Analysis - resumo

A general definition of the term as implied in common parlance might be: **that part of the study of music that takes as its starting-point the music itself, rather than external factors**… More formally, analysis may be said to **include the interpretation of structures in music, together with their resolution into relatively simpler constituent elements, and the investigation of the relevant functions of those elements**. Less controversially, a practical distinction is often drawn between:

a) Formal analysis
b) Stylistic analysis

I. General

1. The place of analysis in the study of music.

Diverse activities - they represent - different views of

a) Nature of music
b) Music's role in human life
c) The role of the human intellect with regard to music

Underlying all aspects of analysis as an activity is the fundamental point of contact between mind and musical sound, namely **musical perception**. (…) The concerns of analysis as a whole can be said to have much in common on the one hand with those of **musical aesthetics** and on the other with those of **compositional theory**. (…) **Music theories** have been developed that find their practical expression not in composition but in analysis; from the obverse point of view one might say that such theories derive stable concepts by abstraction from the data that analysis provides.

(**The laws of musical construction**)

Analysis may serve as a tool for **teaching**; but it may equally well be **a private activity** – a procedure for discovering. (…) Analytical procedures can be applied to styles of **performance and interpretation** as well as to those of **composition**. (…) Analysis is concerned with **musical structures**… **resolution and explanation**,… **generation of music**, … a **means of discovery**.

Concern the nature of the musical work:

a) with what it is, or embodies, or signifies;
b) with how it has come to be; with its effects or implications;
c) with its relevance to, or value for, its recipients.

The analyst focusses his attention on a musical structure… and seeks to define its constituent elements and explain how they operate; but **the aesthetician** focusses on the nature of music *per se* and its place among the arts, in life and reality… Analysis tends to supply evidence in answer to the empirical questions of aesthetics,… whereas the aesthetician's concern is with the place of musical structures within the system of reality. (…) **Criticism** is inseparable on the one hand from aesthetics and on the other from analysis.

a) The 'descriptive' critic
b) The 'judicial' critic

In general, analysis is more concerned with describing than with judging… it aspires to **objectivity** and considers judgment to be subjective. (…) A rather different relationship exists between **musical analysis and music history**… He [the historian] uses it to detect relationships between 'styles', and thus to establish chains of causality that operate along the dimension of time and are anchored in time by verifiable factual information….

2. The nature of musical analysis.

The primary impulse of analysis is an **empirical** one: to get to grips with something on its own terms rather than in terms of other things. (…) The subject of a musical analysis has to be determined:

a) whether it is the score itself,
b) the sound-image that the score projects;
c) the sound-image in the composer's mind at the moment of composition;
d) an interpretative performance;
e) the listener's temporal experience of a performance.

Its central activity is **comparison**. By comparison it determines the structural elements and discovers the functions of those elements… And out of this arises the measurement of amount of difference, or degree of similarity (…) In reality the analyst works with the preconceptions of his culture, age and personality. (…) The **history of musical analysis**… inevitably recounts the application of intellectual outlooks from successive ages to musical material:

a) The principles of rhetoric,
b) the concepts of organism and evolution,
c) the subconscious mind,
d) monism,
e) probability theory,
f) structuralism,
g) post-structuralism and so forth

3. The role of method in musical analysis.

Many of the classifications that have been formulated for musical analysis have distinguished between **types of analytic practice** according to the methods used

Widelly accepted

a) 'stylistic analysis'
b) 'analysis of the individual work'

Erpf in *MGG1* (1949–51)

a) 'constructional analysis'
b) 'psychological analysis'
c) 'analysis of expression'

Meyer's (1967, pp.42ff)

a) 'formal'
b) 'kinetic-syntactic'
c) 'referential'

Dahlhaus (*RiemannL12*, 1967)

a) 'formal analysis'
b) '"energetic" interpretation'
c) Gestalt analysis
d) 'hermeneutics'

A different way of identifying analytical methods is partly historical in nature. A good example of the emergence of a method by accumulation and selective filtering is seen in the analysis of form… one may describe formal analysis historically, identifying principles and refinements as they were newly introduced; and one may present an overview of what is meant by formal analysis today.(…) **The history of formal analysis** tells us that during the late 18th century and the 19th, music theorists defined certain structural patterns… that were reducible to two fundamental patterns: *AB* and *ABA*. (*Liedform*) or (Binary Form and Ternary Form)

What is meant by formal analysis might begin with the three basic form-building processes:

a) 'recurrence'
b) 'contrast'
c) 'variation'

'… identify a distinction between two basic processes of extension:

a) that of a succession of formal units
b) that of development.

Forms:

a) The rondo, *ABACADA*
b) Sonata rondo: *ABACAB'A*.
c) Cyclic Form
d) 'the contrapuntal forms'
e) 'free forms', etc.

There are many difficulties in determining criteria for their recognition [the basic models]. The question might be asked whether analysis as a whole can be described by listing and describing its methods. Handbooks of analysis written largely for pedagogical purposes have adopted this approach virtually out of necessity. (…) A thorough-going **typology of musical analysis**, would probably have to encompass several axes of classification.

a) The analyst's view of the **nature and function of music**
b) His approach to the actual **substance of music**
    (a) a 'structure', a closed network of relationships;
    (b) a concatenation of structural units;
    (c) a field of data in which patterns may be sought;
    (d) a linear process;
    (e) a string of symbols or emotional values
c) His method of **operating on the music**
    (a) reduction technique;
    (b) comparison, and recognition of identity, similarity, or common property;
    (c) segmentation into structural units;
    (d) search for rules of syntax;
    (e) counting of features;
    (f) reading-off and interpretation of expressive elements, imagery, symbolism.

d) The medium for **presentation of his findings**.
   - *(a)* annotated score or reduction or continuity line
   - *(b)* 'exploded' score, bringing related elements together
   - *(c)* list, or 'lexicon' of musical units,
   - *(d)* reduction graph, showing up hidden structural relationships
   - *(e)* verbal description,
   - *(f)* formulaic restatement of structure in terms of letter- and number-symbols;
   - *(g)* graphic display: contour shapes, diagrams, graphs, visual symbols for specific musical elements;
   - *(h)* statistical tables or graphs;
   - *(i)* sounding score, on tape or disc, or for live performance

Other axes:
a) the purpose for which the analysis was carried out,
b) the context in which it was presented,
c) the type of recipient for which it was designed.

