation and attack.

The concern of this essay therefore lies rather in investigating Baroque attitudes towards music and musicianship and attempting to clarify those eighteenth century ideals and customs according to which Bach wrote his music. From treatises of the time it seems clear that performances of works in that period were far less fixed than they are today. Extemporisation formed a major part of a keyboard player's

skills, figured bass notation allowed harpsichordists great freedom in chamber music, and composers often did not even specify the instrument on which a work was to be played. The closest parallel to this in twentieth century music lies in the field of Jazz to which I shall refer in Chapter III.

The philosophers of the eighteenth century paid great attention to what was known as the 'doctrine of affections'. Thereby music was regarded as an imitative art whose task it was to express the feelings aroused in Man by Nature. The performer strove, by whatever means he had at his disposal, to "move" his audience to various emotions. The instrument on which he chose to do this was relatively unimportant. An aria composed for the harpsichord could not, strictly speaking, be played to emulate the smooth cantabile lines of the voice but it was up to the educated listener to hear the intention behind the result. In this vein I am suggesting that it is up to the twentieth century pianist to communicate those same intentions to his audience and, in so doing, cause their "affections" to be moved. A working knowledge of standard Baroque practices and an awareness of the Baroque view of performance can help to accomplish this.

CHAPTER I

THE HARPSICHORD AND PIANOFORTE* COMPARED

In order to provide a basis for the discussion of the Goldberg Variations in Chapter V, I consider it appropriate to devote this section to the individual characteristics of the harpsichord and piano. Both these two quite different instruments, I believe, serve Bach's set of Variations perfectly well but involve different technical approaches. The crisp vitality of the eighteenth century harpsichord contrasts so enormously with the smoother, more resonant tones of the modern grand piano that, in performance, they can create two disparate images of the same piece. Since each of these instruments evolved under different circumstances in history, I propose to consider the general features of each as a genre.

A. The Harpsichord

Its Beginnings

The earliest known reference to the harpsichord dates from 1397, when a jurist in Padua wrote that a certain Hermann Poll claimed to have invented an instrument called the *clavicembalum*[1]. This earliest form

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*During the history of the piano it has been referred to by various names. In this dissertation I have opted to use the present-day nomenclature which has the advantage of terseness, viz., piano; except when referring to the earliest examples of the eighteenth century when I have used the combination of piano and forte, viz., pianoforte.

appears to have arisen from an attempt to mechanise the psaltery.[2] The harpsichord seems to have remained in active use up to and throughout the eighteenth century, after which it was ousted by the rapidly developing fortepiano. The last known harpsichord in the eighteenth century style was made by Krickman in 1800.[3]

When the manufacture of harpsichords was resumed because of new interest at the end of the nineteenth century, it was to very different specifications; these instruments borrowed many ideas from the builders of the more robust, reliable piano.

Its Structure

The harpsichord sound is produced by the plucking of strings. These lie horizontal to the keyboard. When a key is depressed the jack, a small strip of wood or plastic on the distal end of the key, rises. The jack is equipped with a plectrum originally made of a quill, later of a leather point and latterly of plastic called delrin. On rising, the plectrum catches the string, causing it to vibrate, and then falls back. An escapement mechanism allows the falling plectrum to pass the string without replucking it. Finally, the damper stops the sound. The strings, keyboard and action are encased in a wooden sound box, constructed as lightly as possible to give maximum resonance.

The volume of sound that is produced cannot be modified by finger pressure or speed of key depression, but sound length and initial tone is considerably affected by these factors, as is tonal quality.

Careful articulation is needed if the key is to make its full journey, for any attempt to resound the note before the plectrum is back in position, will be unsuccessful. Conversely, too long a journey of the key produces an undesirable percussion of the key bed.

In a bichord harpsichord[4] a second set of jacks is arranged with the plectra facing the opposite way to those of the first set. A lever, controlled by a hand stop, can either bring about or curtail the use of that row of jacks. If an instrument has a third set of strings, operated by its own jacks and stop lever, it is tuned an octave higher than the other two. This type of harpsichord is usually provided with two manuals which can, in most instruments, be coupled to produce the greatest volume and brightness.

Two other common effects deserve mention. In a two-manualled instrument, the eight-foot strings[5] on the upper register are often provided with a second row of jacks, which pluck the strings very close to the nut. This produces a thin, brittle sound, and is referred to as the 'lute' stop. Secondly, the "harp" or "buff" stop, consisting of a series of small pads of felt or buff leather, can be slid against the strings close to the nut, muting them and producing a "pizzicato" effect. This latter stop usually functions together with the 8-foot stop of the lower register.

The classical two-manualled instrument of the eighteenth century would most likely have had two eight-foot stops, a four-foot one (giving the octave above) and at least one of the stops mentioned in the previous paragraph, together with a coupler to combine the keyboards. Such an

instrument would have been at the disposal of the harpsichordist Johann Gottlieb Goldberg, who was reputedly the first person to play the Goldberg Variations for his master Count Keyserlingk.

Since the instrument mentioned previously, which emerged in the latter part of the nineteenth century, bore very little resemblance to the classical instrument known in the previous century (which will therefore have little or no bearing on the discussions in this dissertation) I have decided to exclude it from this description.

Its Sound Properties

Of fundamental importance in determining the quality of sound made by a harpsichord note is the point at which the string is plucked. There is a basic acoustic reason for this.

Theoretically speaking, if a string is attacked at a node, then that node is destroyed, together with its corresponding partial. Thus, if a string is struck at a point exactly one seventh of its length, the node at that point is destroyed and so is the 7th harmonic.[6] If the string is plucked in the middle, its two halves will vibrate identically, and the second and fourth partials, which depend upon dissimilar movement of the two halves, will be lost. The presence and comparative strengths of the individual harmonics and the rate of their growth and decay are the principal factors involved in varying the quality of a tone. This means that the point at which the string is plucked is vital for the tone colour.[7]

Since the keys are short and the bass strings long, it is impossible to keep the proportionate point of attack constant between upper and lower pitches. The most perilous section is the treble, where there is a danger of the strings being plucked centrally, thus obliterating the second and fourth harmonics with their innate brightness. Harpsichord builders dealt with these perils in the construction of their instruments, hence the various characteristics of European instruments.

These problems and the light wooden frame encasing the instrument (which, while it maximised the resonance also meant that with any slight movement the intonation would be altered dramatically) made the harpsichord a rather temperamental and delicate instrument. It needed a lot of personal care and upkeep. The ground was prepared for the invention of a more robust, versatile keyboard.

B. The Piano

Its Beginnings

The piano has been on the ascent in popularity with composers and performers alike since the second half of the eighteenth century. Its evolution is the result of a cumulative process of simple improvements with many strange and wonderful experiments along the way. The first craftsmen to make pianos were attempting to correct what they considered inherent deficiencies in existing keyboard instruments. The clavichord was cheap and simple to build, but too soft toned for public performance. The harpsichord, on the other hand, was sufficiently loud and brilliant for chamber or church, but could not

produce subtle gradations of tone under the control of the player's fingers. The organ was likewise hampered. Since these shortcomings did not exist in single-line instruments such as the violin or flute, it is likely that these limitations of expression became more and more noticeable as chamber music flourished.

Musical expression is always one step ahead of the technical resources available. In the second half of the eighteenth century this gap appeared to be widening: the keyboard makers faced the challenge and the modern piano came into being to meet a need.[8]

Its Structure (and Development)

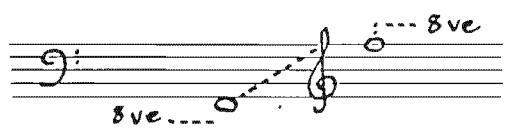
At first, builders tried to adapt the harpsichord, adding a crude "swell" device of hinged slats to facilitate crescendo and diminuendo, but this compromised rather than enhanced the sound of the harpsichord. Instrument makers experimented exhaustively as the musical requirements of the compositions became more and more demanding. Music, particularly in the latter half of the eighteenth century, was becoming increasingly homophonic and far less contrapuntal. Composers and performers needed a wider range of nuance and dynamic inflection and a greater ability to mould a melodic phrase and distinguish clearly the upper voice melody from the bass accompaniment. Bartolomeo Cristofori offered one solution when he replaced the harpsichord's plectra with hammers. The new instrument was described as a *gravicembalo col piano e forte*: an indication of its purpose.[9]

Development of the new "pianoforte" took place simultaneously and variously in several North European countries, through experiment and printed or verbal communications regarding its progress. In this way a glowing account of Cristofori's new instrument, together with a sketch of its action, reached the famous organ and harpsichord builder Gottfried Silbermann in Freiburg, where he constructed similar instruments. His apprentices, in turn, continued the experiments and one, Christian Friderici, built the little "square piano", which he called a *fortbien*. It was, in reality, a cheap and simple modification of the eighteenth century clavichord.[10]

Until about 1770 the "pianoforte" was an ambiguous instrument, fairly traditional in construction but uncertain in status. After 1770 it entered a phase of rapid technical and commercial advance. Then, having emerged as an instrument in its own right, the erstwhile pianoforte proceeded to oust its rivals, acquiring greater structural and tonal strength and a repertoire to match,[11] to be known as the "grand" piano.

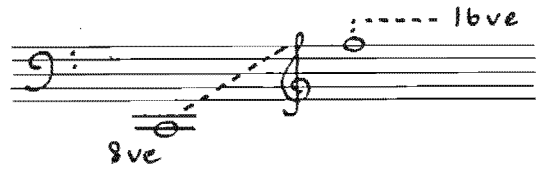
In order to produce a bigger and brighter sound, thicker strings were used at higher tensions, two or three to each pitch, except in the extreme bass, where one sufficed. Overspun strings (with thin wire coiled around the string) were later used for many lower notes and the overall compass was increased. A typical keyboard of 1750 ranged over five octaves (Example 1).

Example 1.



By 1820 this had commonly become: (Example 2)

Example 2.



This latter (Example 2) was the compass of Beethoven's Graf pianoforte. Larger hammers were used, covered with a variety of materials and greatly increasing the strain on the instrument's frame which had to be reinforced, first with wooden braces and later with metal. Actions improved dramatically, but even by the 1880's there was no uniformity of design. Changes happened haphazardly from place to place.

By 1780 two kinds of pianoforte had emerged, the German or (Viennese), and the English. The former was lightly built, with two strings per note, a flat soundboard and small, leather-covered hammers. The touch was shallow (half the depth of a modern piano) requiring little force to make the note speak. This type was favoured by Mozart. Its tone suggests a loud clavichord. English pianofortes by contrast were more robust in structure and sound: they had thicker strings, often three per note, and a convex soundboard. These factors produced a greater and more variable sound. However, damping was less efficient than on the Viennese version, the touch was deeper and heavier and the tone was unevenly balanced between the bass and treble. So while the

English pianoforte needed further development, the Viennese instrument was generally deemed satisfactory as it was.

John Broadwood (1732-1812) redesigned the English model. He improved the design of the grand pianoforte significantly and standardised the trichord stringing and the *una corda* pedal, the idea for which he borrowed from earlier makers.[12] He introduced a new string scale and striking point for the hammers, seeking (in an unusual step for the time!) the advice of two acousticians. By 1788 he had produced a much improved pianoforte with greater sonority, more evenness through the registers and a wider dynamic range. In broad terms he had moved inexorably away from the harpsichord sound. By 1793 he had stopped making harpsichords as the market for them dwindled. Instead he expanded his pianoforte industry.

The rise of today's most important piano manufacturers, the Steinway firm, began in 1853 with Heinrich Engelhard Steinweg. He emigrated with his two sons to New York, where good lumber was cheap and plentiful and engineering was advanced and responsive to new needs.[13] Aided by the progressive American technology, Steinway built an iron frame and combined it with an overstrung scale[14] to create a stronger, richer sound than had been possible before. Hereby was eliminated the need for constant tuning of the keyboard. Simultaneously, the keyboard tuner became a separate person from the keyboard player!

Its Sound Properties

Throughout its development the piano has retained some important characteristics of the clavichord:

i an independent soundboard;[15]

ii dampers to prevent vibration of the resting strings;

iii "listing" cloth to deaden the vibration beyond the bridge;

iv tone production dependent on a blow rather than a pluck.

The last attribute also results in one of the main differences between the pianoforte and the harpsichord namely, the possibility of varying the tonal dynamic with finger pressure. There are also other important differences. For instance, the piano pedals are quite alien to the harpsichord. The "damper" pedal, which lifts the dampers off the strings and allows the sounds from all the vibrating strings to mix together in a "wash" of harmonics, has no parallel on the harpsichord and, many would argue, no place in its repertoire. The modern *una corda* pedal has very tenuous links, for it shifts the hammers laterally, so that the hammers strike only two, rather than three strings, to produce an overall change in the dynamic level and tone colour. The effect is much more subtle than a change in registration on the harpsichord and is usually used only in localised areas, rather than over a large section of music. (Hence, doubt is cast on the use of either damper or *una corda* pedal in the performance of Baroque music.)

On a modern piano, the hammer heads rest two inches from the strings and are activated by a system of levers. If a key is held down after being played, the hammer is "checked" (held in position) once it has rebounded 5/8 of an inch, so that it can be repeated rapidly. Simultaneously, when the key is halfway down the felt damper is lifted from the strings and remains up until the key is released. This means that the decay of the sound is much slower than it is on the harpsichord. As a result the terms 'legato' and 'non-legato' have different meanings for each instrument.

Every development and improvement wrought upon the early pianoforte took it further and further away from the two basic characteristics of baroque sound: transparency and incisiveness of articulation. The harpsichord sound is more transparent because its upper harmonics are more widely spaced than those of the piano,[16] a fact which allows counterpoint to be heard more clearly. Articulation is a vital ingredient for shaping sound on the harpsichord through the manipulation of its crisp, incisive attack. This cannot be reproduced exactly on the more resonant piano. However, the latter comes into its own in smooth, cantabile passages, where it achieves a legato line far closer to the melody line of a wind player, singer or string player than can the harpsichord.

It was this new 'singing' ability of the piano and the possibility of varying its dynamic level from note to note that fascinated composers and audiences alike. The harpsichord had disappeared almost entirely from the scene by the nineteenth century and did not reappear until the present century.

