Analysing popular music: theory, method and practice

by PHILIP TAGG

Popular music analysis – why?

One of the initial problems for any new field of study is the attitude of incredulity it meets. The serious study of popular music is no exception to this rule. It is often confronted with an attitude of bemused suspicion implying that there is something weird about taking ‘fun’ seriously or finding ‘fun’ in ‘serious things’. Such attitudes are of considerable interest when discussing the aims and methods of popular music analysis and serve as an excellent introduction to this article.

In announcing the first International Conference on Popular Music Research, held at Amsterdam in June 1981, The Times Diary printed the headline ‘Going Dutch – The Donnish Disciples of Pop’ (The Times 16 June 1981). Judging from the generous use of inverted commas, sics and ‘would-you-believe-it’ turns of phrase, the Times diarist was comically baffled by the idea of people getting together for some serious discussions about a phenomenon which the average Westerner’s brain probably spends around twenty-five per cent of its lifetime registering, monitoring and decoding. It should be added that The Times is just as incredulous about ‘“A Yearbook of Popular Music” (sic)’ (their sic), in which this ‘serious’ article about ‘fun’ now appears.

In announcing the same conference on popular music research, the New Musical Express (20 June 1981, p. 63) was so witty and snappy that the excerpt can be quoted in full.

Meanwhile, over in Amsterdam this weekend, high foreheads from the four corners of the earth (Sid and Doris Bonkers) will meet for the first International Conference on Popular Music at the University of Amsterdam. In between the cheese and wine parties, serious young men and women with goatee beards and glasses will discuss such vitally important issues as ‘God, Morality and Meaning in the Recent Songs of Bob Dylan’. Should be a barrel of laughs. . .

This wonderfully imaginative piece of poetry is itself a great barrel of laughs to anyone present at the conference with its zero (0 per cent) wine and cheese parties, one (0.8 per cent) goatee beard and a dozen

* No such talk was on the conference programme! Actually it is the title of Wilfrid Mellers’s article in Popular Music 1 (1981, pp. 143–57).
(10 per cent) bespectacled participants. (As ‘Sid Bonkers’, I do admit to having worn contact lenses.) Talks were given by active rock musicians, by an ex-NME and Rolling Stone journalist, by radio people and by Paul Oliver, who may have worn glasses but who, even if maliciously imagined with a goatee beard, horns and a trident, has probably done more to increase respect, understanding and enthusiasm for the music of black Americans than the NME is ever likely to.

This convergence of opinion between such unlikely bedfellows as The Times and the NME about the imagined incongruity of popular music as an area for serious study implies one of two things. Either popular music is so worthless that it should not be taken seriously (unlikely, since pop journalists obviously rely on the existence of popular music for their livelihood) or academics are so hopeless – absent-mindedly mumbling long Latin words under their mortar-boards in ivory towers – that the prospect of them trying to deal with anything as important as popular music is just absurd. However, The Times and NME are not alone in questioning the ability of traditional scholarship to deal with popular music. Here they join forces with no mean number of intellectual musicians and musically interested academics.

Bearing in mind the ubiquity of music in industrialised capitalist society, its importance at both national and transnational levels (see Varis 1975, Chapple and Garofalo 1977, Frith 1978, Fonogrammen i kulturpolitiken 1979) and the share of popular music in all this, the incredible thing is not that academics should start taking the subject seriously but that they have taken such a time getting round to it. Until recently, publicly funded musicology has passively ignored the sociocultural challenge of trying to inform the record-buying, Muzak-registering, TV-watching and video-consuming public ‘why and how who’ – from the private sector – ‘is communicating what to them’ – in the public sector – ‘and with what effect’ (apologies to C. S. Peirce). Even now it does very little.

Nevertheless, to view the academic world as being full of static and eternal ivory tower stereotypes is to reveal an ahistorical and strangely defeatist acceptance of the schizophrenic status quo in capitalist society. It implies atomisation, compartmentalisation and polarisation of the affective and the cognitive, of private and public, individual and collective, implicit and explicit, entertaining and worrying, fun and serious, etc. This ‘never-the-twain-shall-meet’ syndrome is totally untenable in the field of popular music (or the arts in general). One does not need to be a don to understand that there are objective developments in nineteenth- and twentieth-century music history which demand that changes be made, not least in academic circles.
These developments can be summarised as follows: (1) a vast increase in the share music takes in the money and time budgets of citizens in the industrialised world; (2) shifts in class structure leading to the advent of socioculturally definable groups, such as young people in student or unemployment limbo between childhood and adulthood, and their need for collective identity; (3) technological advances leading to the development of recording techniques capable (for the first time in history) of accurately storing and allowing for mass distribution of non-written musics; (4) transistors, microelectronics and all that such advances mean to the mass dissemination of music; (5) the development of new musical functions in the audio-visual media (for example, films, TV, video, advertising); (6) the 'non-communication' crisis in modern Western art music and the stagnation of official music in historical moulds; (7) the development of a loud, permanent, mechanical lo-fi soundscape (see Schafer 1974, 1977) and its 'reflection' (see Riethmüller 1976) in electrified music with regular pulse (see Bradley 1980); (8) the general acceptance of certain Euro- and Afro-American genres as constituting a *lingua franca* of musical expression in a large number of contexts within industrialised society; (9) the gradual, historically inevitable replacement of intellectuals schooled solely in the art music tradition by others exposed to the same tradition but at the same time brought up on Presley, the Beatles and the Stones.

To those of us who during the fifties and sixties played both Scarlatti and soul, did palaeography and Palestrina crosswords as well as working in steelworks, and who walked across quads on our way to the 'Palais' or the pop club, the serious study of popular music is not a matter of intellectuals turning hip or of mods and rockers going academic. It is a question of (a) getting together two equally important parts of experience, the intellectual and emotional, inside our own heads and (b) being able as music teachers to face pupils whose musical outlook has been crippled by those who present 'serious music' as if it could never be 'fun' and 'fun music' as though it could never have any serious implications.