II. History

1. Early history (to 1750).

Analysis, as a pursuit in its own right, came to be established only in the late 19th century; its emergence as an approach and method can be traced back to the 1750s. However, it existed as a scholarly tool, albeit an auxiliary one, from the Middle Ages onwards… two branches of musical theory:
a) the study of modal systems
b) the theory of musical rhetoric.

The classificatory work carried out by the **Carolingian clergy** in compiling tonaries was analytical… Such theorists… in the **11th century** cited antiphons with brief modal discussion... **Renaissance theorists**… discussed the modality of polyphonic compositions by Josquin. (…) The literature of ancient classical Greek and Roman rhetoric was rediscovered with the finding of **Quintilian's *Institutio oratoria* in 1416**.

Burmeister had already proposed (1599, 1601) that **musical 'figures'** could be treated as analogous to **rhetorical figures**, and it was he who first set out a full formal analysis of a piece of music. It was Burmeister, too, who gave the **first definition of analysis** (1606, pp.71ff):

> Analysis of a composition is the resolution of that composition into a particular mode and a particular species of counterpoint [*antiphonorum genus*], and into its affections or periods. … Analysis consists of five parts: 1. Determination of mode; 2. of species of tonality; 3. of counterpoint; 4. Consideration of quality; 5. Resolution of the composition into affections or periods.

Lippius (1612) discussed rhetoric as the basis of the *forma*, or structure of a composition. Throughout the **Renaissance and Baroque** periods the principles of rhetoric were prescriptive: they provided routine techniques for the process of composition rather than descriptive techniques for analysis... Mattheson (1739) enumerated six parts to a **well-developed composition such as an aria** (p.236):

a) Exordium
b) Narratio
c) Propositio
d) Confirmatio
e) Confutatio
f) Peroratio

The tradition of **embellishment manuals**, was primarily concerned with teaching graces and *passaggi* to performers... In these manuals is established the fundamental concept of 'diminution'. This concept has two aspects:

a) the subdivision of a few long note values into many shorter values
b) the application to an 'essential' melodic line of a layer of less essential linear material.

The compositional notion of **inventing** (or adopting) **a basic structure** and then **elaborating it**, which goes back at least to the 9th century and was developed as *contrapunctus diminutus* by **14th-century theorists**...

The teaching of **figured bass** was similarly performer-orientated. It tended to foster the concept… that of the chord as an indivisible unit. It evolved a new categorization of consonance and dissonance.

Rameau 'conceptualized those principles of tonality which were so thoroughly revolutionizing harmony in the early eighteenth century' (Gossett, ed. and trans.: Rameau: *Traité*, 1971, p.xxi). He asserted the primacy of harmony over melody… three 'primary consonances', the octave, 5th and major 3rd… the principle of 'inversion'… The principle of 'implication' (…) J.D. was written towards the end of the figured-bass tradition and brought that tradition into contact with the theory of composition [Heinichen *Der General-Bass in der Composition* (1728)].

2. 1750–1840.

The origins of musical analysis as one now thinks of it lie in early **18th-century philosophy** and are linked with the origins of the **aesthetic attitude** itself… contemplating beauty without self-interest – that is, without motive of personal improvement or utility...

His declaration [**Lord Shaftesbury** (1671–1713)] that '*the Beautiful*, *the Fair*, *the Comely*, were never in the *Matter*, but in the *Art* and *Design*; never in the *Body* itself, but in the *Form* or *forming Power*' (*Characteristicks of Men, Manners, Opinions, Times*, 1711, ii, 405) drew attention to the outward form as the object of contemplation rather than content.

However, it was not in the field of analysis or of criticism, as one might expect, that these perceptually based ideas were fully articulated in music for the first time. It was in **composition teaching**: in particular in the writings of the theorist **H.C. Koch**…. In his second chapter (Frankfurt, 1755) **Riepel** discussed the construction of eight-bar phrases in two four-bar units… Riepel considered melodic 'figures' (*Figuren*) not in the rhetorical Baroque sense but as units of formal construction… Koch described Riepel's work as 'the first ray of light'.

Kirnberger… in *Die Kunst des reinen Satzes in der Musik* (ii/1, 1776), employed a range of teminology for melodic structures that provides a halfway-point between Riepel and Koch (…) He was also the direct heir of the two lines of harmonic theory that descended from Rameau and Heinichen.

Koch's exposition of **melodic phrase structure** in the 1780s and 90s was to be of the profoundest importance for music theory, ultimately also for analysis, and it led directly to

Riemann's **theory of dynamic and agogic** (…) In this way Koch drew all the musical elements of a composition into mutual relationship – for **music is** '**that art which expresses feelings through the relationships between notes**' (i, 4) (…) Accordingly, within the discussion of smaller forms (iii, 39ff) Koch provided the plan and characteristic details of the gavotte, bourrée, polonaise, anglaise, minuet and march, concluding with the chorale and figured melody (…) Not only is the 'model' an important tool for formal analysis, later to be used by Prout, Riemann and Leichtentritt, but also the Sulzerian process of model–execution–elaboration is itself an important concept of artistic creation, which later acquired its analytical counterpart in the theory of layers (*Schichten*).