There are clear links between mechanical improvements and the technical proficiency of pianists. For example, Sebastian Erard's invention of the double escapement (patented in 1821) enabled the quick repetition of a note without the key having to return to the rest position before it was struck again. Virtuoso compositions burgeoned as a result, featuring breathtakingly fast passages. Modern performance practice (for audiences in large concert halls) was developed by powerful players such as Hans von Bülow and Anton Rubinstein. No piano built using the old design could have coped with the new demands. And so virtuoso techniques and the innovations of the best piano builders advanced in tandem. Whereas the harpsichordist's technique had been largely digital, now the pianist began to use the wrist and forearm, and later the upper arm and shoulders to increase the power of the stroke.

Notes for Chapter I

[1]The New Grove Dictionary of Music and Musicians, 6th edition, s.v. "Harpsichord", by Edwin M. Ripin and Howard Schott.

[2]An early stringed instrument, like the dulcimer, but played by plucking its strings with a plectrum or the fingers, rather than by striking them with hammers.

[3]Raymond Russell, The Harpsichord and Clavichord: an Introductory Study, (London: Faber and Faber, 1973), 13.

[4]One with two strings per note.

[5]Those tuned at ordinary pitch with A = ±415

[6]Russell, The Harpsichord and Clavichord: an Introductory Study, 20.

[7]Ibid

[8]Cyril Ehrlich, The Piano: a History (London: Dent, 1976), 11.

[9]Ibid., 13.

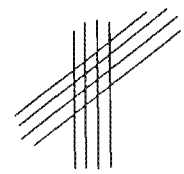
[10]Ibid.

[11]Ibid., 14.

[12]Ibid.

[13]Ibid, 16.

[14]An arrangement whereby the bass strings are stretched over the tenor strings thus (tenor strings vertical, bass strings at an angle):



[15]The strings are not attached to the soundboard.

[16]Robert Donington, Baroque Music: Style and Performance, (London: Faber Music, 1982), 167.

CHAPTER II

THE INGREDIENTS OF A "GOOD" PERFORMANCE IN THE EIGHTEENTH CENTURY

The appraisal of musical performance is a reasonably straightforward matter when applied only to the technique of keyboard playing. But if, in addition, one takes into consideration such attributes as style, interpretation and the artistic merits of a performance, the matter becomes more complex. Most people would probably agree that a "good" keyboard performance is made up of "good" musical ideas communicated to the audience through a "good" keyboard technique. But what musical ideas were considered "good" in the Baroque era?

The aesthetic response - the response to beauty - shifts focus from age to age as beauty is redefined. In the eighteenth century music was universally considered to be a language of the "affections".[1] Feelings inescapably intruded in the field of musical aesthetics. During the early eighteenth century the French philosophers followed the Aristotelian principle of the Imitation of Nature. Such imitation was believed by the Ancient Greeks to "influence the character and the soul".[2]

How, asked the French, could music imitate Nature? Music's task, it transpired, was not so much to imitate the sounds of Nature itself as to express the feelings aroused in Man by Nature. Embodied in this concept lay the Baroque notion of the "doctrine of affections". Just as the Greek and Latin orators employed rhetorical means to control

and direct the emotions of their audiences, so the "speaker" (i.e., performer and composer) of the Baroque strove to move the "affections" of the listener.

Rousseau states the typical view of the period in his *Encyclopédie* article (ca., 1767) on the sonata:

> Purely as harmony, music is of little account. If it is to provide constant pleasure and interest it must be raised to the rank of imitative art. However, the subject of the imitation is not always as immediately obvious as it is in painting and poetry. It is through the touching sounds of the human voice that an idea evokes in the depths of the human heart the feeling that it seeks to arouse.[3]

This view, which gave pride of place to the voice in the ability to express emotions, spilled over into instrumental music, where the major concern became to make the music "sing".

Another influential writer of the time was Jean-Baptiste Du Bos (1670-1742). He is best known for his Réflexions sur la poésie et sur la peinture (1719). He is widely regarded as the father of modern aesthetics because he made "sentiment" (feeling) the *raison d'être* of art.[4] He wrote, concerning music, that, just as the painter imitated the forms and colours of Nature, so the musician imitated the tones of the human voice: its accents, sighs, inflections and, therefore, all

the sounds that Nature herself used to arouse emotions and passions. Du Bos believed that all those sounds had a wonderful power to move the listener because they were the signs of the passions that were the work of Nature herself, whence they derived their energy.[5] He felt that while the spoken word was man-made and had only limited geographical currency, music, being a more exact imitation of Nature, had far wider-reaching boundaries.

Imitation of Nature through music has been practised throughout the ages in cultures the world over, frequently as an act of propitiation in a ritualistic ceremony. So also, it was vital for the music of the Baroque to represent something real. Jean d'Alembert, in his discourse on aesthetics of 1751 wrote:

> Music that portrays nothing is merely noise and is scarcely more pleasurable than a selection of sonorous words lacking proper order and interconnection.[6]

Music, then, in the opinion of the eighteenth century theorists, was meant to provide a civilised and elegant representation of raw emotions and passions in order to entertain the listener and arouse latent feelings in him.

The composers of the eighteenth century were far more pragmatic about the performance of music than their philosopher colleagues. It is from them that we can glean information about the practical considerations of performance. We are fortunate to be able to refer,

for example, to C.P.E. Bach's famous Essay on The True Art of Playing Keyboard Instruments. In a chapter devoted entirely to Performance, he writes:

> What comprises good performance? The ability through singing or playing to make the ear conscious of the true content and affect of a composition. Any passage can be so radically changed by modifying its performance that it will be scarcely recognisable..... The subject matter of performance is the loudness and softness of tones, the touch, the snap, legato and staccato execution, the vibrato, arpeggiation, holding of tones, and the retard and acceleration..... [All these] remarks encourage a more musical way of portraying rage, anger and other passions by means of harmonic and melodic devices, rather than by an exaggerated, heavy attack.[7]

This quotation spells out some of the practical ways in which performance in the Baroque (and later) was considered. In particular, the "language" of articulation in the Baroque was complex. It was the musical equivalent of verbal punctuation and ranged from full-stops and commas to accents and parentheses. Geminiani, in 1749, wrote that ".....articulation should be executed in such a way as to resemble an affectionate discourse;....." and that ".....all music should be composed as an imitation of speech".[8] Articulation

was especially useful in characterising the various strands of music in contrapuntal writing, and in stressing strong beats, accents and expressive slurs (the musical sigh). I shall discuss the means available, and the manner in which to achieve these was accomplished, later in this essay.

Retard and acceleration together form the basis of 'tempo rubato', an important Baroque expressive device. Here the accompanying line remains metrically precise, while the melody above lags or rushes slightly in order to make a passage expressive. Again, C.P.E. Bach writes:

> Certain purposeful violations of the beat are often exceptionally beautiful,.....[but] manipulations of the beat must be addressed to the bar alone, without touching on the broader space.[9]

The broad tempo scale was not to be affected at all by tempo rubato. It was strictly for use in localised passages, and then only with discretion.[10] As musical intuition was considered the only real judge of where and when to apply rubato, this device was considered an important indicator of musicality.

Ornamentation was another important ingredient of eighteenth century music but precise evidence of the exact execution of embellishments is infuriatingly sparse for today's scholar. We know that ornaments were freely added at suitable points in the music (especially at cadences)

by the performer, and we are aware that there must have been some understood code of practice to which performers adhered, but we are often unable to make a definite decision about a trill or mordent because of a lack of evidence. Perhaps the Baroque composers would have eschewed such concerns as mere pedantry, since an accepted custom was derived from listening (presumably in much the same way as "taste" in many areas of our lives are governed by an ability to observe and imitate)?

Fortunately we have the tables of ornaments realised by composers such as Rameau, Couperin and C.P.E. Bach to accompany their works. These help us to decide on general points and to glean some part of what was considered tasteful and appropriate embellishment in the eighteenth century. In time our experience of playing and listening to this music develops discernment and decision about such matters.

Notes for Chapter II

[1]Peter le Huray and James Day, Music and Aesthetics in the eighteenth and early nineteenth centuries, (Cambridge: C.U.P., 1988), 3.

[2]Ibid.

[3]Ibid., 4.

[4]Ibid., 17.

[5]Ibid., 18.

[6]Ibid.

[7]C.P.E. Bach, Versuch über die wahre Art das Clavier zu spielen, translated into English by W.J. Mitchell as Essay on the True Art of Playing Keyboard Instruments, (London: 1949), 148-9.

[8]E.T.A. Harich-Schneider, The Harpsichord: An Introduction to Technique, Style and the Historical Sources, (Germany: Bärenreiter-Verlag, 1973), 24.

[9]C.P.E. Bach, Essay, 149.

[10]Mozart, Beethoven and Chopin all wrote of tempo rubato in very similar terms to C.P.E. Bach, which suggests that the motivation behind tempo rubato has not changed much over the centuries.

CHAPTER III

THE MODERN PERFORMER AND EIGHTEENTH CENTURY MUSICIAN COMPARED

In order to gain a better view of eighteenth century Baroque performance, it is useful to know what was required of that period's performer and what his attitude towards the music was.

Baroque music was for the eighteenth century musician a living art. It represented the bulk of his repertoire, especially in the field of secular music. While today's performer is expected to span 400 years covering different styles, the Baroque artist was able to confine himself to the music of his time, and immerse himself in it exclusively. His attitude was freer regarding performance practice than is ours today.

For us, the more instructions we have on the page (I speak here of "serious" music, not Jazz or Popular music), the happier we feel and the more confident we are of providing an accurate rendition of the work. We require fixed norms, while in the eighteenth century extemporization was a skill required of every keyboard player; instruments were freely interchangeable (Bach did not even specify for which instruments his "Well-Tempered Clavier" was intended); there were very few indications of dynamic or tempo (the publishing of works hardly existed so the need for communicating playing instructions did not exist).

Greater aesthetic value was presumably attached to variety than to consistency; each performance of a work would be different from the next, and there was no recording equipment to capture one particular performance and freeze it for analysis by future players.

A possible explanation for the lack of dynamic and tempo markings is that much of the seventeenth and eighteenth century repertoire for instrumental groups was composed by court or church composers for a specific event and for a band of musicians whom the composer himself would rehearse and direct, often from the harpsichord or organ. There was therefore no need for cues to be notated regarding tempi, dynamics and ornamentation, as the composer was on hand to provide it.

In the early eighteenth century several practical manuals for the keyboard were published, the bulk of them being directed towards continuo playing while the rest dealt with the keyboard as a solo instrument.[1] These are pounced upon eagerly today by theoreticians and performers alike as being the answer to all their questions. But these tomes fail to answer some of the most pressing questions about ornamentation, tempo and dynamics. It seems to me that these aspects could not have been considered unimportant in the eighteenth century, so one can only assume that the advice offered in treatises was meant for a well-defined and immediate circle. Authors did not perceive themselves as writing for posterity and often failed to document details which might have been obvious to their peers but unfamiliar to us some centuries later[2]. So the few tutors that remain thus leave many questions unanswered.

However, surviving instruments of the period offer a fair amount of tangible help to us and we are able to gain fairly detailed information about relative pitch and rhythmic alterations, from music boxes, musical clocks, barrel organs and other mechanical devices. The music that they reproduce is unfortunately not representative of the whole repertoire of music, and as such is of limited help. But application of many principles gleaned from these has given scholars irrefutable clues.

Today, most keyboard players are not composers, or, at least, not of the kind of music that they are performing. This makes it difficult for them to break down the music into the elements with which the composer first constructed it. Being able to do this can often be vital to making sense of the musical grammar and logic of a work. In our anxiety to be as true to the "authentic" Baroque way of performance as possible, we are in danger of smothering the spontaneous and often perhaps playful spirit of that age. Baroque music strove, above all to "move" its audience. Articulation, ornamentation and the other devices were all merely tools to help the performer achieve that end; they were not goals in themselves. Is there any discipline today in which we can make comparisons with the Baroque practice?

For my part I agree wholeheartedly with David Fuller, who claims in his article in Performance Practice of Music after 1600, that the closest modern parallel to the gap between Baroque notation and the sounding product is to be found in Jazz.[3] Like the Baroque continuo

player presented with a figured bass, the jazz musician must be skilled at realising a chord "shorthand", and must be able to improvise melodic solos within a chamber work. He must also be able to vary his extemporization and must know, like any French Baroque musician, which passages of quavers should be delivered "straight", (as written), and which should be "swung" (rhythmically altered). A good jazz musician is also bound to have his own stock of "ornaments", "formulae" or "rifts" (mini cadenzas) which will stamp the music with his own personality.

Today, Jazz is as much a living art as was the contemporary opera and concert music of the eighteenth century. As with Baroque music, there is a paucity of scholarly, objective studies written about Jazz in its own time, and this makes certainty about any of its practical principles impossible. David Fuller lists three aspects that are obvious to the modern student and that will remind him of the way Baroque music was experienced as a living medium.[4] Let us consider each of these in some detail.