Thus the need for the serious study of popular music is obvious, while the case for making it a laughing matter, although understandable (it can be hilarious at times), is basically reactionary and will be dispensed with for the rest of this article. This is because the aim of what follows is to present a musicological model for tackling problems of popular music content analysis. It is hoped that this might be of some use to music teachers, musicians and others looking for a contribution towards the understanding of 'why and how does who communicate what to whom and with what effect'.
**Musicology and popular music research**

Studying popular music is an interdisciplinary matter. Musicology still lags behind other disciplines in the field, especially sociology. The musicologist is thus at a simultaneous disadvantage and advantage. The advantage is that he can draw on sociological research to give his analysis proper perspective. Indeed, it should be stated at the outset that no analysis of musical discourse can be considered complete without consideration of social, psychological, visual, gestural, ritual, technical, historical, economic and linguistic aspects relevant to the genre, function, style, (re-)performance situation and listening attitude connected with the sound event being studied. The disadvantage is that musicological ‘content analysis’ in the field of popular music is still an underdeveloped area and something of a missing link (see Schuler 1978).

**Musical analysis and the communication process**

Let us assume music to be that form of interhuman communication in which individually experienceable affective states and processes are conceived and transmitted as humanly organised non-verbal sound structures to those capable of decoding their message in the form of adequate affective and associative response (see Tagg 1981b). Let us also assume that music, as can be seen in its modes of ‘performance’ and reception, most frequently requires by its very nature a group of individuals to communicate either among themselves or with another group; thus most music (and dance) has an intrinsically collective character not shared by the visual and verbal arts. This should mean that music is capable of transmitting the affective identities, attitudes and behavioural patterns of socially definable groups, a phenomenon observed in studies of subcultures and used by North American radio to determine advertising markets (see Karshner 1971).

Now, although we have considerable insight into socioeconomic, subcultural and psycho-social mechanisms influencing the ‘emitter’ (by means of biographies, etc.) and ‘receiver’ of certain types of popular music, we have very little explicit information about the nature of the ‘channel’, the music itself. We know little about its ‘signifiers’ and ‘signifed’, about the relations the music establishes between emitter and receiver, about how a musical message actually relates to the set of affective and associative concepts presumably shared by emitter and receiver, and how it interacts with their respective cultural, social and natural environments. In other words, reverting to the question ‘why and how does who say what to whom and with what effect?’, we could
say that sociology answers the questions ‘who’, ‘to whom’ and, with some help from psychology, ‘with what effect’ and possibly parts of ‘why’, but when it comes to the rest of ‘why’, not to mention the questions ‘what’ and ‘how’, we are left in the lurch – unless musicologists are prepared to tackle the problem (see Wedin 1972, p. 128).

**Popular music, notation and musical formalism**

There is no room here to start defining ‘popular music’ but in order to clarify the argument I shall establish an axiomatic triangle consisting of ‘folk’, ‘art’ and ‘popular’ musics. Each of these three is distinguishable from both of the others according to the criteria presented in Figure 1. The argument is that popular music cannot be analysed using only the traditional tools of musicology. This is because popular music, unlike art music, is (1) conceived for mass distribution to large and often socioculturally heterogeneous groups of listeners, (2) stored and distributed in non-written form, (3) only possible in an industrial monetary economy where it becomes a commodity and (4) in capitalist societies, subject to the laws of ‘free’ enterprise, according to which it should ideally sell as much as possible of as little as possible to as many as possible. Consideration of these distinguishing marks implies that it is impossible to ‘evaluate’ popular music along some sort of Platonic ideal scale of aesthetic values and, more practically, that notation should not be the analyst’s main source material. The reason for this is that while notation may be a viable starting point for much art music analysis, in that it was the only form of storage for over a millennium, popular music, not least in its Afro-American guises, is neither conceived nor designed to be stored or distributed as notation, a large number of important parameters of musical expression being either difficult or impossible to encode in traditional notation (see Tagg 1979, pp. 28–31). This is however not the only problem.

Allowing for certain exceptions, traditional music analysis can be characterised as formalist and/or phenomenalist. One of its great difficulties (criticised in connection with the analysis of art music in Rössing 1977) is relating musical discourse to the remainder of human existence in any way, the description of emotive aspects in music either occurring sporadically or being avoided altogether. Perhaps these difficulties are in part attributable to such factors as (1) a kind of exclusivist guild mentality amongst musicians resulting in the inability and/or lack of will to associate items of musical expression with extra-musical phenomena; (2) a time-honoured adherence to notation as the only viable form of storing music; (3) a culture-centric fixation on certain ‘notatable’ parameters of musical expression (mostly
Figure 1. Folk music, art music, popular music: an axiomatic triangle. (This model is an abbreviated version of a lengthy discussion in Tagg 1979, pp. 20–7.)

processual aspects such as ‘form’, thematic construction, etc.), which are particularly important to the Western art music tradition. This carries with it a nonchalance towards other parameters not easily expressed in traditional notation (mostly ‘immediate’ aspects such as sound, timbre, electromusical treatment, ornamentation, etc.), which are relatively unimportant – or ignored – in the analysis of art music but extremely important in popular music (see Rosing 1981).

**Affect theory and hermeneutics**

Despite the overwhelming dominance of the formalist tradition in university departments of musicology, such non-referential thinking should nevertheless as seen as a cultural and historical parenthesis, bordered on the one side by the baroque Theory of Affects and on the other by the hermeneutics of music (see Zoltai 1970, pp. 137–215). Obviously, the normative aesthetic strait-jacket of Affect Theory, a sort of combination of feudal absolutist thought and rationalist curiosity, and its apparent tendency to regard itself as universally applicable, render it unsuitable for application to the study of popular music, with its multitude of ‘languages’, ranging from film music in the late romantic symphonic style to punk and from middle-of-the-road pop to the
Webernesque sonorities of murder music in TV thrillers. Musical hermeneutics, as a subjectivist, interpretative approach, is often violently and sometimes justifiably criticised and indeed it can from time to time degenerate into exegetic guesswork and intuitively acrobatic ‘reading between the lines’. (Good examples of this are to be found in Cohn 1970, pp. 54–5, Melzer 1970, pp. 104, 153, and Mellers 1973, pp. 117–18.) Nevertheless, hermeneutics can, if applied with slightly greater discretion and in combination with other musico logical sub-disciplines, especially the sociology and semiology of music, make an important contribution to the analysis of popular music. In short: a rejection of hermeneutics will result in sterile formalism while its unbridled application can degenerate into unscientific guesswork.