Jérôme-Joseph de Momigny (1762–1842) in his *Cours complet d'harmonie et de composition* (1806) devoted no fewer than 144 pages, including **analytical plates**, to an analysis of the first movement of **Mozart's String Quartet** in D minor k421/417*b*. (…) In this phrase-structure analysis Momigny laid the basis for a view of music that was to become important at the end of the 19th century: of music as a succession of spans of tension.

Momigny's two analyses from 1806 are monumental achievements. So too was another extended analysis, which occupied 21 columns of the Leipzig *Allgemeine musikalische Zeitung*, published in two instalments in July 1810: **E.T.A. Hoffmann's analytical review** of the score and parts of **Beethoven's Fifth Symphony**, complete with copious music examples (Eng. trans., 1994)… Hoffmann's pictorial language, however, belongs (as one would expect of him) to the world of Romantic literature, speaking of 'nameless, haunted yearning' and a 'magical spirit realm', and of the work being held together 'in a continuous fantastic sequence … like an inspired rhapsody'.

Schumann's review of **Berlioz's *Symphonie fantastique*** (1835) also combines objectivity and subjectivity in tackling the work from four distinct points of view: formal construction, style and texture, the poetic 'idea' lying behind the symphony, and the spirit that governs it.

The use of analysis to serve an interest in musical objects themselves, rather than to supply models for the study of composition, reflected a new spirit of historical awareness that arose with Romanticism… This spirit, in confluence with the **Romantic image of 'genius'**, resulted in a new type of monograph, biographical and historical. (…) **J.N. Forkel's** *Ueber Johann Sebastian Bachs Leben, Kunst und Kunstwerke* (1802)… in short, a stylistic analysis…. seek the depths of '**Bach**'s transcendent genius' (Eng. trans., 1920, p.xxix). (…) The early decades of the century saw the publication of other comparable monographs:

a) Baini's study of Palestrina
b) Carl Winterfeld's of Palestrina (1832) and Giovanni Gabrieli (1834)
c) Aleksandr Dmitreyevich Ulïbïshev's of Mozart (1843).

> 'It is with music as with geometry: in the former it is necessary to prove everything by music examples, just as it is with the latter by geometric figures' [**Antoine Reicha**, *Traité de mélodie* (1814, 2/1832)].

Around **1830** there was an intense debate in the pages of *La revue musicale* and the Leipzig *Allgemeine musikalische Zeitung* about the opening bars of Mozart's 'Dissonance' Quartet k465 (see Vertrees, 1974)... The response to this by the Mannheim-based composer and theorist **Gottfried Weber** was widely circulated. Weber acknowledged the 'disturbing effect' of the passage, and stated that its causes may be ascertained by analysis (Eng. trans., 1994, p.163): 'A thorough-going *analysis* of the entire *harmonic and melodic fabric* [*Textur*] of the passage in question will enable us to detect all these causes, to isolate them and see them interacting with one another, and thus to specify *what* it is in these tonal constructs [*Anklängen*] that disturbs us so much' (…) His four-volume theory of tonality (*Versuch einer*

geordneten Theorie der Tonsetzkunst, 1817–21) was widely used and acknowledged… Weber set out a **new method of designating chord type**s. This uses Gothic letters in upper and lower case, with superscript circle, '7' and crossed-'7', to designate major, minor and diminished triads, dominant 7th, secondary 7th, half-diminished 7th, and major triad with major 7th. Then in §151 there are Roman numerals, large and small (actually small-capital), with the same superscript symbols, to denote chord types as located on degrees of the scale within a given key (fig.8).

By far the most visionary steps in harmonic theory at this time, however, were taken by Momigny. *Cours complet* (1803–5)… and *La seule vraie théorie de la musique* (1821)

3. 1840–1910.

When **Carl Czerny** - *School of Practical Composition* (?**1848**) (…) The treatise was unique in being the first independent **manual of form and instrumentation** (…) 'the composition must … belong to a species already in existence; consequently, in *this* respect, no originality is, in general, necessary'.

A.B. Marx, in his *Die Lehre von der musikalischen Komposition* (**1837–47**; partial Eng. trans., 1997), was less procrustean. 'The number of forms is unlimited'… the composer's conception, feeling, idea – outwardly acquires shape'. A better term for it, he suggested, might have been **'the externalization of content'** (…) Content was not really separable from form…. Forms are patterns abstracted from past practice, rather than conscious guidelines; they represent deep-seated principles of organization which analysis uncovers. (…) This idea is close to the ideas of **A.W. Schlegel (1767–1845)** concerning the relationship between art and nature: beneath the consciously moulded work of art must lie an unconsciously moulded work of nature.

Marx's discussion of sonata form (*Sonatenform* – he was probably the first to use that term for the internal scheme of one movement) differs significantly from that of Czerny (…) Marx issued the third volume of his compositional manual in 1845… Volume iii is itself a manual of musical forms that starts with simple forms, including variations, proceeds to rondo forms, to sonata form and thence to hybrid forms such as sonata-rondo, multi-movement structures and the fantasy, and concludes with vocal genres (…) Marx's most significant analytical writing is contained in his *Ludwig van Beethoven: Leben und Schaffen*.

In **1885 Salomon Jadassohn** produced volume ii*a* of his composition treatise, entitled 'Forms in musical works of art analysed and graded as a course of study'. In **1887** the American writer **A.J. Goodrich** published his *Complete Musical Analysis*, and the American teacher **Percy Goetschius** produced a sucession of books on musical form, of which his *Models of the Principal Musical Forms* (1894) was the first. **Riemann**'s own *Katechismus der Kompositionslehre* (subtitled *Musikalische Formenlehre*) appeared in **1889**. In **1908 Stewart Macpherson** produced his *Form in Music*.