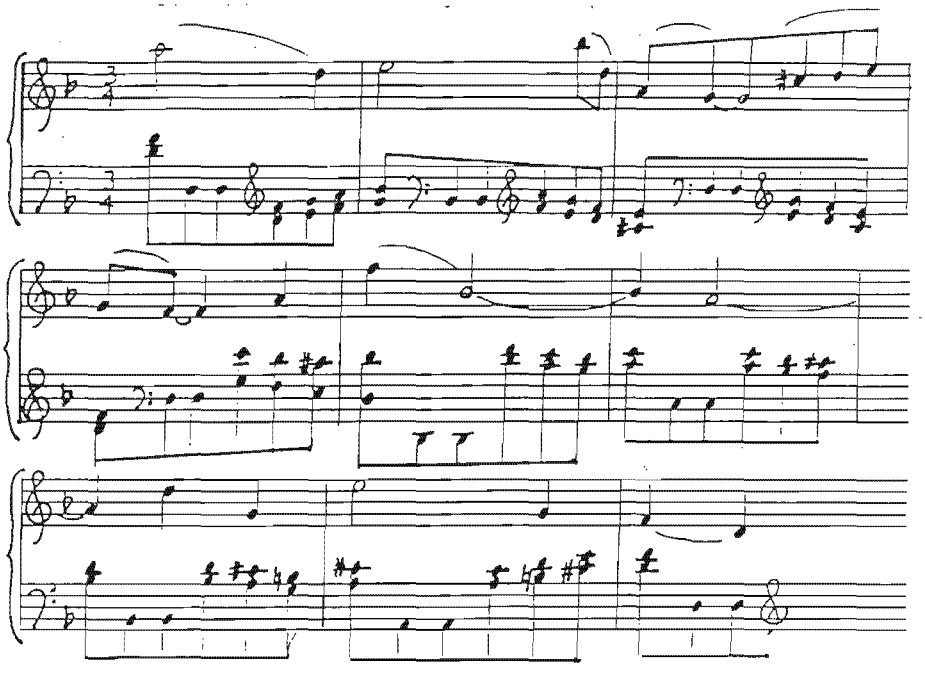
(a) <u>The diversity of jazz</u>. There is no single code of performance, from one year to the next, or, indeed, from one neighbourhood to the next. Fuller cites a jazz scholar in Buffalo, New York State, who found distinct performing styles associated with the west and east sides of the town. Similarly, Montclair in 1736 wrote that in Paris in his time....."there was little agreement on either the signs or the names of the ornaments ... even the masters do not understand one

another, and the pupils of one teacher understand neither the language nor the notation of another....."[5]

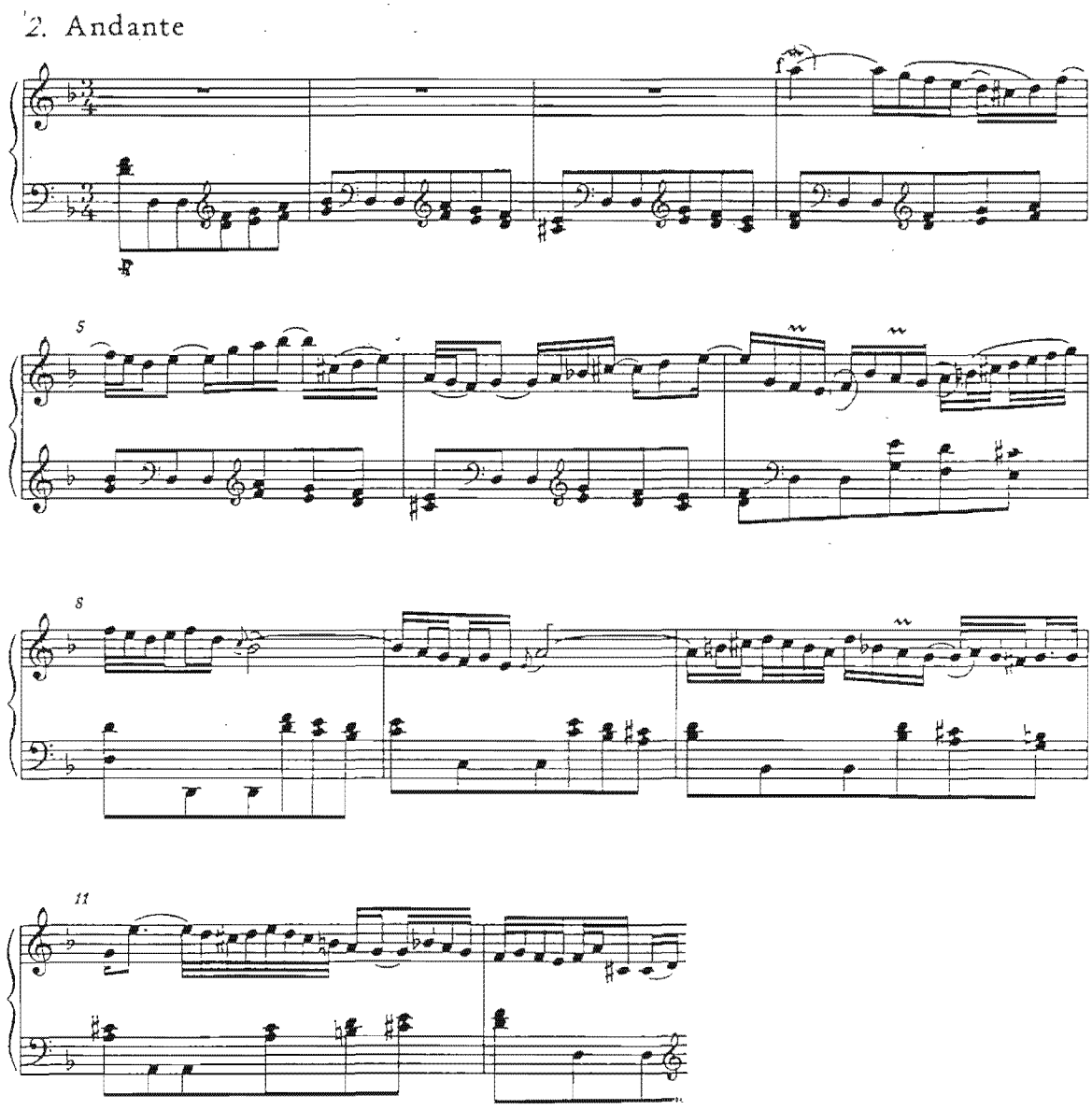
(b) The ornamentation of music. There is an enormous range of decorative possibilities open to the jazz instrumentalist or singer who is not hampered by the academic norms of tone production and technique. Appoggiaturas are common in Jazz without the performer ever having heard that term before, as are harmonic suspensions, rhythmic alterations and melismatic figurations.

If we stretch across the centuries, for a moment, and compare the second movement of Bach's Italian Concerto with Errol Garner's version of "Young Love" we find two surprisingly similar examples of improvisation. A passage from each (Examples 3(a) and 4(a)) pared down to its basic melodic outline yields some interesting features.

Example 3: J.S. Bach, *Italian Concerto* BWV 971, 2nd movement.
(a)bars 4-12[2] (bare melodic outline).

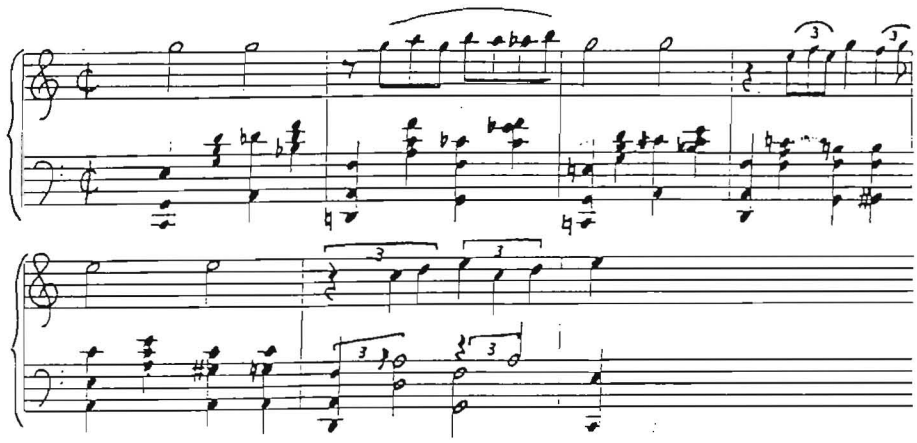


(b) bars 1 - 12^2 (full score).

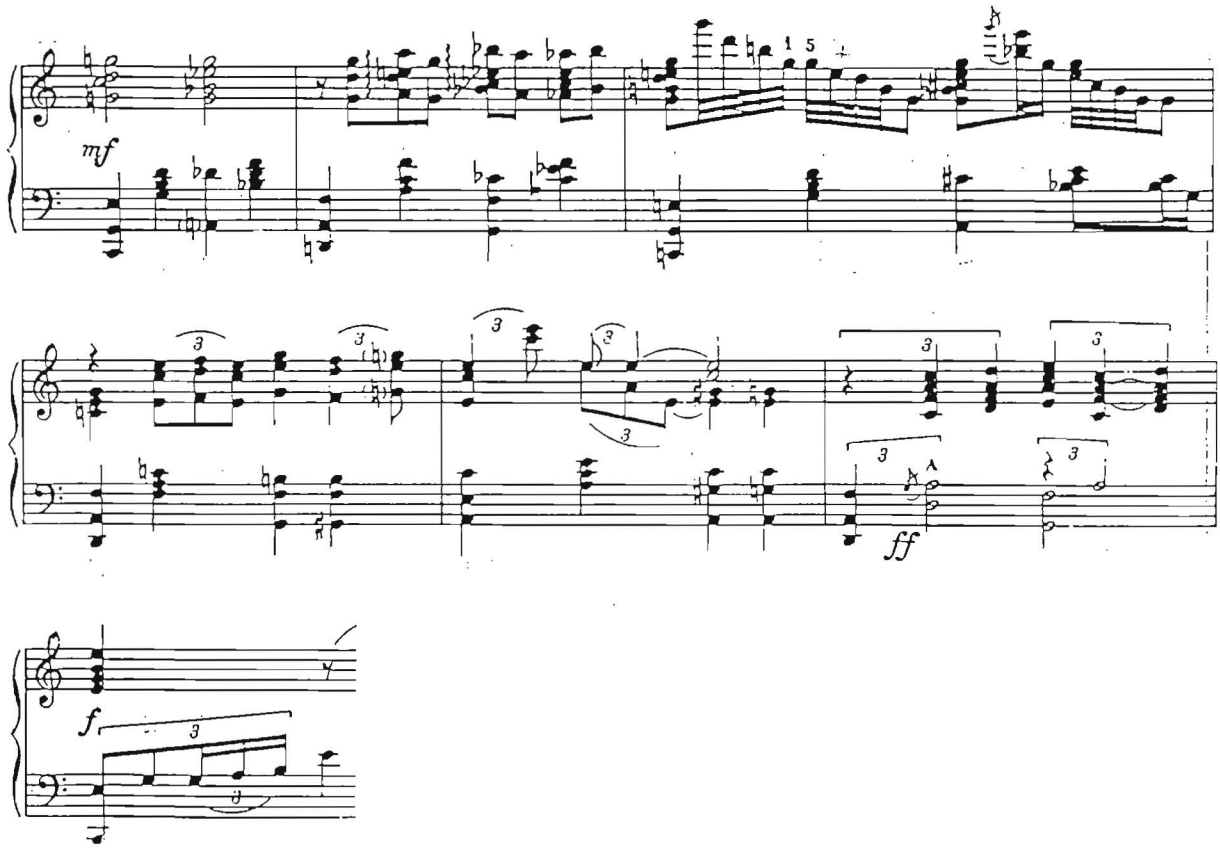


Example 4: Errol Garner, *"Young Love"*.

(a) Melodic outline.



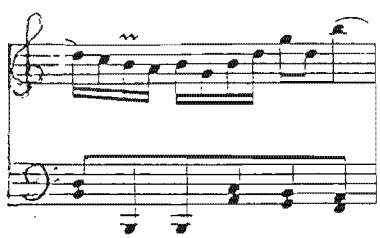
(b) Written out version.



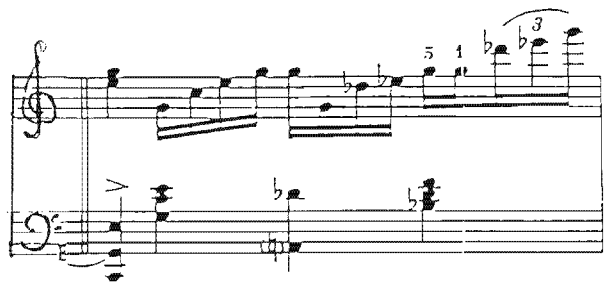
If we compare the bare outlines (Examples 3(a) and 4(a)) with those which have been embellished by the composers into the full-blown versions with which we are familiar (Examples 3(b) and 4(b)) we can observe some interesting features.

In both examples the bass line reveals the harmonies clearly and provides at the same time a constant pulse over which the melody can freely soar. In jazz terminology this is described as a "stride bass".[6] In each case the composer adds interest to the melody by adding arpeggiated figures (Examples 5 and 6); or by syncopations (Examples 7 and 8): or by running figures (Examples 9 and 10). All these decorations share a similar purpose and the results show a similar freedom of expression and imaginative beauty.

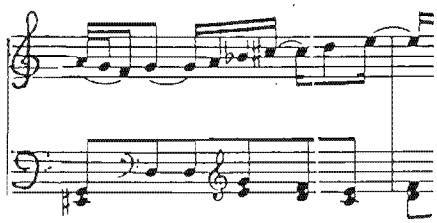
Example 5: Bach



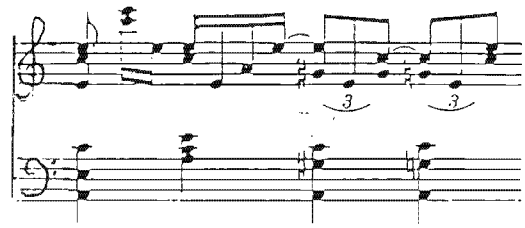
Example 6: Garner



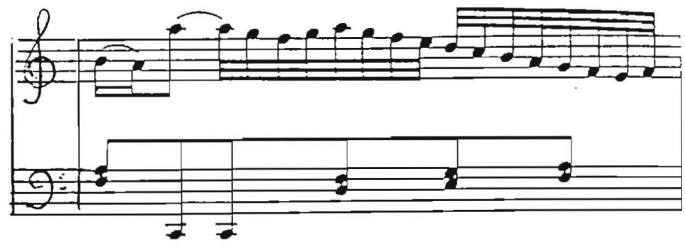
Example 7: Bach



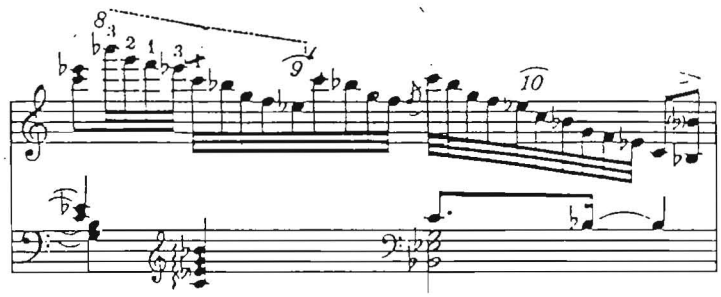
Example 8: Garner



Example 9: Bach

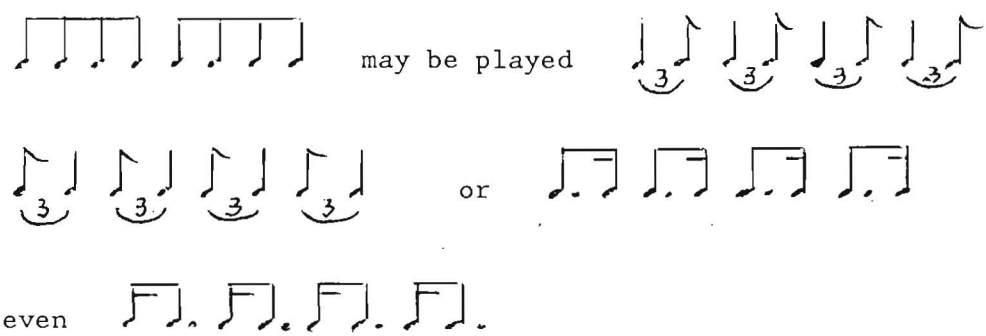


Example 10: Garner



(c) The rhythmic alteration of even notes, so that they 'swing'. This is the most ubiquitous element in Jazz yet, one that is seldom mentioned in the jazz literature. Simplistically put, this means that notes written "straight" have many possible "free" alternative forms (Example 11).[7]

Example 11.