The semiology and sociology of music

The transfer of structuralist and semiotic methods, derived from linguistics, to the realm of music seemed to offer considerable possibilities for the understanding of musical messages (see Bernstein 1976). However, several musicologists of semiotic bent (Lerdahl and Jackendoff 1977, Keiler 1978, Stoianova 1978) have pointed to the obvious but overlooked fact that models constructed to explain the structure of semantic, denotative and cognitive verbal language cannot be transplanted wholesale to the epistemology of music with its associative and affective character (see Shepherd 1977). Unfortunately, a great deal of linguistic formalism has crept into the semiology of music, the extrageneric question of relationships between musical signifier and signified and between the musical object under analysis and society being either regarded with intradisciplinary scepticism as intellectually suspect or as subordinate to congeneric relations inside the musical object itself (see, for example, Nattiez 1974, pp. 72–3). However, instead of establishing such opposition between extrageneric (emic, referential, hermeneutic, multidisciplinary) and congeneric (etic, non-referential, formalist, uni-disciplinary) approaches, it seems wiser to treat these two lines of reasoning as complementary rather than contradictory. In this way it will be possible to establish relations (extragenerically) between given items of musical code and their respective fields of extramusical association and (congenerically) between these various individual parts of the musical code as processual structures.

The empirical sociology of music, apart from having acted as a sorely needed alarm clock, rousing musicologists from their culture-centric and ethnocentric slumbers, and notifying them of musical habits amongst the population at large, can also provide valuable information about
the functions, uses and (with the help of psychology) the effects of the
genre, performance or musical object under analysis. In this way, results
from perceptual investigation and other data about musical habits can
be used for cross-checking analytical conclusions and for putting the
whole analysis in its sociological and psychological perspectives.

It is clear that a holistic approach to the analysis of popular music is
the only viable one if one wishes to reach a full understanding of all
factors interacting with the conception, transmission and reception of
the object of study. Now although such an approach obviously re-
quires multidisciplinary knowledge on a scale no individual researcher
can ever hope to embrace, there are nevertheless degrees of inter- and
intradisciplinary outlook, not to mention the possibilities afforded by
interdisciplinary teamwork. An interesting approach in this context is
that of Asafov's *Intonation Theory* (see Asafo 1976), which embraces
all levels of musical expression and perception, from onomatopoeic
signals to complex form structures, without placing them on either
overt or covert scales of aesthetic value judgement. Intonation theory
also tries to put musical analysis into historical, cultural, social and
psychological perspective and seems to be a viable alternative to both
congeneric formalism and unbridled hermeneutic exegesis, at least as
practised in the realm of art music by Asafo himself (1976, pp. 51ff.)
and, in connection with folk music, by Maróthy (1974). Intonation
theory has also been applied to the study of popular music by Mühe
(1968) and Zak (1979). However, the terminology of intonation theory
seems to lack stringency, *intonation* itself being given a diversity of new
meanings by Asafo in addition to those it already possesses (see Ling
1978a). It seems wise to adopt the generally holistic and dynamically
non-idealist approach of intonation theory in popular music analysis,
less wise to adopt its terminology, at least in the West where it is still
little known.

There are also a number of other important publications within
non-formalist musicology which combine semiological, sociological,
psychological and hermeneutic approaches, thereby offering ideas
which might be useful in the analysis of popular music. Apart from
pioneer work carried out in pre-war Germany (see Rösing 1981, n.11)
and by Francèse (1958), I should mention in this context publications by
However, in none of these publications are the analytical models
applied to popular music; this still remains an extremely difficult area,
as Rösing (1981) points out in his critique of several West German
attempts at tackling the problem. The difficulties are also clearly epito-
mised by the surprising dearth of analytical methods developed in the
Anglo-Saxon world.
In an interesting analysis of a fourteen-minute LP track by an East German rock group, Peter Wicke (1978) puts forward convincing arguments for treating popular music with new, non-formalist analytical methods. Wicke’s analysis poses questions arising from an approach similar to that used here. Therefore, in an effort to fill some epistemological gaps I shall proceed to attempt the establishment of a theoretical basis for popular music analysis.

**An analytical model for popular music**

The conceptual and methodological tools for popular music analysis presented here are based on some results of current research (Tagg 1979, 1980, 1981a, b). The most important parts of this analytical model are (1) a checklist of parameters of musical expression, (2) the establishment of musemes (minimal units of expression) and museme compounds by means of interobjective comparison, (3) the establishment of figure/ground (melody/accompaniment) relationships, (4) the transformational analysis of melodic phrases, (5) the establishment of patterns of musical process and their relative congruence with eventual patterns of extramusical process, and (6) the falsification of conclusions by means of hypothetical substitution. These points will be explained and some of them exemplified in the rest of this article. I shall draw examples mainly from my work on the title-theme of the *Kojak* TV series (see Tagg 1979) and on Abba’s hit recording ‘Fernando’ (see Tagg 1981a). First, however, this analytical process should be put into the context of a scientific paradigm. The discussion that follows should be read in conjunction with Figure 2. A reading down the centre of this diagram, following the bold lines, takes one through the process of analysis. Down the sides, joined by thinner lines, are the extramusical factors which feed into the processes of production of the music and, at the level of ideology, must also be taken into account by the analyst. First, however, let us concentrate on the hermeneutic/semiological level, reading down Figure 2 as far as the moment of ‘verbalisation’.

**Methodological paradigm for popular music analysis**

It should be clear that popular music is regarded as a sociocultural field of study (SCFS). It should also be clear from Figure 2 that there is an access problem involving the selection of analysis object (hereinafter ‘AO’) and analytical method. Choice of method is determined by the researcher’s ‘mentality’ – his or her world view, ideology, set of values, objective possibilities, etc., influenced in their turn by the researcher’s and the discipline’s objective position in a cultural, historical and social
context. From the previous discussion it should be clear that the analysis of popular music is regarded here as an important contribution to musicology and to cultural studies in general. This opinion is based on the general view of modern music history presented above (see p. 39).
The choice of AO is determined to a large extent by practical methodological considerations. At the present stage of enquiry this means two things. Firstly, it seems wise to select an AO which is conceived for and received by large, socioculturally heterogeneous groups of listeners rather than music used by more exclusive, homogeneous groups, simply because it is more logical to study what is generally communicable before trying to understand particularities. Secondly, because, as we have seen, congreneric formalism has ruled the musicological roost for some time and because the development of new types of extrageneric analysis is a difficult matter, demanding some caution, it is best that AOs with relatively clear extramusical fields of association (hereinafter ‘EMFA’) be singled out at this stage.