…was the British theorist **Ebenezer Prout**, who between **1893 and 1897** produced his two volumes *Musical Form* and its sequel *Applied Forms*… **Hugo Leichtentritt** completed his *Musikalische Formenlehre* in 1911… including chapters on 'Aesthetic ideas as the basis of musical styles and forms' and '**Logic and coherence in music'**… It was with Prout and Leichtentritt that *Formenlehre* became a branch of the discipline of musical analysis rather than a prescriptive training for composers, and hence entered the field of musicology.

Approaches to harmony in the second half of the 19th century showed a tendency to **divide into two camps**: on the one hand those that took a **conservative approach to theory** but developed new insights born out of analytical pragmatics, and on the other hand those that brought a **new rationalism to theory** but had less impact on the practice of analysis.

Simon Sechter - 'Beneath every chromatic progression lies a diatonic one'; most chromatic harmony can be read as diatonic harmony with chromatic inflection; and most 'apparently modulatory passages in reality retain their allegiance' to the tonic. (…) Sechter's third volume (1854) speaks of 'rhythmic sketches' and makes use of two noteworthy graphic devices. The first sets out the harmonic structure of an entire piece in terms of fundamentals… The second presents a fully rhythmicized succession of fundamentals with two rows of numerals immediately beneath the staff.

Underlying **Riemann's theory** is the postulate that the pattern **weak–strong** is the '**sole basis for all musical construction**' (1895–1901, i, p.132). (…) Riemann's own analyses take one of two forms: books of analyses…, or 'phrase-structure editions'…

In **1887** a writer who rejected both the formal analytical approach and that of naturalistic description, and was at the same time mistrustful of historical information, began publication of a guide to the concert repertory, *Führer durch den Konzertsaal*. This was the musicologist and conductor **Hermann Kretzschmar** (…) Kretzschmar forged an approach to **musical appreciation** that saw music as a language, universal in character, with meanings recognizable by those with the necessary aesthetic training (*Satzästhetik*)… At the end of this training stood a method of interpretation that Kretzschmar called **'musical HERMENEUTICS'**, and which he saw as a revitalization of the **Baroque theory of affects**.

Hermeneutics as a critical method – as distinct from its etymological roots in a more general 'interpretation' – is generally acknowledged to have first been formulated in the work of **Friedrich Schleiermacher** and later developed by **Wilhelm Dilthey**.

Encouraged by Wagner himself and also by Liszt, von **Wolzogen** published a **'thematic guide'** (*thematischer Leitfaden*) to the *Ring* cycle (**1876**), followed by similar guides to *Tristan und Isolde* (1880) and *Parsifal* (1882).

Towards the end of the century, writing that moved in a hermeneutical way across a number of modes of interpretation had come to be influenced by the development of musical text criticism, which brought with it the first of the massive collected. The most notable scholar in this field was **Gustav Nottebohm**, who worked on the collected editions of Beethoven (**1862–5**) and Mozart (from 1878)… What Nottebohm came across on the way, namely **Beethoven's** painstaking formulation of **thematic material**, was a living exemplification of the ideas of melodic motif, germ-cell, organic growth, unity – ideas that were rife and which had found their way into the theoretical tradition.

One of the first such writers to draw on Nottebohm's findings was **George Grove**… in *Beethoven and his Nine Symphonies* (**1896**).

4. 1910–45.

It was observed… that **A.B. Marx**, while using the word *Gestalt* for a formal 'mould', regarded '**form**' as virtually synonymous with '**whole**' (*Ganzes*). He felt, too, that formal 'moulds' were not merely conventions: they represented **deep-seated principles of organization in the human mind** (**Gestalt psychology**).

In essence **Gestalt psychology** was concerned with: it laid stress on the power of the perceiver mentally to **organiz**e whatever **objects** or situations he encounters, and to do so in formal terms rather than terms of individual components and his previous experience of them.

Christian von Ehrenfels "a melody has a shape that can be heard, recognized and learnt without recognition of its constituent notes, intervals or rhythms".

Three principles

a) 'Closure'
b) 'Phi phenomenon'
c) 'Prägnanz'

One final principle is of fundamental importance to music: **figure–ground perception** (…) **Arnold Schering**… introduced the idea of '**disembellishment**' (*Dekolorieren*)… in fact what he set out to reveal were medieval folksongs, since he believed that the elaborate 14th-century madrigals were really keyboard arrangements of folktunes.

Guido Adler… in *Der Stil in der Musik* (**1911**) change the nature of historical writing about music by introducing the notion of style as the central concern of the historian.

> The style of an epoch, of a school, of a composer, of a work, does not arise accidentally, as the casual outcome and manifestation of artistic will. It is, on the contrary, based on laws of becoming, of the rise and fall of organic development. Music is an organism, a plurality of single organisms which in their changing relationships and interdependencies form a totality.

Adler sharply criticized what he called the **'hero-cult'**… He placed emphasis on 'apprehension' as the first stage: that is, a recognition of the facts purely as they are, which avoids value judgments and subjective preconceptions on the part of the historian.

Adler offered two methods of approaching this task

a) '**inductive method'**
b) '**deductive method'**

Knud Jeppesen's *The Style of Palestrina and the Dissonance*… provided in this book the detailed analytical procedure that Adler had left wanting. His choice of 'inductive' or 'deductive' method was conditioned by his general purpose: he saw the need for a **history of dissonance treatment**. (…) Jeppesen himself called this method 'empiric-descriptive', and identified it expressly with Adler's method.