This, of course, has a neat equivalent in the French *notes inégales* of the eighteenth century. In both genres the musician would be expected to recognise instinctively which quavers were to be played as written, and which were to be altered. Jazz musicians spend all of their time immersed in this style of music, and their environment encourages this specialisation. If non-jazz musicians were able to confine themselves solely to Baroque music and the literature on that subject, listening to nothing else, perhaps they, too, would be able to approach it as a living art. Then the rules would serve only as guidelines and the musicians would be free to develop the principles along their independent chosen paths. It takes courage to risk the disapproval of the traditionalists and speculate about areas of Baroque music which may or may not be covered by eighteenth century treatises. In doing so the modern artist could remain true to the Baroque notion of the performer who was, also to some extent, the composer.

Notes to Chapter III

[1]See Chapter II for references to these manuals.

[2]Eleanor Selfridge-Field, Introduction to Performance Practice: Music after 1600, Howard Mayer Brown and Stanley Sadie, eds., (London; MacMillan, 1989), 13.

[3]David Fuller in Performance Practice: Music after 1600, idem, 117.

[4]Ibid., 118

[5]Ibid.

[6]The stride bass had its roots in ragtime music, and was characterised by repeated leaps of the left hand from the bass note to an upper chord.

[7]Fuller, Performance Practice, 118.

CHAPTER IV

THE TOOLS OF THE EIGHTEENTH CENTURY TRADE

This chapter includes a brief discussion of each of the standard devices that formed part of the musical vocabulary of eighteenth century keyboard players. Most of these devices have been mentioned in Chapter II where C.P.E. Bach's list of the ingredients of a good performance include dynamic, touch, articulation, arpeggiation and rubato. To these I add ornamentation, rhythmic alteration and tempo.

Dynamic

Today the loudness or softness of a passage is one of the essential criteria in the interpretation of a piece of music. In the Baroque period this aspect was of secondary importance. Scarcely a work of this epoch is altered in its essence whether it be played loudly or softly. In many cases the dynamic can be reversed and still, if played convincingly, make as much sense as the original. In other words, dynamic differentiation was not composed into music until after 1750.[1] We can find ample reasons for this if we consider the instruments involved and also the dominance of contrapuntal textures.

There are two types of dynamic: structural and inflectional. The former is found in the contrast between a solo voice and a combined

chorus of voices used, usually, alternately. It is also referred to in the Baroque as "terrace dynamic". The latter type is found in the natural rise and fall of the speaking voice;[2] it can be emulated by most instruments, to a greater or lesser degree.

The harpsichord is able to simulate the structural dynamic by adding or removing stops, so thickening or thinning the tonal quality. It is not, strictly speaking, able to realise inflectional dynamics, as each note sounds at exactly the same dynamic level as the next. The illusion of inflectional dynamics may be created by introducing a tiny break between two consecutive notes and elongating the second one so as to give it greater prominence. Similarly, if two notes were slurred together, holding one over into the next, the plucking attack of the second note would be masked by the first, making it seem weaker by comparison. The distinction, however, is a very subtle one and relies for its effect on the illusion behind the technique. The only keyboard instrument of the Baroque that really could use inflectional dynamics was the clavichord. It is to this instrument that the pianist can look for encouragement in the use of small increases and decreases of volume in the works of Bach.

Touch

From Couperin's "L'Art de Toucher le Clavecin" we learn that the fingers themselves were considered all-important and that the wrist and forearm remained relatively still, thereby eliminating arm or shoulder weight. (It was only with the advent of the pianoforte that

keyboard players found they could achieve a bigger sound by using the weight of the arm and shoulder.) The fingers did not fall onto the keys from a height, but were in contact with them all the time. On leaving a note, the finger was not raised upwards, but glided off the end of the key, the fingertip drawing towards the palm of the hand.[3] This action was thought to be the best way of avoiding too "sticky" a legato.

Forkel tells us that Bach was said to have played with so easy and small a motion of the finger that it was hardly perceptible:

> Only the first joints of the fingers were in motion; the hand retained, even in the most difficult passages, its rounded form .....still less did the other parts of his body take any share in his play.[4]

In transferring Baroque music from harpsichord to piano, it does not follow that one should necessarily use an eighteenth century finger technique. The piano has a weightier, less equal action than the harpsichord. Such a technique would therefore sound uneven and eccentric. What is important to know from the above descriptions of Baroque performance practice is that digital agility was of paramount importance particularly as a means of articulation; and that the modern application of arm and shoulder weight may conflict with the stylistic transparency of sound mentioned in Chapter I.

Articulation

Herein lies the soul of Baroque keyboard performance. Articulation, together with the use of tempo rubato, makes the music breathe and helps it to communicate its sense to the listener. The basis of articulation is an intricate relationship between legato and non-legato playing, capable of infinite possibilities. Sources, including C.P.E. Bach, agree that the fundamental touch of the harpsichord style is a kind of legato. This is surprising, as the decay of each note is so swift that each note sounds separate from the next unless they are played in rapid succession. C.P.E. Bach admitted that it was difficult to ".....give a singing performance of an adagio without creating too much empty space.....;" but, he suggested, the problem could be concealed by a good performer and an intelligent, sensitive audience that ".....does not easily miss anything. In his soul's perception melody and harmony are inseparable.....[5] The creation of a legato line in music may be further aided by the resonance of venues where music is performed. The difficulty in obtaining sustained harpsichord tones is an indicator to the modern performer of the tempo at which a slow, cantabile piece might have been played. If it were played too slowly the legato line and singing quality would be lost altogether.

Non-legato playing, on the other hand, was easily accomplished on the harpsichord through sprightly movement of the fingers that ensured that each note was discrete. As a guideline, C.P.E. Bach suggests:

> In general, the liveliness of allegros is conveyed by detached notes, and the tenderness of adagios by broad, slurred notes[6].

According to Daniel Gottlob Türk the following notes were also preceded by an articulation, in order to accent them: notes on a strong beat; the first note of a section of a movement; the appoggiatura; syncopations; long, high or low notes; notes foreign to the diatonic scale; implied harmony notes.[7]

Couperin also described expression on the harpsichord which could be brought about by means of the aspiration and the suspension. The aspiration meant that the note was quitted early to give the effect of a diminuendo. With a suspension the note was played late and preceded by an articulation, which gave the impression of a louder note, which in turn suggested a slight crescendo.[8]

Arpeggiation

This is a subtle way of making a chord more expressive by drawing attention to it, while , at the same time, reducing the very bright effect of plucking several notes simultaneously. The chord is rolled upwards or downwards. The slower the roll, the more expressive the effect. Depending on the direction of the arpeggiation, either the top or bottom note of the chord is highlighted. (A downward roll can be used, for example, in the Aria of the Goldberg Variations at bar 11, to emphasise the top "g" in the upper voice; at the same time the

first beat in the bar is drawn attention to after the 'lean' previous bar.)

Tempo Rubato

The application of tempo rubato, which has already been discussed in Chapter II, took place in a much more coded form (*notes inégales*) in Baroque music than in the virtuosic works of the Romantic period. Often tempo rubato was used by eighteenth century keyboard musicians to make a passage expressive on the harpsichord because inflectional dynamics were ineffective. (I shall include a brief discussion of *notes inégales* under the heading 'Rhythmic Alteration', later in this chapter.)

Ornamentation

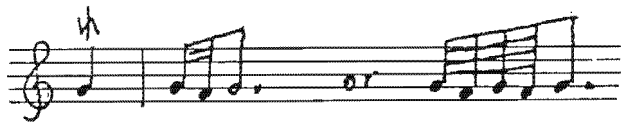
Ornaments and embellishments were freely added by the eighteenth century keyboard musician to heighten the "affect" of the music. Tastes and styles tended to vary from country to country and region to region. For this reason composers like Couperin and Rameau preceded their compositions with tables of ornaments realised according to their own tastes. From these we can deduce some general principles of ornamentation.

(i) Trills were usually begun on the upper note, sometimes starting slowly and speeding up.[9] The initial upper note might be longer

than the succeeding notes depending on the role of the ornament within the musical context.

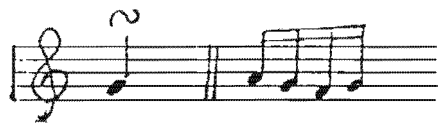
(ii) Mordents were single or double; they began on the beat, not ahead of it (Example 12), creating a marked metrical accent.

Example 12: A mordent.



iii) The turn began on the upper note and subdivided the main note into four equal parts (Example 13).

Example 13: A turn



(iv) The appoggiatura was played at the time of the main note, (taking some of its value) and together with the bass note. It took a varying proportion of the main note length, according to its degree of expressiveness. The arpoggiatura was generally dissonant, approaching the main note from above or below, by

> step or leap. The longer the dissonance lasted the more expressive it was, although on the harpsichord there was a danger that the dissonant note could die away altogether before resolving onto the main note which consequently sounded too loud and disconnected. (On the piano there are no such strictures and an arpoggiatura may last much longer when desired.) A small silence of articulation before the appoggiatura heightened its effect on the harpsichord, and the same principle can be applied on the piano.

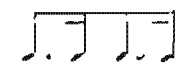
Fortunately for the modern performer, Bach "wrote out" a great many of the ornaments in his works, particularly those which were open to doubt. The second movement of his Italian Concerto has a melody which consists almost entirely of painstakingly notated embellishments. Of the Goldberg Variations, the thirteenth has all the decorations written out. Here one can see how Bach "broke the rules": the very first turn begins on the main note, not on the one above it, and the turn consists of five notes, not four (see Example 17 in Chapter V).

Rhythmic Alteration

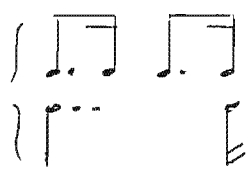
This describes a custom that was prevalent, particularly in France, from the sixteenth to the eighteenth centuries. There were three types of so-called rhythmic alteration; *'notes inègales'*; double-dotting;[10] and deviation from the written dotting (in order to synchronise dotted-note rhythms with simultaneous patterns of different rhythm in other parts, or voices).[11]

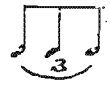
The fundamental rule of "*notes inégales*" was, that in a passage of notes notated equally and moving in diatonic succession, pairs of adjacent notes were played unequally. Thus, the first became longer, than the second of each pair. Since Couperin advocated the use of *'notes inégales'* and we know that Bach admired his style, it is likely that he also knew about this practice. But there is no evidence that he applied it to his own music.

Double-dotting was used particularly in the French Overture form.[12] There is an example of this form in Variation 16 of the Goldberg set: here the semiquavers should be preceded by a rest, rather than a full dotted quaver note. This gives the effect of pushing the semiquaver note closer to the next beat thereby creating a 'pompous' and grand effect.

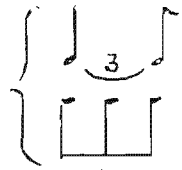
The third type of rhythmic alteration which I have mentioned was used for example, when the rhythm  coincided with the rhythm  in another voice (Example 14).

Example 14: Rhythmic alteration of lower voice.



Another example of such accommodation occurs in the situation where a rhythm of  may coincide with a rhythm of  in another voice (Example 15).

Example 15: Rhythmic alteration of upper voice



All the devices mentioned above were, and must still be, subject to the discretion of the performer. Like many other musicians of his time, C.P.E. Bach urged the performer to ".....play from the soul, not like a trained bird....."[13] Within the Baroque style it is patently evident that a wide range of musical alternatives was acceptable and used.

Tempo

During Bach's time the tempo of a piece could be derived from five musical considerations:

(i) the musical emotions (or "affections"), which a sensitive musician could "guess" from the perusal of the score;
(ii) the time signature;
(iii) the smallest occurring note values;
(iv) the number of accents inherent in a chosen metre;

(v) the harmonic movement (or rhythm). The more harmonic change per measure, the slower the tempo was likely to be.[14]

Rigid rules did not exist, as tempi had to be modified according to the acoustic properties of the instrument and the room in which it was used, a consideration which is still valid today. Several composers of the eighteenth century discussed tempi in great detail, but their conclusions were subjective and often self-contradictory as well as inconsistent with their own and other's workings.

Italian tempo indications began to appear around 1600, but they were not widely used until the second half of the eighteenth century. For several centuries before that there had existed a notational system that clarified the absolute value of the single note, the tactus, making additional information unnecessary. This "*integer valor notarum*" as it was known, gave a particular note value an average duration, often thought to have been that of the human pulse.[15] In 1618 Michael Praetorius calculated how many measures could be played at a moderate speed in one quarter of an hour, and he arrived at a figure that corresponded almost exactly with the average heartbeat! Similarly, Purcell advocated four crotchets (in relation to one semibreve) "......be held in playing as long as you can moderately tell four, by saying one, two, three, four."[16] In 1702 Michel de Saint-Lambert also wrote about tempi, but in a way that leaves us somewhat confused. He outlined the concepts of rhythm and beat and he listed nine time signatures that were used, together with their indications of beats per measure.

