

**CULTURAL COLLISION AND THE EMERGENCE OF
NEW MUSICAL TRADITIONS**

**A THESIS SUBMITTED FOR THE DEGREE OF
MASTER OF ARTS**

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I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master's Degree is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed Willie Ayler ID No. 92700781 Dated 10/July/2000.

BACKGROUND AND ACKNOWLEDGEMENTS

The roots of this research stretch back to the early eighties when, as a recording artist with an American record company, I began working in the area of music technology, and in particular with the use of computers. While working in this field I became aware that a sector of musicians, producers and sound engineers were trying to find new ways to express their music. They were trying to find new forms, new ways of structuring their work. To this end they were experimenting with technology, and in particular with computer technology.

On the other side of the coin I was beginning to meet classically trained musicians who were also experimenting with music technology but were approaching it from a more 'art music' angle.

I began to notice while in conversation with one or other of these groups that each would refer to the same technical process (e.g. replaying a recording in a studio) but would use different language to describe the process. The commercial musician would refer to the 'P.A.' or 'monitors', while the classical musician would refer to the "sound diffusion system", or similarly, the R&R musician might say he was "adding effects to a track" while the classical musician would say he was "processing the signal".

I noticed something else that struck me as unusual. The classical tradition, in particular third level educational establishments which had more often than not been unsympathetic or even hostile toward commercial music, were softening their tone towards commercial musicians. A number of these establishments, towards the end of the eighties and more intensely in the early nineties, began to look

towards music technology courses as a way of securing employment for their graduates, e.g. working as sound engineers in commercial studios, writing film scores or producing. This was, of course, the traditional field of commercial musicians who had the infrastructure in place.

These educational establishments became enthusiastic about talking to experienced commercial musicians. I became involved in some such discussions and through these discussions coupled with my own experience, I began to form the opinion that some sort of coming together was inevitable between the two music technology branches of each tradition that could lead eventually to a new type or style of music.

All this both excited and intellectually challenged me to question more deeply in order to come to some sort of understanding of what might be involved in this process.

It was at this point that I was fortunate enough to be introduced to Dr. Bill Dorris and his work on cultural collision. As this work involved a synthesis of research from many fields, I gradually found myself reading about everything from postmodernism to paradigm shifts to Piaget and Howard Gardner, from group dynamics to Pierre Bourdieu. In the process through many long and intensive discussions, over probably too many months, I gradually took on board Bill's ideas regarding not only cultural collision, but also the creativity of, for example, Alfred Hitchcock, and Charlie Parker. He claims it went both ways, citing flagellation songs and diatonic tonality and Windmill Lane, Monteverdi and MIDI systems. At any rate in the process we eventually developed and articulated Bill's cultural collision framework to address all five of the musical traditions involved in this thesis. Now, many writes and rewrites, many discussions and re-discussions later, this thesis is the result.

Along the way Dr Donncha O'Maidin offered much critical advice and was especially helpful in drawing my attention to the current research literature on computer music

I should also like to thank the following musicians for their contributions

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ABSTRACT

This thesis studies the role of cultural collisions (intensive and sustained contact between two previously separate cultural groupings) in the emergence of new musical traditions. Five musical traditions are studied: jazz, classical, R&B, Electro-acoustic, and Technology-R&B. The thesis focuses on several aspects of cultural collisions. These include: 1) the role of socio/political/economic forces in the dominant culture triggering the collision, 2) the collision causing musicians to encounter new instruments and types of music and, in an extended process of experimentation, modify their ways of playing and thinking about music, 3) the pivotal role of young, low power, musicians finding themselves in a different world from the older generations and seeing music as a vehicle for expressing these differences, resulting in the new music having the 'spirit' (reflection of backgrounds, values, aspirations, and conflicts) of the subordinate cultural grouping, 4) the socio/political/economic role of the dominant cultural grouping (especially the young emerging generation within it) resulting in the new music having the 'form' (musical technology and meaning structures) of the dominant cultural grouping, and 5) the wide-spread rejection of the new music by established opinion leaders as being evidence of the emergence of a new musical tradition.

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**CHAPTER 1 CULTURAL COLLISION AND THE EMERGENCE
OF NEW MUSICAL TRADITIONS THEORETICAL BACKGROUND**

The theoretical background to this thesis comes from an uncompleted manuscript (Dorris 1990) which was written for related, but different, purposes, that is to analyse the cultural and institutional developments which are prerequisite to the emergence of works of 'genius', for example those of Charlie Parker or Josquin des Prez (fn. 1). The present thesis aims to systematically test a core aspect of this earlier work, i.e. the role that cultural collision plays in the development of new musical traditions.

The basic theoretical arguments will be presented in this chapter, with a representative sample of relevant literature cited for each argument. In subsequent chapters this analysis will be applied to five different musical traditions. Three of these have existed for decades, even centuries, [jazz (ch. 2), classical (ch. 3), and R&R (ch. 4)], while the fourth (Electro-acoustic) and fifth (Technology-R&R) it will be argued are currently in the process of formation (ch. 5). The first three traditions will be analysed via the use of existing literature. The fourth and fifth, argued to be in the process of formation, will be studied using both existing literature and interviews with musical practitioners. The rationale and methodology for doing this will be presented at the beginning of this analysis (ch. 5).

THE ROLE OF CULTURAL COLLISION IN THE EMERGENCE OF NEW MUSICAL TRADITIONS: THEORY

1. A musical tradition is a particular approach to defining, learning, creating, and performing music; an approach which is widely recognised within a society and actively promoted by a significant portion of its members. It is characterised by variations from other

musical traditions along several dimensions, i.e. ideology, form/structure, technology, and social organisation. Each tradition also has a history of evolution from its origins (the focus of the present thesis) through various phases of elaboration and development.

The above definition can be illustrated by comparing music of the European classical tradition with traditional African music, on the four dimensions. In terms of ideology (i.e. what is the purpose of music? what constitutes 'good' music?) classical music is typically thought of as an 'art-form', an expression of man's fullest potential, of 'essential truth', perhaps even, as Ruth Gipps would have it, of "God (as) a limitless contrapuntal mind" (in Shepherd 59-62). Traditional African music, by contrast, functions to "affirm" the "oneness" of the person with the community. Music is "woven as thickly through (the African's) life as a rose vine through a trellis". It serves as "a social glue", a "way for him to act out many of his feelings for his tribe, his family, the people around him" (Collier, 1984, 7-8).

With regard to form/structure (i.e. how pitch, rhythm, timbre, and language are used) the classical tradition is extremely complex melodically, with numerous variations of form and structure (e.g., phrase structure, augmentation/diminution, contrast of key, coda, texture, harmony, counterpoint, rondo, minuet, sonata, overture, symphony, etc.). Traditional African music, on the other hand, melodically is very simple, but rhythmically extremely complex. "'Cross-rhythm' is at the heart of African music". It involves a "rhythmic interplay" of "conflicting rhythms" which provide "tension and contrast". For instance, an extremely basic example would be to "tap your foot twice at the same time as you beat your hand three times" (Collier, 1984, 9-11).