One of Adler's pupils was **Ernst Kurth**. Kurth's ideas were closely allied to those of the **Gestalt psychologists**, but also ,used Schopenhauer's concept of the 'Will' and Freud's of the subconscious mind. The Gestalt theorists saw **three levels of aural perception**:

a) physical perception by the ear
b) sensory organization in the nervous system
c) understanding at the psychological level.

Kurth saw **three levels of activity in musical creation**

a) 'Will'
b) 'Play of tensions' (*Spiel von Spannungen*)
c) the acoustic manifestation (*Erscheinungsform*).

In his second book, on **Romantic harmony** (**1920**), Kurth first expounded **chromatic alteration** as a process of placing the leading note where it would not normally occur.

The scholar who grasped the problem of form and tonality in Wagner and exposed its 'secret' analytically was **Alfred Lorenz** (…) Lorenz's work was the confluence of all the main developments in analysis before his time. It contained ideas from the Gestalt writers; his notion of periodization and symmetry derived from Riemann; his defining of structure drew on traditional *Formenlehre*; his perception of harmonic movement came from Kurth (to whom he dedicated his *Tristan* volume).

In **1906 Heinrich Schenker** had published his *Harmonielehre*… Further volumes were *Kontrapunkt* (1910, 1922) and *Der freie Satz* (1935). Schenker's unique view of a musical composition was that works that are tonal and exhibit mastery are projections in time of a single element: **the tonic triad**. The projection of this triad comprises two processes: its transformation into a two-part **'fundamental structure'** called the ***Ursatz***, and the

'composing-out' (*Auskomponierung*), or elaboration, of the structure by one technique or more of 'prolongation'.

He began to represent harmonic progressions graphically on two levels, using in one instance a 'formula' to show short-term triadic movement over longer-term harmonic steps (p.244), in which I–V:I–V is shown as numerator and I as denominator.

The first two issues of the journal [*Der Tonwille*] had contained preliminary studies of the ***Urlinie*** idea together with analyses using the so-called *Urlinie-Tafeln* – graphic analyses showing the fundamental line. (…) The *Urlinie-Tafel* as developed at this stage was usually a presentation of a piece in full or partly reduced, with normal use of note values and complete with time signature and the original barring (numbered for reference).

Such was the sophistication of **Schenker's graphs** during the last five years of his life that he was able to **discard verbal commentary** altogether… By this time the *Ursatz* had taken its final form as a two-part counterpoint that accomplished what Schenker saw as lying at the heart of his theory – a projection of the triad into the dimension of time. Its upper voice, the ***Urlinie*****,** was a melodic progression originating from a note of the triad and **descending scalewise to the tonic** (3–2–1, extensible to 5–4–3–2–1, or rarely 8–7–6–5–4–3–2–1); its lower voice, the ***Bassbrechung***, was an '**arpeggiation**' from the **tonic** note to the **dominant** and back again. This meant that the basic structure of any tonal piece of music was diatonic, and all modulations were considered as 'prolongations' of diatonic harmonic steps.

In **1932 Schoenberg** wrote: 'For nearly 20 years I have been collecting material, ideas and sketches, for an all-inclusive textbook of composition'. The project was never completed. (…) This is symptomatic of a tendency for analysis of modern music to use approaches 'authenticated' by more or less direct association with the composer in question. Three factors that can be identified behind the growth of this phenomenon are:

a) the difficulties of lay comprehension of modern styles
b) the function of analysis as elucidation that had been established by around 1910
c) the propensity of composers to write about their own music

Seeing his own music as a **continuation of the Austro-German tradition**, he chose instead to write about broader topics in a way that adhered to the 19th-century view of music as organic… By the mid-1920s his instinct for unity and intellectual synthesis had led him to the principle of the **musical Idea (*Gedanke*)** as the foundation of all aspects of a work, including form, counterpoint and the presentation of material. This notion of the Idea remained difficult to grasp – it seems intended to give concrete expression to an organic-psychological image of the seed of creative thought, but also not to be identified consistently with a specific type of musical feature.

…concepts that emerged in Schoenberg's teaching and writings

a) 'liquidation'
b) 'developing variation' (*Entwickelnde Variation*)
c) 'basic shape' (*Grundgestalt*)

Fundamentals of Musical Composition (1967, dating from between 1937 and 1948)… is a small **manual of form**; though intended for composers, it rests on analytical exemplification and is to some extent a manual of analysis, drawing particularly on examples from Beethoven's piano sonatas.

In his *Unterweisung im Tonsatz* of **1937**, another composer, **Hindemith**, believed himself to have laid down the basis of a *lingua franca* for modern composition, 'proceeding from the firm foundation of the **laws of nature**'… if any one of the notes of the chromatic octave scale be taken, then the other 11 notes can be ranged in descending order of relationship to it. This order he called '**Series 1**'. Adopting the principle of inversion (by

which, for example, minor 7th = major 2nd), he determined an order for intervals based on combination-tone curves in increasing complexity. This produced '**Series 2**', of intervals in descending order of value with respect to a given note… From this Hindemith developed a system of **chordal analysis**… Hindemith classified chords containing three to six notes into separate groups and subgroups in terms of their **harmonic intensity**.

Between **1935 and 1939** the programme notes that **Donald Francis Tovey** had been writing for the Reid Concert Series in Edinburgh since the mid-1910s were published together in six volumes… As a whole, the volumes made a substantial **analysis book of the 18th- and 19th-century** orchestral and choral repertory. To this Tovey added in 1944 a further volume on chamber music… They are true examples of English empiricism, rejecting the analyst's formal models as 'nonsensical', and equally rejecting the idea of organic unity as '*a priori* fancies'. All such theories were 'fallacies' (…) It was the **successive aspect of description** that was most important to him, since he saw analysis as tracing the same process in time that the **'naive listener' experienced** (…) If a feature was not observable by the innocent ear of the non-expert hearer, then it was not worth observing.