The final choice to be made before actual analysis begins is which stage(s) in the musical communication process to study. Reasons for discarding music as notation (music\(_n\)) have already been presented. Music as perceived by listeners (music\(_q\)) and as conceived by the composer and/or musician before actual performance (music\(_c\)) are on the other hand both highly relevant to the study of popular music, since their relations to each other, to the sounding object (music\(_s\)) and to the general sociocultural field of study are all vital parts of the perspective into which any conclusions from the analysis of other stages in the musical communication process must be placed. Nevertheless, however important these aspects may be (and they are vital), they can only be mentioned in passing here, being referred to as the ‘ideological’ part of the paradigm which follows the hermeneutic-semantic stage.

Thus, choosing the sounding object (music\(_s\)) as our starting point, we can now discuss actual analytical method.

**Hermeneutic-semantic method**

The first methodological tool is a checklist of parameters of musical expression. Having discussed general aspects of the communication process and any forms of simultaneous extramusical expression connected with the AO, it is a good idea to make some sort of transcript of the music\(_s\), taking into consideration a multitude of musical factors. In drastically abridged form (from Tagg 1979, pp. 68-70), the checklist includes:

1. **Aspects of time**: duration of AO and relation of this to any other simultaneous forms of communication; duration of sections within the AO; pulse, tempo, metre, periodicity; rhythmic texture and motifs.
2. **Melodic aspects**: register; pitch range; rhythmic motifs; tonal vocabulary; contour; timbre.
3. **Orchestral aspects**: type and number of voices, instruments, parts; technical aspects of performance; timbre; phrasing; accentuation.

4. **Aspects of tonality and texture**: tonal centre and type of tonality (if any); harmonic idiom; harmonic rhythm; type of harmonic change; chordal alteration; relationships between voices, parts, instruments; compositional texture and method.

5. **Dynamic aspects**: levels of sound strength; accentuation; audibility of parts.

6. **Acoustical aspects**: characteristics of (re-)performance 'venue'; degree of reverberation; distance between sound source and listener; simultaneous 'extraneous' sound.

7. **Electromusical and mechanical aspects**: panning, filtering, compressing, phasing, distortion, delay, mixing, etc.; muting, pizzicato, tongue flutter, etc. (see 3, above).

This list does not need to be applied slavishly. It is merely a way of checking that no important parameter of musical expression is overlooked in analysis and can be of help in determining the processual structure of the AO. This is because some parameters will be absent, while others will be either constant during the complete AO (if they are constant during other pieces as well, such a set of AOs will constitute a style – see Fabbri 1982) or they will be variable, this constituting both the immediate and processual interest of the AO, not only as a piece in itself but also in relation to other music. The checklist can also contribute to an accurate description of *musemene*. These are minimal units of expression in any given musical style (not the same definition as in Seeger 1977) and can be established by the analytical procedure of *interobjective comparison* (hereinafter IOC).

The inherently 'alogogenic' character of musical discourse is the main reason for using IOC. The musicologist's eternal dilemma is the need to use words about a non-verbal, non-denotative art. This apparent difficulty can be turned into an advantage if at this stage of analysis one discards words as a metalanguage for music and replaces them with other music. This means using the reverse side of a phrase coined in a poem by Sonnevi (1975): 'music cannot be explained away – it can't even be contradicted unless you use completely new music'.

* The Swedish original is somewhat more poetic than the translation:

Musiken
kan inte bortförklaras
Det går inte ens
att säga emot,
annat än
med helt ny musik
Thus using IOC means describing music by means of other music; it means comparing the AO with other music in a relevant style and with similar functions. It works in the following way.

If an analytical approach which establishes consistency of response to the same AO played to a number of different respondents is called *intersubjective*, then an *interobjective* approach would be that which can establish consistency of sound events between two or more pieces of music. Establishing similarities between an AO and other `pieces of music` can be done by the researcher himself, referring to the `check list`. The scope of the *interobjective comparison material* (IOCM) can, however, be widened considerably by asking other people to do the same.

This process establishes a bank of IOCM which, to give some examples, can amount to around 350 pieces in the case of the *Kojak* title theme and about 130 in Abba's `Fernando`.

The next step is to search the IOCM for musical elements (items of musical code: IMC) which are also to be found in the AO. These elements are often extremely short (musemes), or else consist of general sonorities or of overall expressional constants. Particular musemes, `motifs` and general sonorities in both the AO and the IOCM which correspond must then be related to extramusical forms of expression. Such relationships can be established if pieces in the IOCM share any common denominators of extramusical association in the form of visual or verbal meaning. If they do, then the objective correspondences established between the items of musical code in the analysis object (AO/IMC) and those in the IOCM (IOCM/IMC), and between the musical code of the IOCM (IOCM/IMC) and its extramusical fields of association (IOCM/EMFA), lead to the conclusion that there is a demonstrable state of correspondence between the items of musical code in the analysis object (AO/IMC) and the extramusical fields of association connected to the interobjective comparison material (IOCM/EMFA) – also of course, between IOCM/IMC and AO/EMFA (see Fig. 3).

There are obvious pitfalls in this method of determining musical `meaning`. Just as no one would presume the same morpheme to mean the same thing in two different languages (for instance, French and English [wi:]), so it would be absurd to presume that, say, a Bb13 chord will `mean` the same in nineteenth-century operetta (Ex. 1) and in bepop (Ex. 2).

The same kind of confusion might also result in describing `What Shall We Do With a Drunken Sailor` as sad, and `He Was Despisèd` from the *Messiah* as happy, just because minor is supposed to be sad and major happy – as though the specificities of musical language were not the most important operative factors.
To overcome such difficulties, IOCM should be restricted to musical genres, functions and styles relevant to the AO. Thus, in dealing with punk rock, IOCM would need to be confined to pop and rock from the sixties and after, whereas the IOCM used in connection with middle-of-the-road pop, film music, etc. can be far larger, due to the eclectic nature of such musics and the heterogeneity of their audiences.