With regard to technology (equipment employed in making the music) both

traditions use instruments, movement, and voice, but the differences between them are much greater than the similarities - as witnessed by the fact that the classical tradition alone employs (in virtually every musical performance) an additional crucial piece of equipment, i.e. the musical score. In contrast to the wide variety of European classical instruments (e.g. piano, violin, oboe, trumpet), the African tradition employs few instruments, the vast majority of which are relatively simple rhythmic devices (e.g. drums, clappers, rattles, bells). Moreover singing, hand clapping, foot stomping, beating of flail on the earth, and "even the silent movements of a dancer's body" are often of equal if not greater import (Collier, 1984, 9-11).

Finally, with regard to social organisation (where, when, by whom, and how the music is performed) while both traditions have a fair range of locations and occasions for performance, those of the classical tradition are distinguished from each other primarily by aesthetic form (e.g. opera, symphony, ballet, chamber music, string quartet), and as such are performed by highly trained and paid professionals for quiet and attentive audiences whose relationship to the performers is substantially aesthetic, contractual, and ephemeral. The African performances by contrast are inevitably linked to important events in the life of the community (e.g. harvesting, hunting, marriage, death, war, puberty) and as such are part of rituals which involve the entire relevant community (e.g. club, family, fraternal organisation, burial society) in the performance (Collier, 1984, 8).

2. A musical tradition is a form of cultural expression and as such is embedded in a culture and is reflective of its core values and practices, i.e. its 'way of life'.

This point is no doubt evident in the above comparison of European classical and traditional African music, but it merits further elaboration. 'Culture' here refers to what Raymond Williams has described as a "particular way of life which expresses certain meanings and values not only in art and learning, but also in institutions and ordinary behaviour" (in Hebdige 6). It involves, in T.S. Eliot's words, "all the characteristic activities and interests of a people (e.g.) Derby Day, the dog races, boiled cabbage cut into sections, 19th Century Gothic churches, the music of Elgar" (in Hebdige 6-7).

Thus in line with Williams's views, the study of culture involves studying the "relationships between elements in a whole way of life", ranging from the "manifest appearances of an 'everyday life'" to the historical forces, "general causes" and broad social "trends" which "lie behind" them (in Hebdige 7).

From this perspective it is not difficult to see how a musical tradition is reflective of the core values and practices of the 'whole way of life' of which it is a part. The black Creoles living in New Orleans in the late 1800s, for example, "refused to have anything to do with black folk music". The Creoles were chiefly urban people who "had no tradition of the work song and the field hollers, and, as Catholics, did not attend the sanctified church, with its African-influenced spirituals and ring shouts". They spoke French and "raised their children after the manner of the French bourgeoisie". They were "legitimate musicians" could read music" and "did not improvise". For them being able to "play a piano or other instrument was a mark of cultivation". Their repertory was arias and operas, "the waltz, the mazurka, the polka, the quadrille". The "Creole musician was entirely European in tradition", and, not surprisingly, had no time for those "blacks from across the tracks who could not read music and who played those 'low-down' blues" (Collier, 1984, 60-1). For the

Creoles, as indeed for the "blacks from across the tracks", music "both reflect(ed) and creatively articulate(d) the structure of the ... society in which it was conceived" (Shepherd 71).

3. A cultural collision is an intensive and sustained contact between two different cultures which is driven initially by socio/political/economic forces within the dominant, i.e. more powerful, culture, and which necessitates change in the 'core values and practices' of the cultures involved, thus creating the opportunity for the emergence of a new musical tradition.

For purposes of this thesis it is worth noting that, to use a metaphor from the literature on corporate mergers and acquisitions, cultural collisions (and hence the necessity for making changes in the core values and practices of the cultures involved) occur regardless of whether the process is one of "horizontal merger" in which two parallel organisations are "consolidated" or one of "vertical acquisition" in which one or more organisations are subsumed under the control of an "acquiring firm" (Walter 303, 311-12).

As will become obvious soon enough, the metaphor of a "merger" fits the first three cases to be studied in this thesis (i.e. jazz, classical, and R&R), while that of "acquisition" or "takeover" applies to the fourth and fifth (i.e. digital). Thus, for instance, in the case of jazz, the "merger" of the Creoles with the descendants of the plantation slaves in the city of New Orleans - as a consequence of the U.S. presidential election of 1876 and the subsequent spread of Jim Crow laws throughout the South - soon began to require change in the "core values and

practices" of both cultures (For discussion see Collier, 1984, 60-61, 63-65 and Camejo 175-85)

Similarly, the 'takeover' of numerous cultural groupings throughout the world from the mid-1970s on by the rapid and unprecedented innovation and expansion of multinational capitalism (and its associated financial, production and marketing practices and technologies) likewise soon began to cause a "sea-change" in the values and practices within all of the cultural groupings subsumed under this expansion

As Harvey (1990) explains, the "sharp recession of 1973, exacerbated by the oil shock ("Arab decision to embargo oil exports to the West in the 1973 Arab-Israeli War ") shook the capitalist world out of the suffocating torpor of 'stagflation' and set in motion a whole (new) set of processes", i.e. a "period of economic restructuring and social and political readjustment" that has resulted in a basic "transformation in the political economy of late twentieth-century capitalism" from the "rigidities of Fordism" to what Harvey calls "flexible accumulation" (Harvey vii, 121, 145-47)

This basic transformation of late twentieth-century capitalism "rests on flexibility with respect to labour policies, labour markets, products and patterns of consumption. It is characterised by the emergence of entirely new sectors of production, new ways of providing financial services, new markets, and, above all, greatly intensified rates of commercial, technological (especially information/communication technology), and organisational innovation" - innovation which has resulted in the worldwide experience of an "intense phase of time-space compression that has had a disorienting and disruptive impact upon political-economic practices, the balance of

class power, as well as upon cultural and social life” In short, it has resulted in the “emergence of new dominant ways in which we experience space and time”, in a “sea-change” in cultural values and practices, a sea-change which Harvey calls “the postmodern condition” (Harvey vii, 147, 159-64, 284-5)

This “sea-change” due to the “takeover” by postmodern culture can be seen not only in the values and practices of the millions of “locals” living in “peripheral” territorial subcultures worldwide, but equally in the lives of the newly emergent “cosmopolitans” (e g intellectuals, politicians, journalists, IT experts, business people) whose home-base is inevitably in one of the “transnational, occupational cultures” tied to the “rapid expansion of multinational capitalism” discussed above (Hannerz 237-40, 243-5)

This “takeover” by postmodern culture can be seen, for example, in Brazzaville - the “Paris of the Congo” - where “there are two kinds of coke, one produced locally and another more expensive, imported in cans from Holland” and “display(ed) in the windshield of one’s car” as a sign of “distinction” (Friedman 315) Equally a product of the same “takeover” are the “cosmopolitans” - ever travelling the world, “intellectual(ly) and aesthetical(ly) open” to “divergent cultural experiences view(ing) them as works of art” - a “cultural aficionado” as it were, ever “willing to engage with the Other”, to “embrace the alien culture”, but of course never “becom(ing) committed” to any of them, and always “know(ing) where the exit is” (Hannerz 239-40)

4 A cultural collision results in members of both cultures being exposed to new instruments and types of music, trying to make sense

of these in terms of existing perspectives, and through the process of playing/thinking about the new music and instruments, gradually making changes in their own ways of playing and thinking about music.