The time signatures were:

C; ¢; 2 (binary); $\frac{4}{8}$; $\frac{3}{2}$; 3 (ternary); $\frac{3}{8}$; $\frac{6}{4}$; and $\frac{6}{8}$.

and the indications are as follows:

C = 4 beats per measure

¢ = 2 beats per measure

2 = 2 beats per measure, but twice the speed of ¢

$\frac{4}{8}$ = 2 beats per measure, but twice the speed of 2.

$\frac{3}{2}$ = 3 beats per measure, each equivalent to a beat in C time.

3 = 3 beats per measure, twice the speed of $\frac{3}{2}$

$\frac{3}{8}$ = 3 beats per measure, twice the speed of 3 (it was customary to beat this with one pulse per measure).

$\frac{6}{4}$ = 2 or 3 beats per measure, the second being equal to beats in ternary time.

$\frac{6}{8}$ = 2 beats, twice as fast as $\frac{6}{4}$.[17]

Saint-Lambert directs that each crotchet in C time be regulated by the steps of a man who walked "rather quickly", covering one and a quarter leagues in an hour.[18] The table laid out above is logical, but it is impractical. For instance, the $\frac{4}{8}$ and $\frac{3}{8}$ markings make a piece extraordinarily fast, being eight times or six times faster than the "walking"crotchets of C time.

The table also suggests that the $\frac{4}{8}$ tempo has beats twice as fast as the $\frac{3}{8}$: a confusing and improbable suggestion.

Quantz wrote a similar table fifty years later. He knew about Loulié's Chronometre of 1698 (the forerunner of Maelzel's metronome) but recommended, for convenience, using the pulse of a healthy person. This he took to be eighty beats per minute.[19] From this he derived five basic tempi:

(i)	Allegro assai	♩ = 160
(ii)	Allegro	♩ = 120
(iii)	Allegretto	♩ = 80
(iv)	Adagio cantabile	♩ = 40
(v)	Adagio assai	♩ = 20

These values were "in Common time", that is C. For *Alla breve* (¢) the speed was doubled. These indications are as questionable as those of Saint-Lambert. For example, the Allegro assai at ♩ = 160 could render pieces marked *Alla breve* unreasonably fast and out of character.

But, while the practical validity of these tables may be doubted, they do at least show that at that time the time-signature contained within itself the tempo indication. "Rhythm" wrote Saint-Lambert, "is the music's soul and the thing it can do least without".[20]

Bach's approach to tempo in the Goldberg Variations is revealed only in a small way in the score; but using the criteria which I have discussed in this chapter, it is of immense interest, given that the

Aria is the basis (and unifying factor) for the ensuing variations, one can assume that it sets up the tempo from which each variation will take its tempo. In two places, though, Bach supplies an Italian tempo indication: Variation 15 is marked *Andante*, lest it be played too fast after the sparkling, energetic Variation 14; and Variation 22 is marked *Alla breve*, so that it is not misinterpreted as slow and ponderous after the soulful Variation 21.

Notes to Chapter IV

[1]Nikolaus Harnoncourt, Baroque Music Today (London: Christopher Helm, 1982), 47.

[2]Howard Ferguson, Keyboard Interpretation from the 14th to 19th Century, (London: O.U.P., 1975), 157.

[3]Hans T. David and Arthur Mendel, eds., The Bach Reader, (New York: Norton, 1945), 307, citing Forkel, Johann N., Über Johann Sebastian bachs Leben, Kunst und Kunstwerke, (Leipzig: 1802), translated by Stephenson, as Life of J.S. Bach; With a Critical View of His Compositions, (London: 1820).

[4]Ibid., 308.

[5] C.P.E. Bach, Essay, 368.

[6]Ibid., 149.

[7]Härich-Schneider, Harpsichord, 28, citing Johann Gottlob Türk, Klavierschule oder Anweisung zum Klavierspielen für Lehrer und Lernende (Leipzig and Halle: 1789), translated and abbreviated as treatise on the Art of Teaching and Practising the Piano Forte, (London:1804).

[8]Thurston Dart, The Interpretation of Music, (London: Hutchinson, 1954), 82 citing Francois Couperin, L'Art de Toucher le Clavecin, translated and edited as The Art of playing the harpsichord by Margery Halford (London: 1974), 33.

[9]Michel de Saint-Lambert, an important Baroque source on ornamentation, professed that a trill of some duration was more beautiful if it began slowly and increased in speed: Principles of the Harpsichord, translated into English by Rebecca Harris-Warrick, (London: Oxford University Press,77. 1984).

[10]The further prolongation of a dotted note by half the value of the previous dot, with a resultant shortening of the original note (and, in sequence, the following one, by application of the same principle).

[11]George A. Kochevitsky. "Concerning Notes Inégales," Bach vol 4, no.4 (October 1973), 27.

[12]Härich-Schneider, Harpsichord., 52.

[13]C.P.E. Bach, Essay, 150.

[14]Nikolaus Harnoncourt, Baroque Music Today, 55.

[15]Howard Mayer Brown and Stanley Sadie, eds., Performance Practice: Music before 1600, (London: Macmillan, 1989),134.

[16]Robert Donington, The Interpretation of Early Music,(London and Boston: Faber and Faber, 1979), 410, citing Henry Purcell (or his editor?), A Choice Collection of Lessons for the Harpsichord or Spinnet, (London:1696),Preface.

[17]Saint-Lambert, Principles, 33.

[18]Ibid.

[19]Donington, Baroque Music: Style and Performance, (London: Faber Music and Faber and Faber, 1982), 19, citing Johann Joachim Quantz, Versuch einen Anweisung die Flöte traversiere zu spielen, (Berlin:1752), translated and edited by E.R.Reilly, as On Playing the Flute.

[20]Saint-Lambert, Principles, 45.

CHAPTER V

TRANSFERENCE OF THE GOLDBERG VARIATIONS: A DISCUSSION

Bach's first biographer, Forkel, tells us that Bach was commissioned by Count Keyserlingk, a Russian ambassador at the court of Saxony, to compose a work for the harpsichordist Johann Gottlieb Goldberg, a great virtuoso. It seems that the count suffered from sleepless nights and requested a composition of a lively nature to be played on these occasions. Bach wrote the set of Variations for which he received one hundred Louis d'ors, a handsome reward.

This story contains several errors and must be doubted. In the first place, Goldberg's extreme youth - he was 14 years old - makes the tale unlikely, and the lack of dedication in the print points against the commission (see Frontispiece). The set was published in 1741 and entitled Clavier-Übung IV, or Aria with Divers Variations.[1] Bach may well have given a copy of the print to Keyserlingk some time later and been rewarded for it, but we have no proof of that. We do not even know that the Aria was composed by Bach. It appears first in the Anna Magdelena Notebook, the second part.

Thirty Variations follow the theme, developed from the harmonic framework set out in the bass. Within these are canons (every third Variation), dance-like pieces (Variations 4 and 19), inventions (Variations 1 and 22), concerto movements (Variations 13 and 25), a trio sonata movement (Variation 2), fughetta (Variation 10), overture

(Variation 16), toccata (Variation 29) and Quodlibet (Variation 30). The work represents a synthesis of French, Italian and German forms and of contrapuntal textures. A French overture begins the second half of the set (Variation 16) and the Aria is repeated at the end, bringing the work back full circle.[2]

The Variations were written for a harpsichord with two manuals; above each movement (apart from the Aria, and Variations 12 and 21) is an instruction for the use of one or two keyboards. The reasons for this are two-fold: to avoid collisions when the right and left hand parts interweave, and to separate the musical strands by using two distinct tone colours. Only two tempo markings for the Variations are indicated (those above Variations 15 and 22). At both points conjecture might have arisen over tempi - I have mentioned this matter in Chapter IV under the discussion on the choice of tempo.

Apart from these markings very little information is given to the performer. Interpretative considerations such as articulation and shaping of the text are largely left to the player's discretion and musical insight. The task of deducing customs of performance in former centuries is a vital, but difficult one for twentieth century musicians. In a score such as the Goldberg Variations the present-day pianist has not only to deal with decisions concerning eighteenth century practice, but also with the consideration of interpretative dynamic which was neither relevant to the harpsichord nor the all-pervasive consideration in music that it is today. Bach himself realised much of the ornamentation in the work (in particular,

Variations 13 and 25) presumably because he felt that the standard signs could not indicate his intentions accurately enough.

We have seen earlier in this essay that one of the most important aspects of eighteenth century music was the expression of human emotions. The choice of an instrument was unimportant in fulfilling this requirement. Glenn Gould once remarked that Bach's keyboard music was "instrumentally indifferent".[3] He seemed to look upon the harpsichord as a "universal" instrument, composing music in the Goldberg Variations that should sound like singing (Aria, Variation 13), an organ (Variation 15), an orchestra (Variation 16), a soloist with accompaniment (Variation 25), *et al.*

According to Forkel, Bach stressed to his pupils the importance of strict independence and individuality of each voice in counterpoint. The parts should behave "like persons who conversed together as if in select company".[4] Such demands can be satisfied as well on the modern piano as on the eighteenth century harpsichord. Perhaps the crisp articulation of the latter will be missing in the faster contexts and the clear distinction between two voices that is easily expressed on two manuals may not be possible on the piano; but these limitations are, in my opinion, relatively unimportant when the magnitude of a work like the Goldberg Variations is considered (together with its power to "move" the listener), no matter which instrument is used.

I shall now consider the Aria and each Variation of the work with reference to their transference from harpsichord to the modern piano.[5]

The Aria

This binary movement acts as an harmonic framework upon which the thirty Variations are based. In character it resembles a Sarabande rather than a Passacaglia or Chaconne emphasising, as it does, the second beat of each bar. These emphases are highlighted by slurs (bars 1 and 5), long notes (bars 4 and 8) and mordents or trills (bars 3 and 11). Bach does not indicate the use of one or two manuals for the Aria, perhaps because he held no preference. I am inclined to think that only one manual was needed as the music is homophonic and the texture does not contain extensive interweaving of the parts in a way that would require two manuals.

Of utmost importance is the bass part which forms the harmonic basis for each Variation in the work, suggesting the tonal movement which maps out the route for the set. The role of the upper voice is to embellish melodically the bass "theme" and while they are of equal interest the upper voice does not obscure the lower voices by virtue of the rhythmic format chosen.

On the harpsichord this is easily accomplished on one manual, but on the piano it is necessary to balance the parts carefully in order to keep the harmony of each bar discrete from the next rather than allowing the greater development of harmonics to cloud the text. It is preferable, in my view, not to pedal the Aria at all, either with damper pedal or *una corda* pedal: the fingers are able to sustain the notes where necessary (as on the harpsichord).

The cadential implications of the thematic bass divide the first 16 bars into phrases of 4, 4 and 8 bars. This is reflected in the upper voice melody that extends the ideas from the two 4-bar phrases into the long 8-bar phrase that climbs to the high 'a' in bar 13. Similarly in the second half of the Aria the division of phrases into 4 + 4 + 8 is wrought explicitly by the cadences achieved through the thematic bass.

A phenomenon present in all sound relationships and therefore prominent in all musical contexts is that the listener will hear longer sounds as being stronger than any shorter ones heard next to them. On the harpsichord, as in string bowing, wind tonguing or percussion playing, this phenomenon is vital to musical shaping, especially in relation to meters and rhythmic vitality. This means for example, that in bars 13, 14 and 15 the syncopated crotchet of the upper voice in the middle of the measure (respectively a, c sharp and b) will have greater prominence than the shorter notes on either side of it, thereby cleverly displacing the strong accent of the Sarabande for rhythmic effect. The eighteenth century custom of articulating a syncopation (discussed in Chapter IV) can be transferred to the piano, on which the performer may also make the syncopated note more prominent dynamically than the rest.

In the second half of the Aria the enlivening of the counterpoint hinted at in the lower voices of bars 6, 7, 8 and 12 now takes over the texture and an independent tenor part emerges, often separated from the bass part by quaver rests (bars 17-19, 21-23, etc). These rests indicate that the lower voice speaks first and is joined in

dialogue by the tenor voice. This tenor part is ornamented to enhance its melodic independence, which can be represented clearly on the piano by using dynamic shading and nuance to point out the various entries of voices.

The harmonic rhythm becomes more intense from bar 17 where the 'd' in the bass voice moves, bar by bar, down to the low 'e' in bar 24 fixing the perfect cadence in e minor. After which, there is a return to G major. Meanwhile the upper voice which has become more flamboyant melodically than heretofore returns to the more sober, stepwise movement of the opening bars, moving within a narrower intervallic range. The effect of this on the harpsichord is to produce a more subdued, reflective mood. On the piano it can be achieved by gradually increasing the dynamic level from bar 17 as the outer voices move further apart until bar 24. Bar 25 can then be treated as a *subito piano* bar and the quiet mood be resumed to the end. The loudest dynamic aspired to need not compare with the *forte* or *fortissimo* required in the Classical or Romantic idiom, for in the musical discourse of the eighteenth century tension and strong emotion were not shown by 'shouting' but by the intensity of the harmonic language used.

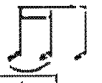
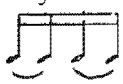
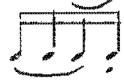
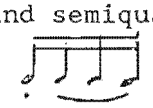
In bar 27 of the Aria a mysterious voice enters in the inner voice which can be most effectively brought out on the piano. It is an intimate detail which Bach may have written (if the Aria indeed be his) for his own private satisfaction, but its delicate syncopated strands, creating metric duplicity, provide a fine opportunity to exploit the attributes of the piano. By giving the sustained notes of

the inside voice a slight dynamic prominence over the top voice this countermelody will be heard to an even greater effect on the piano.

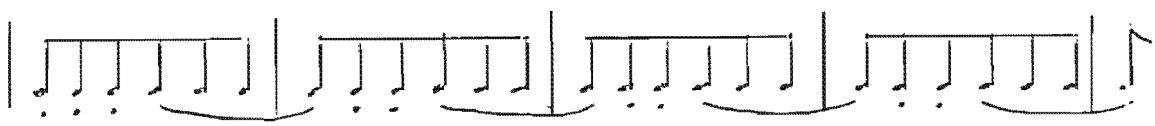
At the end of the Aria a fermata is marked on the double barline. This same pause mark appears at the conclusion of many of the other Variations, but not of all. This seems to suggest that Bach regarded some of the movements as needing demarcation while others (for example Variations 2, 4 and 6) were intended to follow immediately into the next. These pauses punctuate the work, their irregularity preventing the sequence from becoming predictable.