Having extracted the IMC of the AO (thirteen main musemes for *Kojak*, ten for 'Fernando'), their affectual meaning in associative verbal form should be corroborated or falsified. Since it is impossible or totally impractical to construct psychological test models isolating the effects

Example 1

Example 2
of one museme in any listening situation, it is suggested that hypotheses of musematic ‘meaning’ be tested by means of a technique well known from such practices as ‘majoring’, ‘minoring’, ‘rocking up’, ‘jazzing up’ and applied by Bengtsson (1973, pp. 221ff.) to illustrate theories on musical processes. This technique is called hypothetical substitution and is best explained by example.

The Swedish national anthem (‘Du Gamla, du Fria’), together with most patriotic songs and hymns (whatever their musical origins*), can be assumed to be of a traditionally solemn and positively dignified yet confident character. Furthermore, it can be assumed that there is great intermusematic similarity between most national anthems. To test these assumptions, it is necessary to alter the various parameters of musical expression one by one, in order to pinpoint what part of the music actually carries the solemn-dignified-confident affect. Using the first melodic phrase (Ex. 3) as a starting point, hypothetical substitution (HS) can falsify the theory that (a) the melodic contour, (b) the melodic relationship of the initial upbeat-downbeat† and (c) the key and the intervallic relationship of the melody to the tonic are instrumental in the transmission of the assumed affective meaning.

Example 3. Swedish national anthem

\[
\begin{align*}
\text{Du gam-la, du fri-a, du fjäll-hög-a Nord}
\end{align*}
\]

In all three cases (Exx. 4a,b,c) the original melody has been changed. The drastically altered HS of Example 4a bears nonetheless a striking resemblance to the ‘Marseillaise’ and could have been made to sound like ‘The Stars and Stripes for Ever’, ‘God Save the Queen’ or the ‘Internationale’. The second HS (4b) shows the first interval as a rising major sixth from fifth to major third, the most characteristic leap in the Soviet national anthem, while the third HS (4c) sounds like a mixture of musemes from such labour movement rousers as ‘Bandiera Rossa’ and ‘Venceremos’. It also resembles the ‘release’ of the ‘Revolutionary Funeral March’, Beethoven’s setting of Schiller’s ‘Ode to Joy’ and a triumphant chorus from Handel’s Judas Maccabaeus, not to mention the ‘send her victorious’ phrase from ‘God Save the Queen’.

* The Swedish national anthem took its tune from an old folk song with ‘naughty’ lyrics.
† This seems to contradict Maróthy (1974, pp. 224–7, 241ff.) The initial interval (the initium ‘intonation’ of plainchant, for example) should not be confused with Asaf’ev’s various usages of ‘intonation’. Asaf’ev calls this type of initial interval vvodnoy ton (= introductory tone).
Example 4

(a) altered melodic contour

(b) altered upbeat

(c) altered key

(d) altered phrasing

(e) altered tempo

(f) altered lyrics

(g) altered metre

It is, however, possible to corroborate assumptions about solemnity, dignity and confidence by changing the phrasing (Ex. 4d), the tempo (4e), the lyrics (4f) and the time signature (4g).

By changing the phrasing to staccato, the melody loses much of its dignity, becoming more like a Perez Prado cha-cha (Ex. 4d).* By in-

* See Prado’s ‘Patricia’, RCA Victor 47-7245, no. 1 on the Hot 100, 1958. See also Tommy Dorsey’s Tea for Two Cha-Cha, Decca 30704, no. 7 on the Hot 100, 1958.
creasing the pulse rate to an allegro of 130 or more, dignity, solemnity
and confidence become a bit rushed; by lowering it to an adagio pulse
of forty-two, the confidence turns into something dirge-like (4e).
Solemnity seems also to be destroyed by the substitution of ‘undig-
nified’ lyrics, resulting in something more like blasphemous versions
of hymns (4f), and also by retaining the original tempo while stating
the tune in triple metre, thus warranting a waltz accompaniment (4g).

It would also have been possible to alter the dynamics to, say,
pianissimo, to give the harmonies the sharpened or flattened added
notes characteristic of chords in bebop, to put the melody through a
fuzz box, harmoniser or ring modulator, into the minor key or, say,
some gapped Balkan folk mode. The original melody could also have
been played at an altered pitch on bassoon, piccolo, celesta, synthesiser,
hurdy-gurdy, bagpipes or steel guitar; it could have been accompa-
nied by a rock band, crumhorn consort or by offbeat hand claps. There
is an infinite number of HSs which can corroborate or falsify corres-
dpondences between conclusions about musematic meaning (AO/IMC
– IOCM/EMFA). However, from the examples presented here it is at
least clear that the last four parameters of musical expression (Ex. 4d, e,
f, g) are more important determinants of the affective properties of
dignity, solemnity and confidence than the first three (Ex. 4a, b, c),
although change in melodic contour was far easier to detect in notation
than these more important factors.

Having established extramusical ‘meaning’ at the micro level, one
should proceed to the explanation of the ways musemes are combined,
simultaneously and successively. Unlike verbal language, where
complexities of affective association can generally only be expressed
through a combination of denotation and connotation, music can
express such complexities through simultaneously heard sets of
musemes. Several separately analysable musemes are combined to
form what the listener experiences as an integral sound entity. Such
‘museme stacks’ can be seen as a vertical cross-section through an
imaginary score. Subjectively they seem to have no duration, never
exceeding the limits of ‘present time’ experience in music; objectively
this means they are never longer than the length of a musical phrase,
which may be roughly defined as the duration of a normal inhalation
plus exhalation (see Wellek 1963, p. 109). In popular music, museme
stacks can often be found to correspond to the concept of ‘sound’, one
of whose characteristics is a hierarchy of dualisms consisting, firstly, of
the main relationship between melody and accompaniment (which
may be interpreted as a relationship between figure and ground, individual(s) and environment), and, secondly, subsidiary relation-
ships between bass (plus drums) and other accompanying parts. The
relative importance of simultaneous musemes and their combined affectual message, shown as a theoretical model in Figure 4, can be exemplified by the affectual paradigm of the first melodic phrase in the Kojak theme (Fig. 5).