This process of making sense out of new musical experience can readily be seen as an example of the normal psychological processes involved in both perception and cognitive development. In Piaget's terms, for example, the musician of either culture would initially attempt to "assimilate" the new musical experiences to existing schema/cognitive structures (e.g. as in attempts of a classically trained violinist to play Appalachian fiddle music). (For Piagetian concepts see for example Ginsburg and Oppen 18-25.) Only gradually as it becomes apparent that the new experience cannot be fully used/understood through existing schema (e.g. the note-perfect, but formal/stiff feel of such classical fiddle playing) will the cognitive structures themselves - through the process of extensive and intensive use - be modified.

Evidence of such cognitive processes is easily found in studies of ongoing cross cultural contacts. For example, Harris's study of the "cargo cults" in Australian New Guinea showed that the spiritual messages (e.g. "seek ye first the kingdom of God, and his righteousness, and all these things shall be added unto you") which Western missionaries thought they were delivering in their sermons to the impoverished natives - turned out to have been quite readily assimilated in terms of the natives' more pressing material interest in a "total upgrading of their lives" - e.g. "Good Christians will be rewarded with cargo" (Harris 115, 119-121).

On the other hand, deLacey, for example, found that among Aboriginal children, there was a "consistent and strong direct relationship between performance on

European types of classification tests and the degree of contact with Europeans and their technology" (Harris 357-9, 363) The more frequent, intensive and pervasive the native contact with western culture, the more likely cognitive processes will undergo accommodation Needless to say the process of integrating new musical forms and instruments into the actual creation, playing, and performing of music will inherently require such accommodation

5. The process by which a new musical tradition is developed in a culture can be expected to be reflective of the developmental sequence which occurs in the formation of a group in that the task and interpersonal issues which have to be resolved in both cases are quite similar.

The focus of this argument is on the core period of the cultures coming into intense and sustained contact with each other Obviously this period of intensive collision can be expected to be preceded by a period of fragmented, sporadic, partial contacts between elements of both cultures which will gradually give each an increasing awareness of the other and trigger, in pockets of ongoing contact, the beginnings of accommodation to each other (**Gradually Evolving Collision**), but the focus of the present analysis is on the core period of intensive and sustained contact from which the new musical tradition is expected to emerge

This process (**Intense Collision**) can be expected to involve different combinations of musicians, both simultaneously and sequentially, coming together, intensively experimenting, comparing, modifying, and remodifying their approach to using the new musical forms/instruments, and eventually settling on an

agreed/workable approach. This process will of course require many elaborations across many groups before anything resembling an 'agreed' new tradition can emerge in the culture. The proposed parallel to this process can be found in Tuckman's (1965) review of the social psychological literature on the stages of group development, in particular in the three sequential stages of "forming", "storming", and "norming" (see Levine and Moreland 427-28, and Handy 160-63, for recent summaries)

Since the developmental process of a musical tradition within a culture occurs over a period of many years (even decades), and can only be viewed very partially and often from a great distance - e.g. through historical accounts or interviews with a mere handful of the innumerable participants involved - the concepts of "forming", "storming", and "norming" will be used here in a metaphorical sense, i.e. as a lens to guide our view of the larger cultural dynamics

FORMING

In the group setting this stage is one in which a collection of individuals with little if any prior relationship try tentatively and with minimal conflict to find some way of working together on tasks which are neither clearly defined nor understood. Each person is concerned with finding some way to fit himself and his approach to the task into the context of the group setting.

Thus in looking at the larger cultural process, the numerous former slaves who migrated to New Orleans after the U.S. Civil War, for example, would have found in the music of the marching bands - in the endless celebrations at "parades, picnics, concerts, riverboat excursions, dances, funerals" - an ideal opportunity to try out

their "blue notes", "arrhythmic melodies", "guttural tones, rasps, falsettos, ..." on the European horns, polkas, and quadrilles. (Collier, 1984, 24-27, 39; Stearns 56). Likewise the account of Creole clarinetist, Alphonse Picou, captures the experience from the other side. "Invited to play in a jazz orchestra by a friend", Picou was "shocked (to discover) they had no written music". Told "to improvise", he "sat there not knowing what to do". Then "after a while (he) caught on and started playing two or three notes for one" (in Stearns 65).

STORMING

In the group setting this stage, when successful, involves a fair bit of "conflict" as "preliminary, often false, consensus on purposes, on leadership and other roles, on norms of work and behaviour, is challenged and re-established". Typically a "lot of personal agendas are revealed and a certain amount of interpersonal hostility is generated" (Handy 160).

In terms of the evolution of jazz, the issues involved here would be conflicts over how to play the music - what degree of influence the varying instruments, musical styles and approaches to playing of different musicians from the Creole and Negro traditions would have - and, related to this, how to perform the music - as, for example, a "cultivated Downtown violinist" or a "rough Uptown Tin Type nigger" (Stearns 65, 69).

In jazz this process no doubt occurred over roughly a twenty year period between the late 1890s when Buddy Bolden "organised the first out-and-out jazz band" and 1917 when Storyville, the "official red-light district" closed. During these years there would have been many hundreds of jazzmen playing in New Orleans, playing at

“parades, picnics, lawn parties, carnivals, parks”, and, most importantly, in the brothels, “cabarets honky-tonks, barrelhouses, and gambling joints” of Storyville, where “a dozen or (more) bands” of “endless(ly) chang(ing) personnel” were “working every night” (Stearns 68-72)

Bands like Buddy Bolden’s would have had everything from cornet and violin to guitar and drums “socking out” anything from “polkas (and) quadrilles” to “ragtime (and) blues” For the Negro musicians the European instruments and tunes were simply a “point of departure for endless variations, (merely) an extension of the human voice”, with “both welded together by a propulsive march rhythm” Bolden himself would “take one note and put two or three to it” (ragtime), and “when (he) got going good, (he’d) cross three times at once” (jazz) A “hard liv(er)” who “drank all the whiskey he could find”, Bolden and his band of “part-timers” - many of them “hustlers, gamblers, and roustabouts” in need of “a little ready cash” - packed the Tin Type Hall every night after the “‘high class’, ‘respectable’ Negroes went home”, and kept it “roar(ing) full blast” for hours, “dancing rough” to music that was “mean and dirty” (Stearns 68-71)

In the same tiny patch of New Orleans, coming from the other direction, would have been the likes of solo pianist, Jelly Roll Morton, who found Bolden, to put it mildly, “a little too rough” “Academically (trained in) light classical music and European technique”, ever dignified in his suit and tie, Morton, the grandson of a “member of the Louisiana Constitutional Convention of 1868”, was “immediately disowned” by his grandmother for taking a job in Storyville Making 15 dollars a night for playing in brothels like Lulu White’s, Jelly Roll more than earned his keep by “assimilating the rolling rhythms of the brass bands” and “incorporating them into (his) improvisations, e g , adding a “‘walking’ bass and contrapuntal melody” with his left

hand and “further between-the-beat accents” with his right (Stearns 70, 72, 145f)

NORMING

In the group setting, if the “storming” stage is “successfully handled”, the group is now ready to “establish norms and practices” - “when and how it should work, how it should take decisions, what types of behaviour, what level of work, what degree of openness, trust and confidence is appropriate” (Handy 160)

In terms of the New Orleans example, the issue here simply comes down to what constitutes a jazz band, i.e. who are they, what do they play and how. By the late teens it was clear that the instruments and melodies - e.g. the “New Orleans jazz standards, ‘Panama’ and ‘High Society’” which were played years earlier by the “military bands of every French village” - were basically European, but the “dominant” influence - the “swinging”, “loose polyrhythmic flow” with which the music was played - was West African.