The choice of a tempo for the Aria is crucial, as it affects the tempi of the subsequent Variations (see my discussion of tempo in Chapter IV). As the piano sound takes longer to decay than that of the harpsichord, it is possible to play the Aria at a more leisurely tempo without losing its cantabile mood. Taking into account the Sarabande character of the Aria suggesting the three measured steps per bar of the dance form, and the melodic, singing nature of the semiquavers in the upper voice, a basic tempo of M.M. ♩ = 56 may be chosen.[6] This sets up the tempi for the whole work, as each Variation relates to those on either side of it. Within each Variation the tempo remains the same so the rhythmic strength of the work is founded upon a regularity of pulse, initiated by the chosen tempo of the Aria.

Variation 1 is a two-part invention for one manual. The thematic harmony is outlined by the first bass note of each bar. The mordent-like rhythmic figure  helps to accent beats and provides an assertive, crisp effect. No articulation is indicated,

but if one thinks in terms of bowing or tonguing, the mordent figure may be treated as  and semiquaver passages may be grouped as  , or  or  at the discretion of the performer, and according to the musical considerations of the text. The sprightly movement of quavers which occurs in both parts, encompassing leaps that could not be played legato on the harpsichord, indicate a general non-legato treatment. If the thematic note, in the lower voice, that begins each bar is separated from the next note it can be heard clearly in its role as 'keeper of the thematic harmony'. In bar 27 the bass fragments of melody which emerge from the harmonic outline may be delineated by articulating the quavers (Example 16).

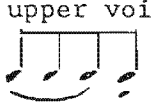
Example 16: Suggested articulation for Variation 1, bars 27 to 30.



The mordent-like figure in this Variation echoes the mordent heard often in the Aria. But the rhythmic ebullience of this movement suggests a faster tempo (perhaps  = of the Aria). This would render it twice as fast as the Aria so  = 102 would probably be a more realistic choice after the Aria's final cadential bars.

This Variation "sounds" louder than the Aria. It is far busier, with more notes per bar. On the piano this anomaly can be reflected by playing the movement *mezzo forte* after the *mezzo piano* Sarabande.

Variation 2 can be described as a sinfonia, or 3-part invention. It may be considered a slower, more cantabile Variation than the preceding one as the two upper voices have stepwise melodic movement that acts imitatively, rather than broken chords and arpeggios. The duple time signature and change of mood through texture make a dramatic contrast with Variation 1, and therefore a change of tempo seems inevitable. This is easily accommodated after the pause, and a return may be made to the tempo of the Aria (♩ = 56).

The thematic harmony notes are discernible in the bass voice on the first and third quavers of each bar. They offer a choice of articulation: either all detached, in contrast to the mostly legato upper voices; or  to stress the harmonic theme note; or  to emphasise the first beat of each bar and give secondary importance to the upbeat.

The perfect fourth interval of the upper voices may be played non-legato, to emphasise the higher note which continues into the next bar and forms a dissonance against the bass. This interval is widened to an octave in bar 17 and again may be articulated.

One manual is indicated, which makes each voice less distinguishable from the others on the harpsichord. On the piano, however, it is possible to separate the voices by making the entry of each voice audible above the others and giving prominence to the top or middle line as desired. In reverting to a slower tempo a return to a quieter mood is *ipso facto* also dictated and, with it, the choice of a lower dynamic level.

Variation 3 brings us to the first of Bach's canons, for which he specifies a single manual. It is a canon at the unison with the Comes following the Dux at a bar's distance, creating a complex interweaving of the parts that is inevitable in a canon at this interval. It is extremely doubtful that the form can be heard as such, even by an educated ear. It is more likely that it posed an intellectual challenge for the composer, the end product of which was music that sounded well. Such was Bach's mastery of the Baroque forms that they were never goals in themselves but rather different routes by which to realise his musical intentions.

The piano, nevertheless,is better able to separate the voices and reveal the inner workings of the Variation than the harpsichord. The pianist has a choice: either he can make the Dux uniformly louder than the Comes (or vice versa), so following one voice throughout; or he can allow the parts to converse, by pin-pointing dynamically the corresponding passages in each voice. I find the second option more acceptable since it allows, for example, the Dux to enter *mezzo forte* and subside to *piano* for the *mezzo forte* entry of the Comes in the second bar.

On the piano the listener can be made to hear the lower of two voices easily, but not on the harpsichord where only an educated ear may pick out the separate voices. Since the ear generally hears the higher of the voices more easily a dynamic variety on the piano enables one to change this phenomenon. Thus the Dux can be heard when it dips below the Comes in bars 4 and 6.

The two voices of the canon are accompanied by an independent third voice, a format which is true of all but the last canon (Variation 27). This third voice begins with gentle broken chord quavers that slip into semiquaver configurations hovering around the thematic harmony rhythms. If the first two bars are played non-legato they form a contrast with the legato canonic voices. After this, when the bass voice imitates the canon, it may imitate also its legato line.

The Variation is written in $\frac{12}{8}$ time which means that, there being four beats per bar, a change of harmonic pulse can be introduced. Bach makes this Variation only 16 bars long (without repeats) instead of the 32 bars (without repeats) of the preceding movements. This nicely allows a tempo relationship between Variations 2 and 3. If the previous ♩ equals ♩. of this Variation then the pace of the harmonic rhythm remains the same, providing a unifying link between the two movements.

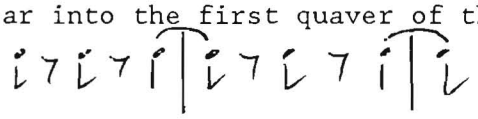
In my opinion the complexity of the parts and the tightly-woven contrapuntal texture that is produced by the canon at the unison obviates the necessity for a wide dynamic range. But the piano can produce inflectional dynamics to highlight small areas in the canon, thereby creating a dimension which is unobtainable on the harpsichord.

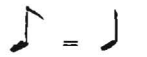
Variation 4 is a lively $\frac{3}{8}$ 'dance' in four voices all of which engage in lively imitation of one another. The tempo may be related to the previous Variation by making the former ♩. equal to the new ♩. . In

this way a relationship is preserved even though the quadruple (compound) pulse has become a brisk triple (simple) one.

The harmonic bass theme is plainly heard although its rhythmic presentation is varied. The overall effect is boisterous and vigorous, contrasting sharply with the long flow of semiquavers in the previous Variation. The second half of the binary structure develops into a thicker texture from bar 25, where lines are doubled in thirds (bars 25 to 27) and sixths (lower voices, bars 27 and 28), creating the effect of a crescendo of sound which can be exploited magnificently on the piano by a climactic increase of volume up to the end. The open nature of this movement suggests an overall dynamic which is greater than that of Variation 3, perhaps *mezzo forte* at the beginning and increasing to *forte* for the final bars. No pause sign is given by Bach at the end of Variation 4, which implies that the movement should continue straight into the brilliant ròulades of Variation 5.

Variation 5 is the first to offer a choice of one or two manuals. There are obviously two good reasons for this. In practical terms the use of the second manual stops the hands becoming entangled (for example, bars 13-16). Aurally speaking the voices are separated for the listener by the introduction of another tone quality provided by the stop on the second manual. This distinction is particularly useful in enunciating the harmonic theme figure that begins in the bass voice of the opening bars and moves, from bar 9, between the voices in dialogue. On the piano this tonal distinction cannot be exploited in the same way, but the harmonic theme can be characterised

by making it more prominent dynamically. This harmonic thematic material may be strongly characterised by slurring the last crotchet of each bar into the first quaver of the next bar. Thus bars 1 and 2 become  helping to achieve this effect.

Just as Variation 4 follows into Variation 5 rythmically, even so may the dynamic follow suit, so that Variation 5 is played *forte e con bravura*. The movements may also be linked by the tempo if the relationship  is made. The last notes of Variation 5 begin Variation 6, after a pause on the barline. This ambiguously suggests both a sense of continuation and a punctuation mark before a change of time- signature and of mood.

Variation 6 is a canon at the second. At first sight the semiquaver movement here looks very similar to that of the previous movement, but now the voices are more involved, with the interwoven lines, tied notes, and (largely) stepwise movement of these voices creating a subdued and reflective mood. On the piano a telling contrast can be made between the *bravura*, detached notes that end the previous movement and the *cantabile* tone of the same notes starting this one. A difference in touch can be enhanced by a much lower dynamic level (perhaps *piano*) and discreet use of the damper pedal to sustain the tied notes. This pedalling will also help to highlight the dissonances (seconds and sevenths) formed by the tied notes and the voice below.

If the tempo is related to Variation 5 by making its ♩ equal a ♪ of the new movement, one bar of $\frac{3}{4}$ will now be the same as one bar of $\frac{3}{8}$, so that the pace of the harmonic progression will remain the same.

In this canon the voices are more easily separated aurally on either the harpsichord or the piano than the first canon, as they tend to move alternately, one voice having a long tied note while the other has semiquavers. The second half of the Variation develops ideas from the first half and chromaticism heightens the poignancy of the music in bars 19 and 20. While the subtle harmonic shading will be heard on the harpsichord, it can be brought out even more clearly on the piano by highlighting the chromatic change dynamically. On both instruments such ideas can be further characterised by articulation here (particularly between the chromatic notes). In keeping with the eighteenth century style, the descending and ascending leaps of sevenths and octaves in the bass voice of bars 14, 15, 22, 23, 26 to 31 and 32 may be played non-legato. If this is done the pianist will not be able to use the damper pedal here and will have to depend on finger legato in the upper voices.

There is no fermata on the final barline, so the g major rising figure can continue straight into Variation 7 with the tempo relationship of ♩. = ♩. preserving that continuity.

Variation 7 has the character of a Sicilienne. The option to use two manuals suggests that Bach regarded the two voices as separate entities (a bagpipe tune and its swaying accompaniment, for instance), for there are no practical reasons for the use of the second manual. Indeed, the bass voice is interesting enough to be a melody in its own right while still mapping out the thematic harmonic movement; but there is no doubt that the upper voice is the more melodic.

The voices are characterised by the dancing rhythm  , which, on the piano needs a light, even touch, with no pedalling at all to achieve the clear, lilting quality natural to an eight-foot stop on the harpsichord. On both instruments the performer may articulate between each rhythmic figure to emphasise its dance-like character. The feeling of a strong pulse often occurs in the middle of the bar rather than at the beginning. This lends an attractive asymmetry to the meter which can be emphasised on the piano by small accents on these stronger pulses together with a *cantabile* tone.

On the harpsichord this movement would most likely be played with the two eight-foot stops, one on each manual. This simple sound combination together with the well-spaced voices and gentle character of the piece, suggests a low dynamic level which can be applied on the piano too.

The fermata at the double bar allows for a suitable interruption between the intimacy of this movement and the extroversion of the next.

A tempo link of ♪ = ♩ prevents the change from sounding disconnected as the music moves from compound-duple to simple-triple time.

Variation 8 is a toccata which is certainly meant for two manuals, as indicated, and some adjustment is necessary for the pianist. Maintaining the location of voices as written results in clumsy hand crossings and collisions that interfere with the brilliance and regularity of the semiquaver passages, so the voices have to be reorganised for the hands on a single keyboard.

In bar 12 the 4th semiquaver (b natural) in the right hand may be omitted, leaving it to the left hand alone and avoiding an unwanted accent. This enables the right hand to 'tuck itself under' giving more ease to both hands 'on top of one another', so to speak. In bars 19 and 20, where the melodic inversion in the upper voice may be regarded as of more interest, the recurring simultaneous d sharp may be omitted by the left hand. When the bass voice echoes this figure from bar 21, the simultaneous e natural may be omitted by the right hand.

The thematic harmonic framework is referred to by broken chords at the beginning of each bar. On a two-manualled harpsichord it is possible to play the two voices equally strongly as the different tone colours of the two keyboards will distinguish one from the other. On the piano playing them equally loudly will create a confusion and noisesome clatter that will tire the listener. The pianist may choose rather to 'lead' with the right hand semiquavers at the start, while

the bass underpins this with the harmony until bar 9 when the roles are reversed. Now the bass has the rising figure, while the top voice carries a counter melody. In the last bar of each half of the Variation even the pianist is justified in ending with a flourish, allowing the voices to vie for attention.

A precipitous battle for dominance begins in bar 19. It continues until the bass voice gives way briefly in bar 23 before resuming the competition at bar 25, to the end. The mood is crisp and exhilarated, demanding a non-legato touch which helps to disguise those moments when the interweaving of voices makes a true legato impossible on a single manual. The contrast between the robust ending of semiquavers and demisemiquavers and the *dolce* quavers and crotchets of the next Variation calls for a substantial pause between the two movements.

Variation 9 is a canon at the third, and by the very nature of that "chordal" interval, a more consonant movement. Here smooth legato playing seems most appropriate for the gentle contours of the piece and superimposed dynamic differentiation seems unnecessary, the voices being expressive without it. An extraordinary effect occurs in bars 3 and 4 when the three voices ascend to the treble clef area of the keyboard leaving the listener seemingly bereft of the familiar bass part. Both here and in all the bars where the two upper voices cross paths, the piano can still outline each voice to emphasise the imitation of the canon and, at the same time, the melodic independence of the voices. In bar 4 the Comes now takes the opening figure (which is a 2-bar entity), while in bar 5 the Dux now seems to follow that melody. As the two voices imitate and follow one another

interchanging very closely, the Dux and Comes lose their identity. While the harpsichordist on one manual can do little to un-mesh them the pianist can allow each voice its moments of spotlight.

A tempo relationship of ♩ = ♩ with the previous Variation seems feasible, except that on the piano, capable of playing *cantabile* at a slower tempo than the harpsichord, it seems more suitable to play Variation 9 slightly under that tempo, using the pause at the end of Variation 8 to conceal this slight discrepancy. A further reason for slackening the relationship is Bach's eclipsing of the bass "theme" into 16 bars. Its route is somewhat obscure so the related pace also helps to "light the way" of the harmonic line.