5. 1945–70.

In the years after World War II **two** highly influential **lines of intellectual thought** came to impinge on musical theory.. The first was linguistics… The second was cybernetics and information theory.

Linguistics examines social communication through natural language, seeking to **uncover the rules by which a given language operates**, the deeper rules by which language as a general phenomenon operates, and the processes by which individuals intuitively learn the complex rules of their own language. (…) **Cybernetics** sees all activities, human, animal and machine, in terms of control systems… **Information theory** measures the capacity of systems to receive, process, store and transmit information. Information is thought of as a choice of one message from a set of possible messages… In other words, information is generated by **non-confirmation of expectation**.

It was **phonology** (the science of distinguishing between elements in a stream of vocal linguistic sound and the apprehension of the rules by which these sounds are linked together), as developed by **Trubetzkoy**, that seemed relevant to music.

Further significant developments in the **linguistic analysis** of music included a brief proposal by **Bruno Nettl** (**1958**) and the first contribution by an influential figure in this field, **Nicolas Ruwet**, in which he sought to define the aural problems of listening to integral serial music by reference to phonology and the need for a 'margin of error' between the phonemes in a phonemic system (**1959**).

In **1956**… **George P. Springer** provided a comparison of language and music… concluding that music (1956, p.510):

> is subject to conventional rules of combination and distribution, and *ipso facto*, of probability. … Moreover, music turns out to be not only a stochastic process (producing a 'sequence of symbols … according to certain probabilities') but the special kind of stochastic process known as the Markov chain (where 'probabilities depend on previous events').

Springer's description summarizes the **basic principle of information-theory analysis**, which views music as a **linear process**. The process is governed by a syntax, but the syntax is stated in terms of the probability that any one element will occur next in the line rather than in terms of grammatical laws… Any one event in the chain arouses a prediction of

its following event. If the prediction is confirmed then no information is imparted; if it is 'non-confirmed' then information is imparted.

In his first important book (**1956**) the aesthetician **Leonard B. Meyer** came close to information theory in his view of styles as culturally conditioned **systems of expectations**, and of musical meaning as deriving from the arousal, frustration and fulfilment of such expectations.

The **use of the computer** in musical analysis may be traced from **1949**, when **Bernard Bronson**, editor of the melodies of the Childe ballads, analysed range, metre, modality, phrase structure, refrain pattern, melodic outline, anacrusis, cadence and final of folksongs, using data on punched cards.

The most significant study of **mathematics and music** at this time was **Xenakis**'s treatise *Musiques formelles* (**1963**). Although his exposition of probabilities, stochastics, Markov chains and the theory of games resorts to analysis mostly in order to trace the compositional means in his own works, the framework that Xenakis set out places the art of music on a more universal plane, opening it up to investigation according to precise laws… **Pierre Schaeffer**'s *Traité des objets musicaux* (**1966**) was a dissertation on the sonorous material from which music is made.

The **postwar years** were a period of revival, development and **dissemination** for the teachings of **Schenker** (…) The series had particular value because of the attempts made in it to extend Schenker's techniques to music outside the domain for which it was created: to medieval and Renaissance music and to contemporary music.

During the first postwar decades a new approach to **organic motivic analysis** was being forged… It was first expounded by **Rudolph Réti** in two books (**1951, 1958**). (…) *The Thematic Process in Music* extended these ideas, expressing more fully Réti's view of music as a **linear compositional process**. The composer starts not with a theoretical scheme but with a motif that has arisen in his mind, which he allows to grow by constant transformation – by transposition, inversion, reiteration, paraphrase, variation (…) *Tonality, Atonality, Pantonality*, expounded what he saw as a **new kind of tonality** 'which does not appear on the surface but is created by the ear **singling out hidden relationships** between various points of a melodic or contrapuntal web.

Two years before this last book of Réti, **Hans Keller** presented… principles of **'functional analysis'**. 'Functional analysis postulates that contrasts are but different aspects of a single basic idea, a **background unity**' (**1956**–7, p.15)… Whereas Réti's view of music was as a single process passing from beginning to end, Keller saw music as a double process: a linear development – argument would be a better word, for Keller's view was that music communicates and that the listener 'understands' it.

In context, Keller's view of a **piece of music** (a piece, as with Schenker, that exhibits mastery) **is of unity within diversity**: of constant 'latent' presence of a single basic idea… To identify the pervasive, all-embracing idea is the first task of the analyst… The second task is to account for the continuity of the foreground.

In **1957 Keller** took an even bolder step than Schenker had when **abandoning the word for the graph**: Keller abandoned word and graph for sound, by preparing an **analytical score** which demonstrated what he saw as the background unities of Mozart's String Quartet in D minor k421/417*b* entirely in musical sound.

There was a **revival of hermeneutic theory** in *The Language of Music* by **Deryck Cooke** (**1959**).

Towards the end of the period there was much interest in **style analysis**, as shown in **Richard Crocker**'s *A History of Musical Style* (1966), **Alan Lomax**'s discussion of 'cantometrics' (1968) and **Jan LaRue**'s *Guidelines for Style Analysis* (1970).

What the analyst requires is, in LaRue's words, 'a **set of categories** that are satisfactorily distinct, yet **without undue branching and proliferation**' (1970, p.10). Each category is then given a scale of measurement, and it is this measuring that is the critical operation in the analysis.

6. Since 1970.

The period **after 1970** saw analysis emerge as a recognized discipline within musical studies, comprising a number of approaches and methods. This was reflected in a spate of **new journals**:

a) Theory and Practice
b) In Theory Only
c) Indiana Theory Review
d) Music Theory Spectrum
e) Music Analysis
f) Contemporary Music Review
g) Musiktheorie

By the **mid-1980s**, **two methods** had achieved the widest currency and were seen respectively as core systems for the analysis of tonal and atonal music.