The bands, such as King Oliver’s Creole Jazz Band, had a “front-line of one or more trumpets (or cornets), trombones, and clarinets” (the violin “was dropped” because it “lacked volume”), and a “rhythm-section” of “various combinations of guitar (or banjo), bass, drums and piano”. The playing was ensemble, without solos at this point, and was remarkable for the “improvised interweaving of simultaneous front-line melodies and the equally interlocking flow of rhythm-section instruments”.

The bands were no longer the endlessly changing combos of “personnel and location” that featured in the “storming” years of Storyville, and the musicians were no longer part-timers, holding down day jobs the way Buddy Bolden, the barber, did.

By now, with Storyville shut down and the “jazz fashion” raging and “moving upstream” to New York and Chicago, the band’s personnel, practices, and style had stabilised around a core of musicians under the lead of an “ambitious”, “canny”, and “impressive” musician such as the composer, cornetist, and “businessman”, Joe ‘King’ Oliver (Carr *et al* 364-65, 373-74, Stearns 68, 71-2, 74)

6. The new musical tradition will be created by a young emerging generation of musicians from both cultures, i.e those who have not yet fully established an identity for themselves within an existing musical tradition and hence are open to trying out new musical possibilities and eager to work to make them succeed.

As Barber noted in relation to scientists’ resistance to scientific discovery “As a scientist gets older he is more likely to be restricted to innovation by his substantive and methodological preconceptions and by his other cultural accumulations, he is more likely to have high professional standing, to have specialised interests, to be a member or official of an established organisation, and to be associated with a ‘school’” (in Simonton 202, 447) Clearly the same logic applies to musicians Not surprisingly we find that the innovative directions what eventually (often rapidly) lead to fame for great musicians were pursued early in their careers As Warburton (1987) notes, by the age of twenty-five Beethoven’s compositions contained “fiery and unexpected touches that presage his later (famous) works” (Warburton 140-41), Chopin realised the “tonal possibilities inherent in the use of the pedal” and achieved “fame as a piano composer” by the age of twenty-one (Warburton 146, 158), and Wagner by his mid-20s began thinking about and writing his famous “music dramas” (Warburton 170-71) Likewise in the field of jazz Louis Armstrong

by his mid-20s had “astonished” other musicians by his “complete mastery” of solo improvisation, “demonstrating all the self-expression possible in jazz”, and Charlie Parker at virtually the same age was already “a hero among musicians” for his ability to “improvise endlessly, continuously inventing melody” and “new harmonic resolutions” (Clarke 39, 892)

7. The characteristics of the new musical tradition will reflect the “spirit” (i.e. the backgrounds, values, aspirations, and conflicts) of the young emerging generation of musicians who develop it and the “form” (i.e. music technology, both production and communication technology, and meaning structures) of the dominant culture whose institutions and audiences will be essential to its growth and survival.

Spirit

The key to this argument is the inevitably low power position/experience of the emerging generation of musicians responsible for the initial development of a new tradition of music (see 6 above) Like low power groupings within any culture such musicians can be expected, to use a familiar example, the “youth subcultures” of today to take the “one and same (ideological) language” available to all, i.e. “combinations of dress, dance, argot, music, etc ” and “emphatically combine” them to make their own “style”, a style which both identifies them as a group and “fracture(s), challenge(s), overrule(s), and resist(s)” the subordinate position they are offered by the “mainstream culture” (Hebdige 16-17, 101-02) (See also Durkin 528 - 29, re complementary social psychological research)

This process of low power groups creating their own "spirit" within the confines/practices/artifacts of the dominant culture surrounding them is pervasive in all cultural/institutional settings Willis (1983), for example, notes the "profound similarities" between the "counter-school culture" of working class adolescents in England and the "shopfloor culture" most of them are "destined for", i.e. that "despite harsh conditions and external direction, people do look for meaning and impose frameworks They exercise their abilities and seek enjoyment in activity, even where most controlled by others Paradoxically they thread through the dead experience of work a living culture which is far from a simple reflex of defeat This is the same fundamental taking hold of an alienating situation that one finds in counter-school culture and its attempt to weave a tapestry of interest and diversion through the dry institutional text " (Willis 81-2)

Similarly, well over a century earlier and under conditions of far greater oppression we find the same process occurring among the American slaves whose language was "set off decisively from white speech patterns" by "much more than grammatical variation" It "throve on ambiguity and double-entendre " whereby "words themselves often have directly opposite meanings, in accordance with the way in which they are pronounced, the gestures that accompany them, and the context in which they appear Thus, the 'ba-ad nigger' who appears frequently in the plantation literature as a very special sort of person to the slaves, who might say, 'Yo' a mighty *ba-ad* nigger' with unquestionable delight whereas they would say 'Yo' a mighty bad *nigger*' with extreme distaste" (Genovese 436-37) The result of which was of course to allow the slaves to communicate freely with each other whilst giving their white masters no more than a "suspicion" of what was actually going on

In short, it may be argued that the 'spirit' (i.e. reflections of background, values, aspirations, and conflicts) of the new musical tradition - in accord with the low power position of the emerging generation of musicians who develop it - will reflect the spirit of the low power contributor to its development, i.e. that of the music of the subordinate culture

Form

Unlike the overwhelming majority of slaves or working class adolescents who will never have any viable means of promoting themselves within the dominant culture, the low power position of an emerging generation of musicians is by definition transitional (at least for those who 'make it'). Such a transition inevitably requires that their music be accessible and appreciated by their audience within the wider, dominant culture who will of course share the 'spirit' conveyed in the music. Accessing this audience is of course only feasible via the institutional structures, technology, and meaning structures of the dominant culture. Thus it is inevitable that the 'form' (i.e. technology and meaning structures) of the new musical tradition will be that of the dominant culture.

Madonna provides excellent illustration of the use of dominant cultural form (i.e. postmodern) to convey subordinate cultural spirit (e.g. gay/lesbian, black, Latino) in her music videos. Continually portraying herself as a "subversive culture-figure", Madonna "poached elements from gay culture for mass distribution" (e.g. in 'Express Yourself', 'Vogue', etc.) and "'push(ed) borderlines' the areas of race and sexuality" (e.g. in 'Borderline', 'Like A Prayer', and 'La Isla Bonita'). In the process she became a "postmodern heroine" for "hoards of largely white, middle-class sub-teeners", "'wanna-bes' who emulated and mimicked Madonna's moves and

costumes"

Madonna's "high measure of success" is of course tied to the "media, beauty, and music industries' ability to flexibly (use) inauthenticity and reinvention as marketing strategies" - i.e. in creating postmodern videos such as 'Express Yourself' in which Madonna, as Susan McClary puts it, "slips in and out of every subject position offered within the video's narrative context - refusing more than ever to deliver the security of a clear, unambiguous message or an 'authentic' self"

The "opportunity to produce (such a) proliferation of identities" not surprisingly rests upon the massive structural reorganisation of the music industry since the late 1970s - including the introduction of MTV, and more fundamentally, the pivotal role of multi-nationals in, as Firth (1988, p113) puts it, "'fishing' for material, pulling ideas, sounds, styles, performers from the talent pool and dressing them up for worldwide consumption" (quotes re Madonna from Bordo 282, 286, Seigworth 304, Schwichtenberg 5-6, 9)