![Figure 4. Model for analysis of museme stacks](image)

There is no room here to account in detail for stages of musematic analysis leading to the associative words found in Figure 5 (see Tagg 1979, pp. 102–47). The example is included merely to make more concrete a little of this otherwise theoretical presentation.

<table>
<thead>
<tr>
<th>Melody</th>
<th>Type of relation</th>
<th>Accompaniment</th>
</tr>
</thead>
<tbody>
<tr>
<td>a call to action and attention, strong, individual movement up and outwards, virile, energetic and heroic, leading to undulating swaying, calm and confidence, something individual, male, martial and heroic</td>
<td>stands out against, is heard above, is stronger than, is engaged in dialogue with</td>
<td>energy, excitement, desultory unrest, male aggressivity, threat of subcultural environment in large North American city</td>
</tr>
<tr>
<td></td>
<td>Bass</td>
<td>type of relation</td>
</tr>
<tr>
<td></td>
<td>is part of, rumbles below, is heard through</td>
<td>general, constant, bustling activity, agitated, pleasant, vibrant, luminous, modern, urban American, sometimes jerky, unresting, exciting</td>
</tr>
</tbody>
</table>

![Figure 5. Analysis of museme stack in the Kojak theme, bars 5–8](image)
Having established correspondence between on the one hand 'static' items of musical expression (musemes and museme stacks) in the AO and, on the other hand, the EMFAs of the IOCM – which leads to conclusions about the relationship between these items as signifiers and signifieds – it is also necessary to determine the processual meaning of the AO. Thanks to the melody–accompaniment dualism of much popular music (see Mühe 1968, pp. 53, 67; Maróthy 1974, p. 22; Tagg 1979, pp. 123–4, 142–7), in which there are rarely more than two parts with melodic material, the remaining voices either executing riffs or sustaining notes or chords, the way to determine the relative syntactic importance of individual musemes along the 'horizontal' time axis is reasonably simple. It is in fact possible to construct a model according to which any melodic phrase can be generated according to the transformational norms to which the AO belongs (see Fig. 6). This does not imply that there are any hard and fast rules about the way in which melodic phrases are actually generated. The model is a purely theoretical conception, which helps us find out the syntactical meaning of melodic phrases. A generative analysis of the first fully stated melodic phrase from the Kojak theme (Fig. 7) should make this clearer. Starting from the original pitch idea shown in Figure 7, an infinite number of transformations are possible. Two of these, simply using different sequences of musemes, are suggested in Examples 5 and 6. These examples are both melodic nonsense; neither the mere sum, nor the haphazard permutation of musemes can constitute the syntactical meaning of melodic phrases. Instead it is their specific type of contiguity, their type of overlap-elision according to the 'law of good continuation' (Meyer 1956) and that of 'implication' (Narmour 1977), that give specific meaning to the phrase. This can be seen in a comparison of the original melodic phrase of the Kojak theme (Ex. 7) and a HS in which the middle museme, together with its transformation by propulsive double repetition, has been replaced while all other elements have been retained (Ex. 8).

Figure 6. 'Deep structure' of melodic phrases
Figure 7. Generative analysis of melodic line in first full melodic phrase of the *Kojak* theme.
Example 5

Example 6

Example 7

Example 8

In this way it is possible to distinguish between the affectual syntax of the original version and that of the HS. The differences can be verbalised as follows. Example 7: (bar 1) a strong, virile call to attention and action upwards and outwards/(bar 2) undulates, sways calm and confident, gaining momentum to lead into/(bars 3 and 4) something strong, broad, individual, male, martial and definite. Example 8: (bar 1) a strong, virile call to attention and action upwards and outwards /(bar 2) redescends smoothly to/(bar 3) something strong, broad, individual, male, martial and heroic which grows in height and intensity, driving forward to/(bar 4) a confident point of rest. In short: although these two melodic phrases contain exactly the same musical material, the order in which the material is presented and the way in which its constituent parts are elided into each other are both instrumental in determining the difference in affectual meaning.

Climbing further up the structural hierarchy from the microcosm of musemes, through melodic phrases, we arrive at the point where larger patterns of musical process (PMP) should be examined. This area is generally regarded as the private hunting ground of traditional formalist musicology with its sophisticated conceptual apparatus of thematic germination, mutation and development. However, as Chester (1970) has suggested, there are clear differences between the ‘extensional’ type of musical discourse to be found in the heyday of sonata
form and the 'intensional' blocks through which much popular music (not least rock) is structured in a much more immediate way.*

Nevertheless, this does not mean that patterns of musical process are a simple matter in popular music analysis (see Wicke 1978, Tagg 1979). Although block shifts (simultaneous changes in several parameters of musical expression) are reasonably clear in joins between verse and chorus, A and B sections, etc., the total meaning of straightforward patterns of reiteration and recapitulation can often be more than their deceptive simplicity suggests. (For discussion of some of the processes involved, see Tagg 1979, pp. 217–29.) The situation becomes even more complex when there is incongruence between musical processes and extramusical processes (PEMP: visual images or words, for instance) in the same AO. Only a depth analysis of simultaneity, staggering or incongruence of change and return in both musical and extramusical processes within the AO can actually reveal the true nature of the musical discourse. The sort of problem involved here is probably best explained by an example.

In Abba's ‘Fernando’,† patterns of musical and extramusical process seem reasonably clear. The song has two parts: instrumental plus verse (V), and chorus (C). The order of events is V V C V C C. By means of musematic analysis the verse can be said to conjure up a postcard picture of a young European woman alone against a backcloth of a plateau in the high Andes. Periodicity, vocal delivery, lack of bass and drums, and other musical aspects say that she is sincere, worried, involved in a long-ago-and-far-away environment. The words of the verse underline this mood: she has taken part, together with her ‘Fernando’, in a vaguely-referred-to freedom fight. The music of the chorus can be said to represent here-and-now in pleasant, modern, comfortable, leisurely surroundings; the young European woman is pleasantly nostalgic. The words are congruently nostalgic and totally devoid of concrete references (guns, bugle calls, Rio Grande, etc.) mentioned in the verse. Everything in the analysis seems relatively simple so far, and judging from the words of the chorus, this could be quite a ‘progressive’ song.

There was something in the air that night, the stars were bright,
   Fernando,
They were shining there for you and me, for liberty, Fernando,
Though we never thought that we could lose, there's no regrets:
If I had to do the same again, I would, my friend, Fernando.