(1) codified Schenkerian techniques
(2) techniques using pitch-class set theory.

Many developments in the period can be understood against the context of **three broad lines of inquiry** that were followed **in relation to Schenkerian analysis**.

a) reflecting a widespread belief in the potential of methodical analysis to offer insight into music of virtually any kind
b) reflecting a school of thought that valued formalism in both theory and method
c) saw studies that treated Schenker's work as a body of critical writing ituated in the cultural and philosophical network of its time, and examined the reinterpretation of its language and ideas in the decades following World War II.

Pitch-class set theory arose from the desire of composers and theorists to find a way of identifying any combination of evenly tempered pitches without invoking the bias towards local pitch centres implied by tonal terminology… A '**set' is made up of the 'elements' that are members of that set**. The set may contain 'subsets' all of whose elements are members of the set itself. Where several sets exist, certain relationships can apply among them: relationships of equivalence

a) intersection
b) union
c) complementation and so forth.

The proper formulation of a set theory of music was the work of **Milton Babbitt** (**1955, 1960, 1961, 1972**), **Donald Martino, David Lewin and John Rothgeb**.

The most significant analytical contribution was made by **Allen Forte** (**1964, 1965, 1972–3, 1973**). Forte established a numerical notation for musical pitches by disregarding the octave in which they were sounded and treating **enharmonically equivalent pitches** as identical… These labels had two main elements, the first of which (the cardinal number) was simply the number of pitch classes in the set. The second element (the ordinal number) was,

strictly speaking, arbitrary – it simply referred the user of the system to a list of prime forms published by Forte (1973).

Forte extended basic pitch class set theory to include the association of sets within '**set-complexes**' (K) and '**subcomplexes**' (Kh)… This established a type of organization that made possible the elucidation of atonal coherence in large-scale musical structures… A further extension of the theory was made by Forte in 1988 through a theory of **pitch class set genera**.

'Other writers identified a number of specific pitch class collections as being of particular importance in early 20th-century music. The most prominent of these was the **'octatonic' collection**… The fullest investigation was carried out by **Pieter van den Toorn** (**1977, 1983**), who showed in exhaustive detail how interactions between this collection and the diatonic collection could be charted in much of **Stravinsky's music**.

Ernő Lendvai's use of a theory of '**axis tonality'** (**1955, 1983**) to analyse the mature **style of Bartók** projected a Reimannian conception of complementary tonic, dominant and subdominant functions on to a fourfold regular division of the octave… the critical scrutiny that was directed at Lendvai's assertion that the formal proportions of many of **Bartók's works** were in correspondence with the **Golden Section**.. was concerned not so much with its analytical integrity as with its biographical value. In the **absence** of unambiguous documentary **evidence** that Bartók himself acknowledged this principle, **speculation** was directed at the possibility that a composer might follow **it subconsciously**.

Appeals to biographical data and the composers' own writings frequently underpinned analyses of works by Schoenberg, Berg, Webern, Hindemith, Messiaen, Boulez and others who had given clear indications of their own technical procedures.

Robert Morgan (**1976**) and **James Baker** (**1983, 1986**) were prominent in **developing Schenkerian principles** to reflect the changes in harmony and form evident in progressive music composed during the mid-19th century through to the turn of the 20th.

Applications of adapted **Schenkerian principles** to **early music**… were no less contentious theoretically than were Schenkerian analyses of **post-tonal music**; they also failed to achieve ready acceptance among scholars and musicians with a lively historical interest in this repertory.

Before these developments, **early-music analysis** that was independent in spirit had included studies in '**proportional analysis'**... In a more occult vein, proportions in the music of Obrecht… and Bach… were said to be related to special '**cabalistic' numbers**… or to numbers derived from simpler **alphabetical summations**... whose presence in a piece was determined by counting metric pulses. The **credibility** of these types of analysis depended on either or both of **two factors**: the f**requency and consistency** with which a composer appeared to apply those devices over a wide range of his work; and any **external circumstances** that enabled one to infer a composer's interest in such matters…

A similar pattern of developments may be observed in **analysis of popular and non-Western musics** during the period… The interpretation of **text–music relations**, and of music in relation to drama, image and narrative, had by this time become central in studies of **opera and film music**: it was in this vein that the analysis of music in popular culture seemed likely to develop, rather than through further accommodation with techniques derived from the analysis of Western concert music.

The **eurocentrism of Schenkerian** analysis did not cause it to be excluded totally from studies of **non-Western music**… but **semiological** approaches were more prominent in analytical writing on these musics.

The demands of music **theory pedagog**y, however, led to a need for **textbooks** in **Schenkerian analysis** which was initially met by those of Forte and Gilbert (1982) and David Neumeyer and Susan Tepping (1992).

Schenkerian thought was also one **catalyst** for the broad theory, based on analogies between **linguistics and analysis**, of **Fred Lerdahl and Ray Jackendoff** (1977, 1981, 1983) … questions such as '**Does music have a deep structure?**' and '**Do universals exist in music?**' had fascinated musicians in the 70s…. in ***A Generative Theory of Tonal Music*** (**1983**), Lerdahl and Jackendoff, composer and linguist respectively, evolved a theory whose central purpose was to **elucidate the organization** that the listener imposes **mentally** on the **physical signals** of tonal music. (…) The theory of Lerdahl and Jackendoff had an outward resemblance to Chomsky's in that it was a set of rules operating on **four components**.

a) 'grouping structure'
b) 'metrical structure'
c) 'time-span reduction'
d) 'prolongational reduction'

Lerdahl and Jackendoff claimed that much of their **grammar** was '**idiom-independent**' (i.e. it held good whatever the musical style), and thus that certain of their rules constituted '**universals**' of musical perception and could be taken to represent innate aspects of musical cognition.