In short Madonna's success in expressing subordinate cultural spirit in her music videos is inherently dependent upon the technology and meaning structures, i.e. the form of the dominant postmodern culture

The Role of Technology

As Alan Durant notes, "changes in the technology of music-making regularly correlate with changes in the ways of making, distributing, and thinking about music" (Durant 178) For example, the earliest pianos with their "hammer mechanism, unlike the plucked string of harpsichords, enabled the player to

introduce dynamic changes by varying the amount of force applied to the keys” As a consequence music “composed on and arranged for the piano” became “more rhythmic due to the violent way in which the new machine created sound, and the performer began to assume the role of individual virtuoso” Liszt, for example, “while seated at the instrument pulled faces, leapt up and down the keyboard, kicked away the piano stool, writhed like a python and moved his head back and forth like a man watching a game of tennis” (Negus 30) Likewise, with the introduction of microphones and electrical amplification, the “curious deadpan and emotionless manner of expression” which Bing Crosby had developed “as a vocalist with Paul Whiteman” (in response to the need to sing with a megaphone in order to be “heard above the orchestra”) soon developed into ‘crooning’, a style of singing in which the vocalists’ “‘creativity’ was measured by their ability to improvise phrasing and impart meaning on Tin Pan Alley songs” (Gillett 5)

Similarly, in the process of cultural collision it can be expected that the musical spirit of the subordinate culture will find new ways of expressing itself via the music technology of the dominant culture, and coming from the other side, the musicians of the dominant culture will inevitably find ways of using a familiar technology to evoke a new spirit in their music An example of the former would be Buddy Bolden who was “part of a shouting congregation as a child, mastered a European instrument, the cornet grew up in the midst of the brass-band craze” in New Orleans - “socking it out” on the likes of ‘Careless Love’, his rhythms crossing “three times at once” (Stearns 67-71) Coming from the dominant culture an example of the latter would be the early white R&R star Bill Haley creating songs like ‘Rock Around the Clock’ by taking a Negro dance rhythm, e.g. a Dixieland tune and “drop(ping) the first and third beats, accentuat(ing) the second and fourth, and add(ing) a beat the listeners could clap to” and playing it on familiar country and western string instruments to “express high-spirited feelings of togetherness” for his

audience of white teenagers (Gillett 23-4).

Finally, it can be anticipated that once a new musical tradition has established a viable audience in the dominant culture, there will be an elaboration of the music technology involved as the interests of the music industry, the artists, and the audience will all converge in the pursuit of their various goals. Bing Crosby, for example, “realising the importance of ... electrically transmitted broadcasting and magnetic tape recording ... to his future career ... took an active interest in the development of ... this hardware”. Likewise the “early piano makers were keen to encourage established composers such as Liszt and Chopin to use and endorse their products ... as have been the manufacturers of drum kits, electric guitars and synthesizers” in recent years (Negus 24). Needless to say such technological developments will inevitably fuel further innovations in the composing, playing, and performing of the music of any new musical tradition.

8. The existence of a new musical tradition will be evidenced by wide-spread rejection of its productions (and the values inherent in them) by established opinion leaders of the existing musical (and hence cultural) traditions from which it derives.

This sort of rejection of innovation is historically evident in all fields of human endeavour. Recall, for instance, the reaction of the outraged French art critics to the early shows of the Impressionists: “An exhibition has just been opened at Durant-Ruel which allegedly contains paintings. I enter and my horrified eyes behold something terrible. Five or six lunatics ... have joined together and exhibited their works ... These would-be artists ... take a piece of canvas, colour and brush, daub a few patches of paint on it at random, and sign the whole thing with their name. It is a

delusion of the same kind as if the inmates of Bedlam picked up stones from the wayside and imagined they had found diamonds" (in Gombrich 411)

As John Locke put it, "Truth scarce ever yet carried it by vote anywhere at its first appearance new opinions are always suspected, and usually opposed, without any other reason but because they are not already common" Max Planck made a similar observation after "two decades (trying) to persuade the scientific community of the value of his quantum hypothesis A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it" (in Simonton 200-201)

There are of course good reasons for 'suspecting' innovations, especially when their implications are huge, as, for example, in the case of what has come to be known as a paradigm shift in science, or, equally, in our case the establishment of a new tradition in music In either case those who are already established in the field, and beyond this in related areas of the culture, will be threatened, both in terms of their skills - how they define and solve problems - and their values - i.e. what is the 'correct' way to feel, think, and behave

The first of these concerns is obvious As Kuhn points out in regard to scientific theories, the acceptance of a new paradigm (e.g. relativity theory) means that the old ways of defining problems and solving them (e.g. those associated with Newton's theories) are no longer going to be fully adequate, or for example in case of acceptance of evolutionary theory, may have to be junked completely In any case, those who were previously at the forefront of the field almost inevitably become yesterday's men, as the new paradigm takes "the action" away from them into new and previously unexplored directions (Kuhn 77, 84-6, 92-110)

Imagine, for example, the implications of jazz, built on improvisation and continuously laced with cross-rhythms (e.g. try to "tap your foot twice at the same time as you beat your hand three times", then - to get a fair feel of the problem involved - "keep the rhythm of the foot steady" while "dividing each of the hand beats into two or three, or dividing some into two and some into three" (Collier, 1984, 9-11)), for an established orchestral musician whose career has been built upon "playing (a) small repertory of works over and over again" and, in the words of American critic Henry Pleasants, "playing more or less the same notes in more or less the same way, under the daily supervision of opinionated conductors year in and year out" (in Small 14-15)

The second threat to existing values, is perhaps less obvious, but equally if not more powerful. Again in field of scientific paradigm shifts, for example, the implications in terms of questioning/changing/giving up long held beliefs, attitudes, and values - literally often an entire philosophy of life - are sizable, not only for those involved in the immediate field, but often (and inevitably in the case of a new musical tradition) for the entire culture of which the field is a part. Consider the cultural consequences of, for example, replacing the *Book of Genesis* with *The Origin of Species*. Eiseley's (1961) title certainly gives a fair hint of the magnitude *Darwin's Century*. Or, as Disraeli put it, "I do not believe I was ever a fish" (in Koestler 133). While a new musical tradition is not likely to have that kind of effect, it doesn't take much effort to imagine the sort of impact jazz - with its roots in the "field hollers", "ring shouts", "low-down" blues" of those "blacks from across the tracks" - would have had on the genteel French Creoles of New Orleans (Collier, 1984, 60-1).