Variation 10 is also for one manual and the first fughetta in the work. It is for four voices which enter in the order bass, tenor, soprano, alto in the first half; and soprano, alto, bass, tenor in the second half. The bass voice also serves to provide the harmonic thematic framework. The overall effect is of a straightforward, four-square movement that clears the air (momentarily) of musical subtleties and complex textures. Played non-legato and at a higher dynamic level than Variation 9 (or even *mezzo forte* gradually growing to *forte*) enables the pianist to capture this stark simplicity.

Variation 11 relates in tempo to Variation 10 with one beat of the *Alla breve* being exchanged for 2 beats of the new movement (𝅗𝅥 = ♩.). In this way the two main beats per bar of each Variation are given kinship.

This movement is a two-part invention which requires the pianist to adapt certain passages, as two manuals are required. Attempts to keep the voices in the right and left hands as written result in the hands being forced to play at awkward angles that affect the stability of the semiquaver passages. As an alternative the pianist can resort to swopping the hands around from the third beat of bar 4 to the second beat of bar 8, where he can revert to what is written. If the transitions are carefully choreographed the listener will not notice the reorganisation. The hands may be exchanged again from the second beat of bar 28 to the beginning of bar 31. The pianist has a further problem to the practical one just mentioned in that the middle register of the piano is far less opaque than it is on the harpsichord. A non-legato touch is advisable to compensate for this loss of clarity.

The sinuous lines that meet and separate continuously, create a murmuring effect that implies a generally subdued dynamic, increasing only when the voices become more sprightly in broken chords and in contrary motion (for example, in bars 21 to 24 and 30 to 32). Broad articulation can help to delineate the two moods: a legato touch for the sinuous descending and ascending scales, and a non-legato one for the more brilliant arpeggio sections.

Variation 12 is a canon at the fourth in contrary motion, and Bach does not specify manual or manuals. As the middle voice often passes from one hand to the other (for example, in bars 4, 6 and 8), it seems likely that one manual is intended so that the second voice does not change tone colour at random during the Variation.

The drum-like crotchets in the bass at the beginning of each half of the movement, outline the thematic harmonic progression and also lend a certain briskness to the movement that suggests a tempo link to Variation 11 by parity of beat (). This brisk tempo allows for an effective contrast to the Variation which follows, an exquistely ornamented song.

The sophisticated treatment of this canon in contrary motion can be highlighted on the piano by emphasising dynamically all scale passages and their inversions (whenever they occur). Bach's treatment of texture provides another opportunity for the pianist to use inflectional dynamics here (unavailable to the harpsichordist). Throughout the Variation the texture varies from two to three voices, eventuated by the breathing spaces in the canonic voices. As each of Dux and Comes intermittently leave and rejoin the counterpoint the pianist can shade and amplify with remarkable results.

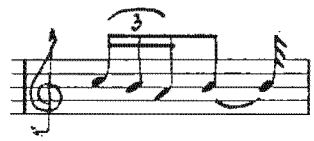
Variations 13 is strongly reminiscent of the Aria, with a harmonic texture very similar to the original one. As in the Aria, the lower voices (in this case consistently two) contain the important harmonic material over which the upper voice acts as an improvised, ornate melody creating a magical arabesque. The two manuals indicated by Bach clarify these roles for the harpsichordist, but the pianist has to ensure that the top voice does not overpower the lower voices.

Bach has carefully realised all the ornamentation in the melody, other than unambiguous mordents and trills. He has also indicated certain articulations (at bars 11, 13, 14; 21 to 24; and 29 to the end) an

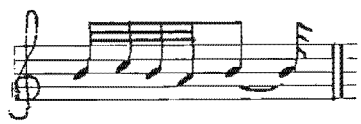
unusual move for the time. This also seems to indicate that Bach was wary of possible ambiguity. The modern performer in this way is prevented from misinterpreting the signs or applying fixed customs. In bars 2, 3, 17, 18, 19, 25 and 26 the turn, according to Baroque 'rules', might be interpreted differently from the way Bach has written it out here. (Example 17).

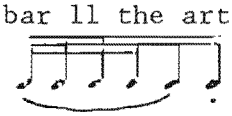
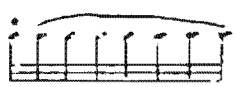
Example 17: Interpretation of the turn:

(a) according to Baroque 'rules'.



(b) Bach's written out version in Variation 13 (Goldberg Variations), bar 1.



Then in bar 11 the articulation markings prevent the use of the more obvious  ; and at bar 13 Bach's specific indication of  instead of  or 

achieves a melodic climax which would otherwise be lost, to the detriment of the structure.

The reflective mood of the Aria seems to return in this Variation and a generally low dynamic level seems desirable occasionally rising at

moments when the emotional effect requires it (for example, in bars 20 and 24 where the tonal stability is disturbed). In keeping with the slow, reflective character and the semiquaver and demisemiquaver arabesques, it is also suitable to resume a much slower speed after Variation 12. But, to maintain a sequential relationship, the crotchet tempo of Variation 12 may be taken for the quaver one here, giving an almost imperceptible change-over in mood after a suitable pause.

In Variation 14, a toccata for two manuals, further reorganisation of voices is required as the left hand rises well above the right, again creating awkward playing angles on a single keyboard. At the beginning of bar 4 the hands may be swopped around so that the right hand continues with the semiquavers in the treble region of the keyboard while the left hand takes over the quaver arpeggios in the bass region. At bar 9 the original organisation is easily resumed.

Bach does his own "editing" from bars 9 to 13 by splitting the descending passage between the hands by means of rests, so producing both a natural articulation between each  figure and alternating the tone colours of the two manuals. This distinction is difficult to produce on the piano, with no second tone colour and a greater sonority which may cloud the articulations. The latter problem can be partially overcome by making the last note of each threesome slightly shorter than written; the former can only be simulated through different dynamic levels between the hands, needing special co-ordination skills in the pianist.

The brilliant character of this movement calls for a greater dynamic level than Variation 13 and a faster tempo. So a return to the tempo of Variation 12 is easily achieved by a "once remove", the crotchet here resuming the tempo of Variation 12's crotchet in taking the quaver pace of Variation 13.

The increase in rhythmic movement approaching the end of each half of the Variation produces a natural crescendo on the harpsichord. This may be echoed on the piano with even greater effect through the dynamic crescendo.

Variation 15 gives us Bach's first tempo marking, probably in case the tempo relationship be understood to be ♩ = ♩ between this and the previous Variation. The "walking" tempo suggested by *Andante* also suggests a relationship whereby the crotchet in Variation 14 becomes a quaver here. Another "innovation" is the first appearance of the minor mode. The mood is correspondingly sombre and strongly characterised by Bach's own slurred pairs of semiquavers that probably represent musical "sighs", if we compare other contexts in which Bach uses this effect for example, the canonic organ chorale prelude "O Lamm Gottes, unschuldig", in Orgelbüchlein. In it the verbal text has been Bach's departure point for the grieving "sighs" of the poet. It is interesting to note that, like Variation 15, this chorale prelude is also a *Canone alla Quinta*.

This *Canone alla Quinta* is in contrary motion, and with its sudden change of tonality it brings to an effective close the first half of

the set of Variations. A quiet dynamic level and legato touch suit this music's mood best if the articulated slurs are considered as grieving "inward sighs", taking into account the contrary motion canon.

The slurs and descending chromaticism bring to mind also the "Crucifixus" of Bach's B minor Mass. The pianist is better able to produce a singing quality and inflectional dynamic typical of the "Crucifixus" than the harpsichordist. Just as in the Mass where this mournful music is followed by the triumphant "Et Resurrexit", so Variation 15 is followed by an explosive French overture! But before this happens, Bach's fermata enables a longer pause than heretofore appropriate, to wipe out the need for a tempo relationship. For a brief moment pitch and rhythm are dead.

Variation 16 being in overture form is now heard as making a new start in the middle of the Variations. It is important to remember in every consideration of it that this movement has the time signature ¢. In other words it is an *Alla breve* movement in which the "stately" two beats are given movement by the excitement of their ornamentation and the dotted rhythms (and not by the possibility of four fast beats).

The title *Ouverture* given to Variation 16 raises the question of rhythmic alteration mentioned in Chapter IV. There seems to be no doubt that double-dotting should be applied. Uncertainty as to where to use it can best be allayed by referring to Quantz's explicit discussions about the performance of the French Overture, in which double dotting is expressly mentioned.

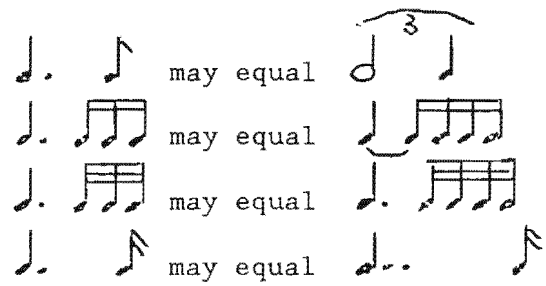
The following extracts have particular relevance in the interpretation of Bach's Overture Variation in the Goldberg:

> The majestic style (of the French Overture) is conveyed by long notes, during which other parts have rapid passages, and also by dotted notes. These latter must be enforced with power and attack. The dot is prolonged and the following note thrown quickly away.[7]

> When there are three or more demisemiquavers after a dot or rest, they should not be given their strict value, particularly in slow pieces; but after waiting until the very end of the time allotted to them, you play them as fast as possible, in Overtures, Introductions and Furies. Nevertheless you must give each one of these quick notes a separate bow and you can hardly slur anything.[8]

This variability of the Baroque dot is neatly summed up by Donington in tabular form (Example 18).[9]

Example 18. Donington's "variable Baroque dot" Table.

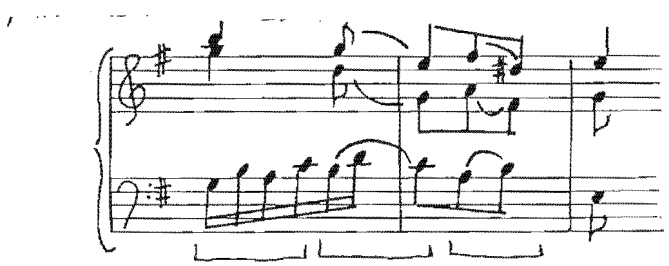


According to these customs the rapid demisemiquaver passages and upbeats of Bach's *Overture* should be played as late and as fast as possible, without displacing the two main beats of each bar.

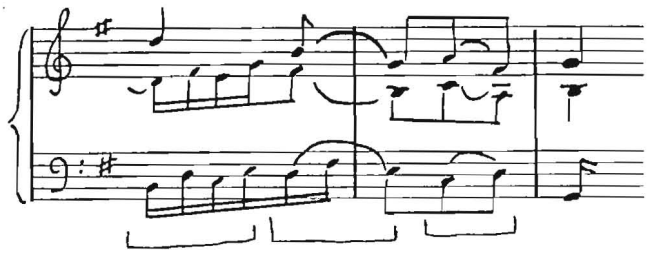
An orchestral movement is represented here, requiring a suitably full, rich sound that is easily accomplished on a modern grand piano. The opening section does not decrease in volume but remains, like its orchestral counterpart, loud and declamatory. In true Overture style the grandiose opening is followed by a faster and thinner textured section which has a clear tempo relationship of one bar of $\frac{3}{8}$ replacing a crotchet of the *Overture*. This sparkling triple metre section can be enhanced by articulations of  , mostly, and by indicating the cross rhythms of the *hemiolae* at the cadences also with note slurs (Example 19).

Example 19. Articulation of *hemiolae* (Variation 16)

(a) bars 29 and 30



(b) bars 45 to 47



This *tour de force* of a movement is given greater eminence by Bach's ingenious use of the Aria's harmonic framework in two such contrasting sections. The pianist is at a great advantage here, over the harpsichordist, since the piano's damper pedal, longer decay and dynamic range can more fully exploit these two sides of the French Overture.

Variation 17 is a toccata for two manuals, but fortunately very little adaptation is needed to make it suitable for a single keyboard. Each hand keeps to its part as written. Only in bar 21 should the 'e' (penultimate semiquaver) in the right hand be played with the left hand alone to avoid an unmusical accent. This movement is very similar to Variation 8 and requires much the same approach. Non-legato playing is needed to ensure that notes can be repeated rapidly between the hands (for example, bar 5). On the piano where the voices will not be as clearly separated as on a two-manual harpsichord, one or other voice may be given prominence above the other as the pianists dynamic whim desires, so that a lively discourse results rather than a fierce contest for supremacy.

Variation 18, an *Alla breve* canonic movement with an interval of a sixth between its canonic voices reveals its three parts easily, with its gentle bass providing the thematic harmony. The long notes of the

canonic voices imply both an emphatic and singing quality that is well achieved on the piano. Beneath this the lower voice may be gently articulated (with pairs of quavers slurred) to contrast with the fluidity of the top voices. The mood of this movement is easily slipped into after the preceding toccata by taking the minim at a similar tempo to the toccata's crotchet.

This gentle mood can be continued into Variation 19, in triple time, by giving the new quaver pulse the same tempo as the half-beat (crotchet) of Variation 18.

Variation 19. In this sinfonia a lilt is added by the $\frac{3}{8}$ time signature. It can be heightened both on the harpsichord and piano by slurring the semiquavers in pairs and also the first and second quavers of each bar in the bass thus stressing the first and third beats. Both articulations help to keep the 'main' voice, which moves its domicile continuously between the upper voices, clearly audible above or below moving semiquavers. In addition to the tempo connection with the previous Variation, already mentioned, there is also a dynamic connection. Both movements respond to being played *piano*. The pianist, with discreet use of the damper pedal, may highlight the thematic notes of the bass beginning each bar but it is not strictly necessary since the fingers can do the same with the suggested articulation and dynamic inflection at his behest.

Variation 20 may be catapulted into without too much of a pause Technically speaking this is the most difficult movement so far,

designed it would seem, to show off a virtuoso technique. It is fast and brilliant. The pianist may have to compromise with a slower tempo than need the harpsichordist in order to produce the desired clarity of this brilliant Variation. The lighter action of the harpsichord makes it easier to achieve a tempo of parity with the previous movement (say  in Variation 19, equal to  in Variation 20). Fortunately the nature of Variation 20's final cadence enables the pianist to make a tempo adjustment mentally, before he catapults into this Variation.