Many researchers in **musical cognition** took the results of musical analysis as a point of departure. Their focus was on such questions as **whether the structures** typically proposed by analysis **were perceptible by others**.

Empirical analysis of music in performance, by contrast, preserved a role for traditional score-based analysis as an agent of **mediation in the interpretation of data** concerning tiny nuances of articulation…In the work of **Eric Clarke** and **Bruno Repp** there was a strong methodological component deriving from **psychology or artificial intelligence.**

The foundations of **musical semiotics** were laid in a series of articles by… **Nicolas Ruwet**. Ruwet's principle of 'distributional analysis' (**1966, 1972**) was predicated on a view of music as a stream of sounding elements governed by rules of '**distribution**': that is, of ways in which the elements associate with or complement or mutually exclude each other (…) **Jean-Jacques Nattiez** (**1975**) aroused remarkable interest with intensive analyses that proceeded from **small-scale segmentation**.

Nattiez's work followed a branch of semiotics that proposed a **partition of the semiological space into three levels**:

a) the 'poietic' level,
b) the 'esthesic' level,
c) 'neutral level' (*niveau neutre*)

Once the **neutral level** had been revealed as a methodological convenience it was clear that the concerns of semiology, properly understood, were not so easily to be brought into conjunction with the practice of analysis. Nattiez's later writings (e.g. 1985, 1990) **addressed this difficult** relationship with responsibility; others such as **Simha Arom** (1969), **David Lidov** (1975), **Raymond Monelle** (1992) and **Eero Tarasti** developed musical semiotics along **more secure and conventional** semiological lines.

The rise of such criticism reflected the **growth of analysis** into an **academic discipline** with sufficient maturity and self-awareness to question its own assumptions and practices. The early part of the period had seen the publication of **analysis symposia**, notably in the *Journal of Music Theory*, in which musical works were **discussed by two or more** authors using contrasting analytical approaches.

It was at this time that an influential attack on the discipline by **Joseph Kerman** (**1980**) advised musical scholars '**how to get out'** of analysis. Perhaps the most substantive of Kerman's observations were that analysis tended to concentrate on '**masterworks'** and,

concomitantly, that it took the aesthetic value of its musical objects of study as a given… **Derridean thought** centred on ideas of **deconstruction** was powerful in undermining the *de facto* definition of analysis as a constellation of methods among which a mere two methods were overwhelmingly prominent. (…) Deconstruction wilfully evaded linguistic definition, being presented in the writings of its adherents such as **Jacques Derrida** and **Paul de Man** as a deliberately **method-free** and ruthlessly **opportunistic approach to literary texts**.

One line of literary critical practice with immediate potential for application to music was **narratology**, which sought to interpret individual literary examples of **narrative against archetypal qualities** and **structures** of narrative. **Anthony Newcomb** addressed instrumental **works** by **Schumann** and **Mahler** in this way (**1983–4**, **1992**). His approach was open to the criticism that it simply revisited structural analysis under a new agenda, **mapping narrative characteristics on to musical structures**… Working frequently with texted music, **Kramer** proclaimed the value of a hermeneutic approach, seeking '**hermeneutic windows** … through which the discourse of our understanding can pass' (1990, p.6).

Joseph Straus (**1990**) and **Kevin Korsyn** were among analysts who made direct use of the literary critic **Harold Bloom's theory** of the **'anxiety of influence'** in comparing musical works written by composers of different generations.

Another important development during the 1980s and 90s was a **reconsideration** of the **history of analysis**, notably by **Ian Bent** (1984, 1994, 1996). In particular, Bent identified precedents for the critical-analytical hermeneutics of the 90s across a wide variety of 19th-century writings on music, not all of which had previously been considered analytical in nature or intention.

Derridean deconstruction presented an alternative to the **linkage** of **structuralism** and **phenomenology**… Phenomenology is a '**science of experience'**. It is concerned not with the world as natural object or with **mind as a store of knowledge**. It deals with the contact between **object and mind**; it studies **consciousness** directed towards objects ('intentionality'), and aims to describe the structure of consciousness.

A concern with immediate perception also motivated developments in the analysis of **phenomena of timbre**, **melodic contour** and **aspects of rhythm** and **metre**. **Robert Cogan** and **Pozzi Escot** (1976) took phonological analysis, as performed in the field of linguistics, as a model for investigating what they called '**sonic design'** – the way in which sound-spectra are shaped in musical space.

Similarly, **Lewin** developed **structural analysis** through a theory of '**generalized musical intervals and transformations'**… The underlying principles of his approach were, first, that 'intervals' of some kind are found in many musical domains… and that their means of measurement can be modelled by simple mathematical operations; and, secondly, that any interval… can be expressed equivalently as a particular 'transformation'… The second principle… allows something that is intuitively thought of as a transformation of one musical object into another.

During this period analysis may be said variously to have come into **intimate contact** with the **cognitive sciences**, **semiology** and **critical theory**, to have taken on the style if not the substance of **applied mathematics**, and to have **defined itself as an academic discipline** before dissolving that definition in favour of a millennial uncertainty... Indeed, the concern of analysis with structure might still be taken as a defining characteristic... In these circumstances it seems right to acknowledge that **structures** are now understood to be **asserted** rather than **discovered**, that the analyst is more inclined than ever to see his or her work as the writing down of **interpretations from a personal perspective**, and that charting the discipline historically has been one catalyst in making the languages of analysis a focus of self-awareness for those who read and write with them.