APPLICATION OF THEORY TO MUSICAL TRADITIONS: OVERVIEW OF ANALYSIS

As mentioned at the beginning of this chapter, this thesis will study the role of cultural collision in the emergence of four musical traditions, i.e. jazz (ch. 2), classical (ch. 3), R&R (ch. 4), and digital (ch. 5). As the first three of these studies are historical, and two of them (jazz and classical) can provide us with no recordings made during the process of emergence, the approach taken here will be to first identify the characteristics of the two cultural groupings prior to their collision with particular reference to their approach to music (**Pre-musical Collision**); and then to study the emergence of the new musical tradition chronologically (**Musical Collision**) within the framework discussed under topic 5. above. That framework involves two parts, i.e. **Gradually Evolving Collision**, followed by **Intense Collision**, which is broken down into the three sequential phases of development, i.e. **Forming**, **Storming**, and **Norming**. Within this chronological framework the other theoretical issues relevant to the analysis will be considered. Particular attention will be paid to the issues of how the process of cultural collision affects the **Playing** of and **Thinking** about music, and the **Form** and **Spirit** of the music within the new tradition; the role that **Technology** plays in the emergence of the new tradition; and the **Rejection** of the new tradition by representatives of the established ones. Reference will be made to the lives and works of key performers within each of the new traditions - Morton, Armstrong, etc. in jazz; Monteverdi, Handel, etc. in classical; Presley, Berry, etc. in R&R - as this is often the easiest way to illustrate the points being made regarding changes in the music.

The fourth tradition, i.e. digital, which this thesis argues is in the process of

emergence, will be studied within the same chronological framework as the other three. However in this case the process of collision is argued to be one of 'takeover' rather than 'merger' as in earlier three (see topic 3 above). The study thus will be not of two musical traditions merging (e.g. Creole and black in jazz), but of two existing musical traditions (R&R and classical) with analog musical technologies being taken over by the emergence of a new dominant culture, i.e. postmodernism, and its digital technologies. Thus the study here (ch. 5) will be of the simultaneous emergence of two new digital musical traditions, i.e. 'Technology-R&R' and 'Electro-acoustic'. This analysis will open with a discussion of **Postmodernism as a dominant culture** and then proceed into the same type chronological analysis which was used in the earlier studies of jazz, classical, and R&R. In this case, excerpts from interviews with practising musicians, samples of their music, and current research from music journals, will be combined with existing literature to form the data for the analysis. The rationale for selecting the musicians will be discussed prior to this analysis.

The final chapter (ch. 6) will note some of the weaknesses of the present thesis, and then discuss the implications of the findings from the four case studies (jazz, classical, R&R, and digital) for the theory of cultural collision.

CHAPTER 2 THE JAZZ TRADITION

In the following examination of the formation of the jazz tradition we will see that the cultural collision that occurred, out of which jazz emerged, was between two sub-cultures, Creole and black (fn 1), which collided with each other in New Orleans

The influence of technology came about with the introduction of European military band musical instruments, especially brass instruments. The effect of this was to offer black musicians a new range of possibilities in the way they made and played music

I. PRE-MUSICAL COLLISION

The musical traditions which existed prior to jazz and which gave it its musical shape were

Black	Roots in West African tradition
Creole	Roots in European Tradition

BLACK. ROOTS IN WEST AFRICAN TRADITION

“When the black man reached the New World he had ... his language, his traditions, his way of doing things; and it was a question of how, and to what extent, they would have to be modified to fit new circumstances.” (Collier, 1981, 18)

Jazz is deeply rooted in the culture of American slaves, the descendants of West

Africans who found themselves forcibly transported into the new social environment of the New World. Taken there as slaves, they brought little with them in terms of material goods but they could not be entirely stripped of their traditions and customs. Their culture with its unique customs and practices found expression within the confines of their new social environment. Most Africans who were taken to the Southern States of America were abducted along the west coast of Africa.

These slaves had to adjust to a new society and to do that they had to let go of some of their ways of doing things, hold on to others, adapt and change in order to adjust to their new lives. For example, in European society the individual feels himself most fully expressed in his work, achievements and his ability to be self-sufficient and independent from society generally, whereas in West African society the individual is most likely to feel more fully himself in the company of others. "Music is a social glue, it is a way for him to act out many of his feelings for his tribe, his family, the people around him" (Collier, 1981, 8). African society is community oriented, the group shares in most aspects of the individual's life. In times of sorrow or in times of happiness he turns to his community to partake in his fortunes. The individual is not an isolated figure left to his own devices to survive, but is intrinsically linked to his neighbours. Weddings, deaths, births, celebrations of all sorts, work and play are all of group concern. Communal activities dominate life and part and parcel of these activities is music.

Music is found in all aspects of African life. A music that expresses the mood of the work being undertaken or the event being marked. Music is part of work and part of play, it is weaved into the very fabric of society.

"If an African musician wishes to demonstrate a worksong to an ethnomusicologist he will always substitute something for the sound

of the missing ax, flail, or paddle.” (Collier, 1981, 12)

These slaves brought with them various musical practices “Especially significant to West African music were the rhythms, which were much more complex than those found in the West ” (Miller, Cockrell 252) Unlike European music, rhythms are intricate with layers of rhythms being laid down one against the other Not only are there various layers of rhythms but these rhythms are not in set block units with set time signatures

Typically, a basic ground beat is set down by a master drummer over which clapping, stamping of feet, singing or other vocal sounds are laid down These latter rhythmic lines work against the basic ground beat or form a cross rhythm over this basic beat Each subsequent rhythmic line will act in a similar way to the other rhythms In other words, rhythms are moving around as though they were completely independent of each other

This characteristic of cross rhythms in African music became a central principle in the formation of jazz

Another characteristic of the music that slaves brought with them to the New World was the use of the pentatonic scale in melodic lines It would seem that African musicians went to great lengths to avoid the half step interval involved in the diatonic scale favoured by the European classical tradition Perhaps because this interval is difficult to pitch they felt it was best to steer clear of it altogether

Because African society was communal, the singing which accompanied work was shared This took the form of the leader calling out or singing a line that would then be answered by the group, a practice later called ‘call and answer’ For example

Leader Give flesh to the hyenas at daybreak,
Chorus Oh, the broad spears,
Leader The spear of the sultan is the broadest (Collier, 1981, 13)

These transported Africans brought with them the practice of not striving for a pure, perfect tone, they favoured a coarseness of timbre which later became known in jazz as a 'dirty' tone (the opposite to European music practice) What their culture considered praiseworthy was self expression in music Expressiveness was far more important to them than technique To this end they would use various techniques to thicken the texture of their vocal sound They would use rasps, moans and groans and at times their singing would become a cry or shout When playing an instrument this same practice of personalising their music would apply (cf Collier, 1981, 8-15)

They would also have a tendency to let a section of a song repeat for a long time, until the master drummer or dancer indicates to shift pattern or section - a practice closely associated with the inducing of trance states These trances were intrinsically woven into their religious ceremonies

In slavery, blacks were severely restricted in their lives and so was their opportunity to make music They were not permitted to play drums or horns as their masters feared they may try to communicate with others thus stirring up trouble Blacks however continued the practice of singing while they worked or at church, which they were encouraged to attend, or at any other occasion they were permitted to But above all they continued their tradition of the work song Work songs were permitted for they helped to relieve the boredom and continual suffering blacks lived with The work song was the most important way in which blacks carried on elements of their African musical tradition and was to play a major role in the

development of the blues and through that jazz "The primacy of the work song in slave music is due to the simple fact that the slave spent vastly more time at work than he did at anything else" (Collier, 1981, 19)

CREOLE: ROOTS IN EUROPEAN TRADITION

The Creoles were people of French or Spanish descent who were born in the New World, they were descended from original settlers all around the Caribbean. The French settlers had continued their custom of taking mistresses. In the Caribbean they took light skinned women whose descendants formed the Creole sub-culture.