It is possible and advisable to play Variation 20 without rearranging the voices for the piano. This movement provides a dazzling technical display of which the digital and manual gymnastics are part; and since the hand crossings are manageable as written it is not desirable to minimise that display.

As in Variation 5, the thematic harmonic framework is thrown back and forth between the hands. Bach choreographs the more important voice bar-by-bar in quavers against semiquavers above or below it for the first eight bars. This is obviously effective on the harpsichord with its quick "decay" of sound. The same distinction can be made on the piano by playing the semiquavers staccato and not quite as strongly as the quavers giving some ease to the execution thereof.

After this Variation a long pause is needed to allow the listener to catch his breath and to prepare for (only) the second Variation in the tonic minor key of G.

Variation 21 is a canon at the seventh and, as in Variation 12, the number of keyboard manuals is not specified. It is likely, for the same reason as in the earlier Variation, that this one too is meant to be played on one manual.

Variations 15 and 21 share other features. They are both canons, both sombre in mood and both contain chromaticism (present to an even greater degree in this Variation). Here the resultant intensity of the harmonic movement and the canon at the seventh, in addition to the length of the movement (8 bars, instead of 16, to each half), dictates a much slower tempo than that of the ebullient Variation that went before. If one turns the crotchet of the preceding toccata into a quaver here, it will be necessary to ensure that the common time beats are not cut in two. This should be borne in mind at the final cadence of Variation 20 and the long pause used to achieve the slow four-beat pulse.

The pianist has a chance to heighten this tempo contrast by choosing a dynamic contrast between these movements and playing the whole of Variation 21 *pianissimo*. The tender, plangent quality of the clavichord may be recalled in this canon to capture its poignancy and intimacy.

The opening figure of the canon () lends itself to a gently pressed crescendo towards its second crotchet whenever practical (for instance, the opening of each half of the movement). The bass requires as much prominence, at times, as the canonic voices, particularly when it descends chromatically (for example, bars 9 and

10). Generally speaking an unobstructed "singing" quality is desirable to the sombre mood of this "slow" movement, so that a recognisable non-legato be almost absent, but imperceptible articulation will need to be used for gentle emphasis (for example,  in the bass of the opening bar).

Variation 22 is another fughetta marked *Alla breve* by the composer, presumably lest it be played too slowly after the preceding lament. If one chooses a tempo relationship in which the "new" beat (a minim) is equivalent to half an "old" beat, it allows the chromatic descending line at the start of Variation 21 to be echoed diatonically at the same pace at the start of Variation 22 (cf.,bar 1 of Variation 21 and bars 1-4 of Variation 22). This is an effective link between two otherwise dissimilar movements. Unlike Variation 10, the other fughetta in this work, this one has an independent bass (marking out the harmonic thematic scheme) that does not join the top three voices in fugal interchange.

With the chosen tempo the mood is lifted being open and forthright. To match this, the dynamic level can be raised to *mezzoforte* or *forte*, with crescendi where the texture thickens (for example, bars 21-23 and 30-32). The fughetta, although not strict, gives the impression of a fugue. The harpsichord practice of slurring the pairs of quavers (for example, bars 2, 3, 4, *et al*) may be applied on the piano to emphasise the buoyant mood, at the same time giving an almost organ-type solemnity.

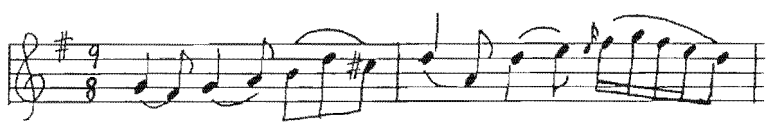
Variation 23 follows after a pause. It is a dazzling showpiece meant for two manuals. On the piano, without a second tone colour of another keyboard the two voices at the opening are more likely to sound like scales of thirds than two independent parts. This effect can, at least, be diminished by stressing the leap of a tenth that starts each run, to show that the voices imitate each other. This can be enhanced by giving "space" to the interval as well, a gesture which is indispensable on the harpsichord too. Bach seems to have been aware of this as the rhythms of the two voices lend themselves to the gesture.

The *Alla breve* beat of Variation 22 (a minim) makes a natural continuation of tempo if applied to the crotchet beat here, and is suitably foiled by the triple metre. A non-legato touch and a dynamic level of *mezzoforte* or *forte* keep this movement sparkling. A definite increase in volume develops towards the end of the movement (bars 25 to 32) where the thickening of the texture by parallel thirds and sixths in both hands has the effect of a bigger sound. On the harpsichord the climactic effect is ensured, but the pianist can highlight it to an even greater degree with the help of both damper pedal (at the beginnings of the bars) and dynamic. The rests are vital as they characterise the voices, particularly in the interplay of bars 8 to 12, 17 to 21 and 27 to 30, and on the piano they must be given precise "speech", to overcome any delay in decay. A clever slurred effect is created for two-manualled instruments from bar 27 onwards, where the lower thirds (quavers) are of longer duration than the upper thirds (semiquavers). The effect can be simulated on the piano with the use of the damper pedal, depressed on every change of

harmony in the bass quavers. The pianist may choose to diminuendo as the line descends (from bars 27 to 29) before again increasing in volume with the rising voices to a triumphant climax in bar 32.

Variation 24 is a canon at the octave, an "open" interval that ensures the canonic imitation is clearly heard. The canonic melody is a lilting one that encourages the use of subtle articulation, in the manner of shepherd's piping. This is, in fact, a kind of Pastorale the lilt of which can quickly be captured after Variation 23 by giving the beat, a dotted crotchet, the same tempo as the previous beat, a crotchet. A suggested articulation to give the lilt follows. (Example 20).

Example 20. Suggested articulation for bars 1 and 2 (Var. 24).



This articulation will contrast with a legato treatment of the new melody in bar 9, where the Comes takes over as the leading voice. As the semiquaver runs reappear from bar 13, different articulation (Example 21) can be introduced, starting with the middle voice at bar 13 and following suit in the upper voice at bar 15.

Example 21. Articulation for bars 13 to 16.

The role reversal of the canonic voices starting in bar 9 can be shown dynamically on the piano by rounding off the previous material (in bar 8) and beginning a new phrase from the second quaver of bar 9 (middle voice). The same principle can be used in bar 24 when the canonic voices revert to their original roles and the upper voice again becomes the Dux.

The gentle lilt of this Variation calls for a lower dynamic level than the previous Variation, perhaps *mezzopiano*. This also helps to prepare the way for the quiet intensity of Variation 25.

Variation 25 is the third and last of the minor key movements and the most chromatic and expressive of the three. As in Variation 13, the lower parts echo the bass in the manner of the Aria, while above them the upper voice "improvises". But now the mood is not serene: instead, it is "disturbed" by the chromaticism.

Because of the complex harmonic texture and proliferation of short-value notes, a slower tempo is needed for this movement. The easiest transition is probably through the beat of Variation 24 being taken as the tempo for each quaver of this Variation. But the pulse must be felt through the crotchets, so a pause of some length may be needed between the movements to effect this.

The lower voices are more melodic than those of Variation 13 and the top voice is more hesitant, being punctuated by rests that cause the movement to fall clearly into the 4+4+8 bar structure established by the Aria. Bach provides a few articulation marks (for example, at

bars 13 and 20) and the possible reasons for this have already been discussed under Variation 13.

On the harpsichord it was customary in the Baroque to use "tempo rubato" or rhythmic alteration (*notes inégales*) to make a movement such as this expressive, using a delayed placement of notes rather than dynamic inflection. On the piano the inflectional dynamics that are possible render the music expressive without as much rhythmic variation. Using both devices on the piano at the same time would seem to me to sound artificial and overdone. The moving inner voice can be intensified effectively and be phrased dynamically so that, for example, the descending notes (in bars 1 to 4) can decrescendo as they fall.

From Variation 26 onwards, the movements are fast and technically demanding, giving the impression of a dramatic surge to Variation 30. Bach writes no pause mark at the end of the previous Variation, so a forward surge immediately is warranted to draw the ear to the new mood, where the crotchet may be taken at the tempo of the previously established semiquaver.

The two time signatures suggest a split personality! The rapid cascade of semiquavers in $\frac{18}{16}$ metre are pitted against a square, assertive $\frac{3}{4}$ rendition of the thematic harmonic progression in 2-voiced

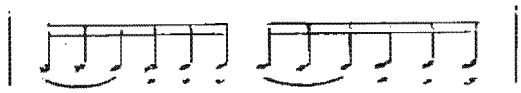
harmony. The question may be posed: should the semiquavers in $\frac{3}{4}$ be "altered" to a sextuplet semiquaver so as to coincide with the last semiquaver of the sextuplet in $\frac{18}{16}$? While such an alteration is justifiable in terms of eighteenth century practice, in my opinion it detracts from the independence of the parts and weakens the role of the assertive harmonic framework in $\frac{3}{4}$. Rather this needs enhancing and this may be achieved even more effectively on the piano than harpsichord by the use of a strong *portamento*.

The brilliance of this Variation, created by two rhythmic entities in parallel lines, demands a strong dynamic which can be maintained to the last Variation. Bach's splendid textural variety in these last movements allows the "bravura" mode to develop without pall.

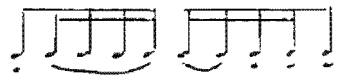
Variation 27 is a canon at the ninth, the only one in the work not to be accompanied by an independent third voice in the bass. The resultant sparseness and simplicity of the texture provides a temporary respite from the technical fireworks on either side of it. A comfortable tempo relationship with Variation 26 is easily achieved by making the pace of the former sextuplets and the semiquavers here identical.

This is very much a duet in which a violoncello and violin might indulge; and the pianist is able to allow each voice its solo moments

and its accompanimental ones, enhancing the roles of Dux and Comes magnificently. Articulation which helps to stress the main beats should be chosen. For example, in bars 5, 6 and 7 the semiquavers might be grouped thus:



The opening bar, by comparison, would be more effective if articulated in this manner:



and using left hand fingering of 55432 for the first beat, answered by right hand 11234.

This Variation leads easily into the next with the same tempo for the beat (♩. = ♩). Bach's pause mark poses a slight query when the second half is repeated. He solves the problem of making the canon both return and carry on by writing a cadential figure over the ending Comes. This leads neatly into the next movement, so the pause should be regarded as a very short one giving a stressed up-beat to the first beat of Variation 28.

Variation 28 is characterised by its hovering trills, around which a melody suggested by semiquavers is interspersed with rests. On the piano discreet pedalling "on" the semiquavers increases their sonority and helps to give them more dominance over the trill. The leaping quaver octaves that constitute the bass, later moving to the top voices, should be played non-legato to give stronger support to the trilling and spiked effects. When this quaver line changes to a chromatic one however, at bar 25, a legato touch will probably be more effective to highlight its melodic implications.

The tempo relationship between this and the next two Variations remains fixed, creating a "grand" stability for this climactic area of the work.

Of all the Goldberg toccatas Variation 29 is the most grandiose. It brings to mind the "pleno" sound of the organ, or at least, a harpsichord with all the stops available coupled, to create the greatest attack. There are two distinct "orchestrations" in bars 1 to 16 of this movement which are realised dynamically in performance: the thick chords at the opening (bars 1 to 8^2) followed by the "threadbare" lines of bars 9 to 14. In the second half of the movement, too, these two textures though differently organised are clearly evident. On the harpsichord it is possible to make a stronger delineation in dynamic by alternating uncoupled with coupled manual. But this is not necessary as the text takes care of itself in this respect; hence Bach's direction of one or two keyboards for this Variation. In orchestral terms, the bars of single notes (8 to 15, 17 to 20, and 27 to 30) may be regarded as scored for two soloists (or one) and can even be played more freely on the keyboard, *quasi cadenza*. The style of this Variation brings to mind the many Baroque concerto movements in "ritornello" form with their alternating *tutti and soli* textures. This is merely a keyboard example of one of them.

On the piano a spectacular enhancement of the *tutti* areas can be achieved by the use of the damper pedal. The lower voice of bars 4 and 8 will need to be rhythmically altered, according to eighteenth century practice, so that it coincides with the upper one in rhythm:

The last Variation, instead of being as expected, a canon at the tenth, is a Quodlibet; a pot-pourri of popular melodies jumbled together in jocular fashion! Variation 29 has the unwitting role of being a Prelude to it.

After the great buildup of the last three Variations, Variation 30 could seem something of an anticlimax. As well as being a medley of popular songs of the time, it is permeated with one in particular, namely "Cabbages and Turnips Have Driven Me Away".[10] Writing in a stolid "Handelian" style, with hefty minims to begin with in the lower voice, Bach's "joke" faithfully represents the thematic harmonic bass of the Aria. With simple, non-legato, tongue-in-cheek treatment it provides an unpredictable close to the set of Variations. Only 16 bars are used by Bach to contain all manner of contrapuntal treatment of his musical mélange, bringing us to the end of a veritable milestone.

In complete contrast to this Bach orders a repeat of the Aria after it which serves to remind the listener of how far he has journeyed since the beginning. A cultivated ear may now hear the realisation of ideas that he could never have imagined at the outset.

Notes to Chapter V

[1]'The New Grove Dictionary of Music and Musicians, 6th ed., s.v. "Goldberg, Johann," by Norman Rubin.

[2]Ibid., s.v. "Variation", by Kurt von Fischer.

[3]George A.Kochevitsky, "Bach's Keyboard Music - The Choice of an Instrument", Bach, 3, No. 2 (April 1972), 33.

[4]David and Mendel, eds., Bach Reader, 38, citing Forkel, Life of J.S. Bach.

[5]For convenience in bar number references I shall not be taking into account the repeat marks of the Binary form. Thus I shall regard the movements as being 32 bars long (not 64). To those Variations in which Bach has eclipsed the original number of bars, I shall refer in the discussion.

[6]Maelzel's Metronome measurement, in which all subsequent tempo markings will be given.

[7]Robert Donington, The Interpretation of Early Music, 449, citing Johann Joachim Quantz, Versuch einer Anweisung die Flöte traversiere zu spielen, translated into English by E.R. Reilly (London: 1966), Chapter XII, 24.

[8]Ibid., idem, Chapter VII, 58.

[9]Donington, Baroque Music, 48.

[10]Malcolm Boyd, Bach, (London: Dent 1983), 195.

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