* For more detailed discussion of extensional and intensional structures, see pp. 29–30 above. (ed.)
† Epic EPC 4036, no. 1 in the UK, 1976. Also on LP Abba's Greatest Hits Epic EPC 69218, fifty-one weeks in British LP charts. As a single in the USA (Atlantic 45–3346) sixteen weeks in the 'Hot 100'. For a thorough analysis of 'Fernando', see Tagg 1981A.
The only trouble is that the musical element corresponding to this nostalgia and longing to return to the exotic environment (Ex. 9) is a highly ambiguous museme, for not only is its falling tritone (marked $x$) a stereotype of ‘longing’ (for IOCM see Ex. 10a, b, c) but also a typical pre-cadential sign of the imminent relaxation of tension (see Ex. 11a, b). A depth analysis of the patterns of musical process in ‘Fernando’ reveals that when the ambiguous museme occurs at the start of the chorus it has a clearly longing character (Ex. 9), since it cannot be pre-cadential when it not only initiates the phrase but also the whole section. However, when it recurs at the end of the chorus, it still admittedly starts the melodic phrase but it is at the same time in a typically pre-cadential position of announcing relaxation of tension and therefore no real longing. This is because it occurs towards the end of a much longer but equally well-entrenched musical process, that of a familiar VI–II–V–I circle-of-fifths finish (Ex. 12). This means that, whereas the words say ‘If I had to go back and fight for freedom in Latin America, I would’, the music expresses the affective attitude ‘I may be longing for something here at home but I’m really quite content with things as they are.’

Example 9. Abba, ‘Fernando’

A (finish) Start of chorus

\begin{verbatim}
E7 x
\end{verbatim}

There was something in the air that night, the stars were bright.

Example 10

a. Bach, Matthäus Passion (1729), ‘Ich will bei meinem Jesu wachten’

\begin{verbatim}
Cm x F7 Bb x Eb7 x Ab7-5 x
\end{verbatim}

b. Gluck, Orfeo e Euridice (1774), ‘Che faró senza Euridice?’

\begin{verbatim}
Adagio

\end{verbatim}

he-ar my_ prayer so_ sad_ and _ sigh-ing

c. The Righteous Brothers, ‘You’ve Lost That Loving Feeling’, Philles 124

\begin{verbatim}
C11 x C
\end{verbatim}

You ne-ver close your eyes_ a-ny more when you kiss my lips ___
Example 11
a. Njurling and Dahlgvist, 'Skepp som mötas i natten' (1924). In Svensk Schlager, ed. F. G. Sundelöf (Stockholm 1968)

Example 12. Abba, 'Fernando'

[Start second half of chorus (something new)]

Though we never thought that we could lose, there's no regrets

If I had to do the same again, I would, my friend, Fernando.

[return of the familiar (relief)]

Difficulties in interpreting patterns of musical process can also be found further up the processual hierarchy in the same song. Osten-sibly, three main processes are to be found. The first and third move from the sincere-worrying-and-involvement-about-fighting-for-freedom-in-the-sierras sphere to the world of here-and-now-at-home in pleasant, comfortable surroundings, reminiscing with relief (that is, V \( \rightarrow \) C); the second process moves in the opposite direction (C \( \rightarrow \) V). However, not only are there more shifts from verse to chorus than vice versa, there is also an overall process from 'more "Andes" (verse) and less "soft disco" (chorus)' (the first half of the song) to 'less "Andes" and more "soft disco"' (the second half). A processual HS reversing this order of events leads to a totally different statement of emotional involvement in musical terms.

At this point in the analytical model we are poised on the brink of 'ideological critique', the next and final step in the methodological paradigm presented earlier (see Fig. 2).
Ideological critique

This part of the study is strictly speaking outside the jurisdiction of the type of ‘textual analysis’ sketched above. However, it seems important, if only in passing and by way of summary, to pose a few questions arising out of the sort of musematic analysis illustrated there. These questions also put the analytical model into a broader perspective.

The results of the detailed musematic analyses of both Kojak and ‘Fernando’ (Tagg 1979, 1981a) showed that this mainstream popular music was able to carry messages which, at a preconscious, affective and associative level of thought, were able to relate types of personality, environments and events to emotional attitudes, implicit evaluations and patterns of affective response. In the case of Kojak, for example, the music was found to reinforce a basically monocentric view of the world and to emphasise affectively the fallacy that the negative experience of a hostile urban environment can be overcome solely by means of an individualist attitude of strength and go-it-alone heroism. In ‘Fernando’, a similar sort of monocentricity prevails, but the threat and worry epitomised by oppression, hunger and rebellion under neo-colonialism are warded off by the adoption of a tourist attitude (most strikingly expressed in the spatial panning, which has ‘ethnic’ quena flutes in the stereo wings and the West European vocalist up centre front – a HS reversing these positions could have been interesting!) and by nostalgic reminiscences heard against a familiar ‘home’ accompaniment of ‘soft disco’ (these elements gaining a repressive, Angst-dispelling upper hand).

Obvious questions arising from such results are of the following type. How do ‘emitter’ and ‘receiver’ relate to the attitudes and implicit ideologies which seem to be encoded in the analysed ‘channel’? Starting with the ‘emitter’ we might ask how, as far as the ‘emitter’ is concerned, the conception and composition of these affectively encoded attitudes are influenced by the circulation of capital in the popular culture industry. Does this connect with the demand for quick turnover and the creation of ‘product’ capable of eliciting immediate audience reaction leading to such turnover? If so, how aware is the ‘emitter’ of these pressures? Is there any conscious or unconscious self-censorship at this stage? It seems probable, for example, that the production of much film music, including titles and signature tunes, is influenced by a need to follow well-entrenched stereotypes of affective code, in terms of both musematic structures and the implicit attitudes conveyed by such structures when connected in a stereotypic fashion to extramusical phenomena (see Tagg 1980). Can such tendencies really be seen as a sort of evil conspiracy and as the reflection of a
conscious ideological position on the part of the 'emitter'? Is it not more likely that they should be attributed to the objective social and cultural position of the 'emitter' in relation to the music business, the 'receiver' and society in general?