Soon after the Louisiana Purchase of 1803, whites began to move into New Orleans and take over positions of power and influence. This greatly affected the standing of Creoles who had previously enjoyed these positions. Creoles were placed somewhere between blacks and whites in social standing, now though they were finding themselves being pushed socially downwards towards the position of blacks. This they greatly resented as they considered themselves to be white and strongly protested against any reference to them being Negro. "The Creole looked down on them (Negroes) with a particular class-and-colour-consciousness" (Berendt 10). Creoles felt themselves squeezed by this influx of whites and subsequent push on them to move closer to the black community. This they tried to resist by clinging even more strongly to their French roots and culture. They continued to speak French and would send their children to Paris for schooling if they could afford to.

After the American civil war, Southern whites brought in severe anti-black laws which were designed to drive them back into slavery. These were called the Jim Crow laws (fn 2). Creoles were greatly affected by this movement and by 1890

found themselves socially only slightly better off than blacks. They had been driven away from the white community and closer and closer to that of the blacks. But these Creoles held onto as much of their culture as they could and in particular that of their music. This social collision between the European-influenced Creoles and the African-influenced blacks was the final and most important event that precipitated the development of jazz.

Young Creoles were strongly encouraged to study music, play the piano etc. Music was seen by their parents as part of their education just as French parents would for their children. They did not want them to become professional musicians as they considered such an occupation just one step above prostitution. They shunned all contact with black American folk music with its work song influences and African undertones.

In music, Creoles had formal education. They read music and knew the elements of harmony and form. They did not improvise but were knowledgeable of the standard repertory of arias, marches and waltzes of Europe. They were unfamiliar with the musical tradition of blues songs.

Creole European musical practices included such practices and techniques as composing highly structured works. Pieces progressed in a logical way from beginning to end with melodies stated, developed and restated. They had a clear sense of musical direction, with high points and more restful moments punctuating each other. Symphonies and orchestral works would employ large numbers of players - Creoles were often virtuoso players. Creole musicians were familiar and at home with such works with vast elaborate structures which demanded great organization and order. Early jazz musicians used the principle of well structured music to provide a frame work in which they could work.

Creoles had a very strong sense of tonality - their music was built on the diatonic major and minor scales with each note having a fixed pitch. In the European tradition musicians strove for perfection, for purity of sound. A beautiful voice being one with a clear tone delivered with control and consistency. The use of rasps or shouts would have no place in a singer's style. Of course classical music of this period was set down on manuscript with no room for improvising or additions on behalf of the performer. It was his or her job to convey to the audience the spirit of the music as defined by the composer and not to, so to speak, put themselves in the way of this process. Creoles also understood and practised the musical techniques of harmony and counterpoint and played the full range of classical instruments (cf Berendt 10-11)

II. MUSICAL COLLISION

GRADUALLY EVOLVING COLLISION

“Several different kinds of music came together to shape early jazz, including black spirituals, the cakewalk, work songs, and white hymns, popular songs, band marches, and popular piano pieces.”

(Miller, Cockrell 250)

As blacks slowly adjusted to their new life, they began to assimilate aspects of the culture around them. Musically they 'made their own', elements from the European tradition of music and married them with practices from their own native music.

White Hymns

In church, which blacks were encouraged to attend, they were exposed to European-style hymns and chorales which were sung as a normal part of a service. These ranged from simple congregational singing with organ or piano accompaniment to chorale singing with intricate harmony lines. Initially, blacks attended white churches but later opened their own more 'rough and ready' type of church where they sang their own version of hymns. Again, they infused into European style singing a freer African spirit, praising with passion and fervour.

Around 1800 a revivalist movement known as 'the Great Awakening' developed in white religion. This was a more emotional religious expression for its practitioners. This revival took the form of open-air meetings which would run for several days. Impassioned preaching and fervent hymn singing would go on and on. Trance or possession-like states often occurred in highly charged members of the community. Blacks were naturally attracted to these type of gatherings having as they did obvious parallels with their own African tradition of open-air dancing and singing. (cf. Stearns 79-89)

Work Song

By the 19th century black American folk music, which comprised work songs, spirituals, songs and music for dancing, was played extensively by blacks. Its main function was to express the mood of the activity being engaged in. In these folk songs there can be seen an attempt by blacks to reproduce in the European system aspects of the old cross rhythms of Africa. An example is a game song called 'Old Uncle Rabbit'. In this song one child sings in a rhythm of three over an answering voice sung in a rhythm of two. This is something no European child could easily do

unless highly trained In these songs melodies are suspended rhythmically over a ground beat laid down by claps, foot beats an axe or an oar

“Many African musical characteristics survived In the New World - adapted, blended, and changed to fit new conditions”. (Stearns 144)

The work song was an attempt to reproduce in the European system shades and elements of the African system Folk songs and work songs were just that - songs, in the traditional European sense, but they were infused with an expressiveness and vitality that was African in spirit Although African rhythms were not simply reproduced in those songs, never-the-less the principle of cross rhythms is fundamental (cf Stearns ch 9)

Blues

From this black American folk music, and in particular the work song, evolved the blues Blues was built on the slow plodding rhythm of the axe falling or the hammer striking Words are usually improvised and deal with such topics as the unfairness of life, the fickleness of love, homesickness, etc

Work songs were sung by blacks as they worked and lived in tent cities alongside the railroad lines In the evenings they would sing the work songs they had sung during the day but this time it was to entertain themselves or express their deeper spirits The dominant themes of these songs were down-beat

In the blues, blacks poured out their spirit of spontaneity and 'feel' "The blues singer sang with a variety of groans, scoops, 'bent notes' " (Miller, Cockrell 251) These were 'blue notes' derived from the African practice of using off-pitch notes (cf Collier, 1981, 38) They were like minor thirds or minor sevenths in the diatonic

scale but they could not be fixed so rigidly. They were in fact somewhere between these notes and major thirds and sevenths respectively. Because they are not either of these notes exactly they cannot be played on fixed note instruments like the piano. This gave the blues a distinct non-European feel making it largely unintelligible to white musicians. Added to this was the further tendency of blues players to shift these blue notes around varying the pitch even further.

Again, in the blues, blacks used practices that were foreign to European practices in that blues melody usually went down rather than up and very often began on a blue note. This was contrary to European practice in which melody lines usually went up as well as down and generally reach the climax at the end rather than at the beginning of a phrase.

But despite these distinctly African musical practices blues was not simply a product of that continent. Blues was a true synthesis of both African and European musical elements that came together in the black American folk tradition (cf. Stearns ch. 10).

Minstrels

1850 saw the development by whites of the minstrel show. This show was performed mainly in the Northern States and consisted of whites depicting the lives of slaves on the plantations in the South. These shows comprised songs, sketches and jokes. Soon blacks themselves joined-in in these shows and by 1855 the first black troupe minstrel show was established. Through this, blacks became performers, singers, dancers, actors. It was a real opportunity for them to find work and in some cases a career.

The lives of black Africans working as slaves in the Southern States inspired whites

in the North to create the minstrel show. This in turn moved the blacks who were being depicted, to join in the shows. Eventually these blacks established their own shows.

By the mid-nineteenth century, blacks were working in two distinct musical traditions: their own strongly influenced African folk music, and the white system they were living in. Slowly blacks became involved in a huge range of music (cf Collier, 1981, 31-34).