Turning to the receiving end of the communication process, we might ask how the musical statement of implicit attitudes prevalent in society at large affects those listening to such culturally eclectic and heterogeneously distributed types of music as title tunes and middle-of-the-road pop. Are the attitudes and behaviour patterns implied in such music as *Kojak* and 'Fernando' actually capable of reinforcing the attitudes and behaviour patterns implied by prevailing social tendencies of monocentricity, privatisation and idealist individualism; or are these messages merely received at a distance as entertaining reflections of an outdated mode of relating to current reality? Obviously, reception of such 'consensus music' (Hamm 1981) will vary considerably between different cultures, subcultures, classes and groups. Thus, whereas parts of the 'fourth audience' (ibid.) may well be able to identify with the affective attitudes towards love, family, society and nature (on 'nature' in music, see Rebscher 1976, Rösing 1977, Tagg 1982) presented in such TV music as *Kojak* or in such middle-of-the-road pop as 'Fernando', it is clear that many will be unable to identify. This raises yet another question: how does the latter type of listener relate to prevailing ideologies and attitudes both in music and in society at large?

*Analysing subcultural music codes in industrialised society*

The way in which 'counter-cultures' and subcultures express their own stand, profile and group identity in extramusical terms has been documented in numerous studies (see the work of the Centre for Contemporary Cultural Studies at the University of Birmingham). However, the *musical* coding of such identities and attitudes is an underdeveloped field of study. There are admittedly numerous accounts of trends within Afro-American music, but few of these deal with the actual musical code of the counter-culture or subculture in question. This could be because no real theory yet exists which explains how the *prevailing* attitudes, patterns of behaviour and ideology of late capitalism are encoded in the musical *mainstream* of popular musics such as signature tunes, Musak, advertising music, middle-of-the-road pop and rock, etc. In fact it appears that the study of popular music has, with very few exceptions (such as Mühe 1968, Czerny and Hoffman 1968, Hamm 1979, 1981, 1982, Gravesen 1980, Helms 1981), shown a remarkable bias towards tributaries or offshoots, while strangely ignoring the mainstream itself.
It is difficult to refrain from speculating about possible reasons for such bias. Perhaps there is a tendency among intellectual musicians or musically interested academics to be critical towards the stereotypic encoding of mainstream attitudes and ideas in our society. If so, it seems natural that such researchers will be more likely to identify with musics 'contradicting' this mainstream and thus be motivated to explain the 'contradicting' position they themselves assume rather than the 'contradicted' which they leave shrouded in mystery, an inaccessible, unidentified enemy. But it is hard to understand how the popular music researcher will ever be able to explain his 'music in opposition' (or even how 'music in opposition' will be able to develop a valid strategy) if the ideologies encoded in the musical mainstream are not to be touched.

This was put tersely by William Brooks at Keele University during a seminar on Afro-American music in 1978. He expressed the opinion that it is no use trying to find out why Chuck Berry is so great if you do not know why Perry Como is so successful. How, one wonders, can the true values of Sonnevi's 'contradicting musical exception' (see p. 48 above) be realised if the face of the 'prevailing musical norm' is never demasked.

Analytical methods developed along the lines of the model presented here may perhaps contribute to this demasking operation. Whether or not they might then be applicable to subcultural musical codes, such as Tyneside workers' song, reggae or punk, is another question. The problems would be numerous and can be generalised as follows. (1) Detailed genre definitions will need to be made (for a possible method, see Fabbri 1982 and his contribution in this volume). (2) Acceptable style criteria will need to be established on the basis of the musical traits accepted and rejected by musicians and listeners belonging to the subculture. (3) The subcultural musical code will probably need to be considered as a potential carrier of particular socialised relationships between members of the musical subculture and the musical mainstream – this presumably reflecting comparable extramusical relationships – rather than as carrier of quasi-universalised attitudes and relationships towards an apparently wider and vaguer set of general, individualised experience (see Wicke and Mayer 1982). Such considerations seem to imply that the model presented in this article will require some alteration before being applied to the analysis of subcultural popular musics.

Popular music analysis – its uses

As usual in theoretical presentations like this, more questions seem to get asked than answers given. However, results from the depth studies of title music and middle-of-the-road pop carried out so far
suggest that the sort of hermeneutic–semiological analysis presented here can provide some insight and act as a basis for understanding 'what is being communicated' and 'how'.

Now it is true that my analytical model has been distilled from detailed, almost microscopic studies of individual pieces of popular music. Such microscopic investigation was carried out in order to test thoroughly the scientific viability of certain hypotheses and intuitive analytical practices. It resulted in pieces of writing (300 pages for a one-minute title theme, sixty pages for four minutes of pop!) far too cumbersome to be used as models for normal teaching situations. However, this does not mean that the basic techniques problematised and tested in this way are unusable in normal circumstances, not least because the need to test and develop these models evolved from the practical problems of teaching popular music history at a teachers' training college, where there was certainly no time to spend more than a few minutes talking about single pieces of music.

The methods of interobjective comparison, of establishing correspondence between the IOCM and its EMFA and then between the musical code of the analysis object (AO/IMC) and the extramusical fields of association connected with the interobjective comparison material (IOCM/EMFA) (see Fig. 3) can be carried out by anyone willing to exercise their synaesthetic and associative capacities as well as their intellect. Any musician can carry out simple HS (hypothetical substitutions) and, with a tape recorder, tape, a razor blade and a reasonable ear, anyone can even manage to reassemble a processual HS. Anyone with a bit of imagination can sing bits of tune in the wrong order, or substitute new continuations, and thereby discover what actually makes the music say what it says.

In other words the analysis of popular music should in no way be considered a job reserved for 'experts' (although I will admit that describing its mechanisms may require some specialist knowledge). The sort of analytic model presented here should rather be seen as an effort to underpin cognitively that form of affective and implicit human communication which occupies parts of the average Westerner’s brain during one quarter of his waking life. (Can any other form of communication rival this, quantitatively?) Analysing popular music should also be seen as something which counteracts 'split brain' tendencies, resists the sort of mental apartheid advocated by the newspapers quoted at the start of this article and breaks the schizophrenic taboos prohibiting contact between verbal and non-verbal, explicit and implicit, public and private, collective and individual, work and leisure. Analysing popular music takes the 'fun' seriously and is itself both a serious business and a lot of fun.
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