Ragtime

Like blues, ragtime was a musical form which developed around the 1890's, was a synthesis of various European and African practices. It "flourished for about 20 years," and became "an indestructible part of the American musical scene." Moreover, it "represent(ed) a deeper and more complete blending of West African and European musical elements, with a greater borrowing from the European, than anything" that preceded it. Not surprisingly ragtime "originated in the Midwest and not in New Orleans." Moreover there "were first-class white as well as Negro composers and performers" (Stearns 140-41).

"Ragtime's biggest contribution to jazz was its heavily stressed syncopated rhythmic style." (Miller, Cockrell 251)

A rhythmic figure, which was the basic figure of ragtime and which became the classic figure of jazz, originated in the cross rhythms of African music. This figure was present everywhere in West African music. This figure was called, in the European tradition, syncopation - but African music could rarely be captured or tied down so tightly. In practice this rhythm in African music was not fixed but shifted

continually With ragtime, blacks educated in the European tradition specifically Creoles, settled for the fixed meter of syncopation which came to be known as ragging the melody line Thus, “ The old European tradition merged with the black rhythmic feeling” (Berendt 6)

In West African music the melody that was sung or played seemed to float away from the ground beat due to the cross rhythms that were used This gave the music a sense of freedom as the melody was liberated from the pull of a set meter This freeing of the melody line from the ground beat was hinted at in rag by the use of syncopation

Rag was played mainly by men in the main who trained in the European classical music tradition These players began to formalise the ragged way of playing They saw themselves as composers rather than mere song writers They wrote down their compositions and had them published just as classical composers did The man whose name is most closely associated with rag is Scott Joplin Joplin, like many of his fellow rag musicians, saw himself as a serious artist and may well be considered to be the first American black artist As Joplin was “long and well studied in classical music” (Stearns 141), the African influences in his music are firmly placed in second place to the formal practices of European music His piece ‘Maple Leaf Rag’ is arguably the most popular of all rags and exhibits the characteristics of syncopation and clear form In form, rags strongly resembled the classical Rondo form, with the theme reoccurring at fixed points (Collier, 1981, 51) In New Orleans ragtime would have been familiar to the musicians of the 1890s, including the likes of the first ‘King’ of jazz, Buddy Bolden, and it would have been especially popular with the Creole solo pianists of Storyville such as Tony Jackson and Jelly Roll Morton (cf Stearns 68, 71, 72, 145, 147-49)

INTENSE COLLISION

FORMING

In the decades following the American Civil War certain conditions existed in Louisiana particularly in New Orleans, that propelled Creoles and blacks into coming together socially and as a consequence musically

“New Orleans at that time is usually described...’melting pot of the nations’...all races and cultures mingled until gradually a new musical language arose from the chaos”. (Hindley 511)

Louisiana

The state of Louisiana in the later half of the 19th century was unique amongst American states. This region was part of the Franco-Spanish culture of the Caribbean with its Catholic ethos rather than the Anglo-Saxon world of the North with its ethos of Protestant puritanism. It identified strongly with France and had the French spirit of pleasure-seeking and indulgence typical of the French court. As a consequence, New Orleans was a city full of music and dance. It had three opera companies in a town of some 50,000 people, symphony orchestras including the Negro Philharmonic Society and many popular dance orchestras. Blacks were not social equals to whites but they did begin to mix with them. Dancing and music provide the opportunity for both groups to come together socially.

Louisiana's Catholic ethos provided blacks with greater opportunities to involve and express themselves in music and a life that held the prospect of allowing them to

have more influence and status. It was in this more relaxed atmosphere that black and Creole musicians came together. New Orleans was the most musical city in America at this time. All this music offered blacks and Creoles the opportunity to express themselves more fully, which in other cities would have been impossible.

Being the only major city and port in the region, New Orleans provided all the necessities for a range of people. Trappers, loggers, rivermen and sea-going sailors all converged on New Orleans to stock up or just relax and let their hair down. Naturally, Storyville, the city's red-light district, with its brothels, saloons and dance halls was a place they were sure to visit (cf. Hindley 511-512).

Blacks' disposition

American Negroes had continued to involve themselves in the tradition of their forefathers with African dancing taking place in Congo Square (fn. 3) in New Orleans right up until 1855. Black slaves were also encouraged by Catholic owners to learn an instrument in order that they might provide music at social events. An important distinction for the life of a slave was whether or not he was bought by a Scottish-Protestant or a French-Catholic. A slave tended to have greater freedom in his personal life under a Catholic than he would have under a Protestant. The state of Louisiana, being a former French area, was consequently strongly Catholic. Catholics were less concerned with a slave's personal life (e.g. his religious convictions) than his ability to work, while Protestants felt they had to try and influence their slaves towards more 'civilised' practices. Hence a slave could continue his own traditional practices with greater freedom in a Catholic environment. This was an important factor in the continuation of African musical practices. As well as being allowed to play their own music, slaves found in Catholic music a common trait in that it was more rhythmical (e.g. Spanish

flamenco) while Protestant music was rhythmically simplistic (e.g. hymns). This was especially so in the strongly Catholic state of Louisiana. Most important for the survival of his native music was the fact that “a great many Catholic saints bore interesting resemblances to his own gods” (Stearns 20). Consequently he was at home worshipping Catholic saints in his traditional way.

It became a positive asset for a slave to be able to play an instrument. Often a master would buy a slave an instrument for this purpose. Music thus became very important for blacks; it offered them a way out of the drudgery of daily work in the fields and plantations. Blacks found themselves immersed in a new culture with its own unique styles in music and under pressure to adopt its customs. To do so was to make life easier for themselves. Allied to this was the added impetus coming from their African tradition to engage in music making that was of a social nature.

Blacks sang spirituals at church and sang or danced at every opportunity in keeping with the communal nature of their African tradition. American blacks (unlike the traditional view held by Creoles) were not opposed to becoming professional musicians. They had no reservations in this regard as they saw music as an opportunity to earn money and break out of the grinding routine of manual labour which was all that was available to them. With the end of the civil war in 1865 black slaves found themselves free but with no way of supporting themselves. Because blacks in Louisiana had been encouraged to learn an instrument these players now looked to music to earn a living. So, naturally, New Orleans, being the biggest city in the region, saw a huge influx of blacks. This is evident from the fact that only a few years later, after the war, “In 1871 no fewer than 13 Negro organizations in New Orleans were represented by their own bands at the funeral ceremonies for President Garfield” (Stearns 56).

Creoles' disposition

With the introduction of the Jim Crow laws, Creoles were pushed into greater contact with blacks, something they greatly resented and resisted. Creoles and blacks started making music together with each party struggling for an identity, status and acceptability. Creoles still clung to their European heritage and looked down on blacks even though they themselves might be playing piano in brothels and clearly were incorporating influences of the black musical tradition in their own music.

Sidney Bechet, for example, was a Creole who typically had "aspirations to gentility" (Collier, 1981, 80). As was the common attitude among Creoles, Bechet considered himself superior to blacks. He took pride in his Creole European roots and especially the fact that his father was an educated man who could read and write in both French and English. Likewise Jelly Roll Morton was a Creole who was born and bred in New Orleans. He too was scornful of blacks often referring to them as 'niggers' (cf Collier, 1981, 96). Throughout his life he sought to distance himself from blacks as much as possible insisting that he himself was white.

As Creoles "were forced to join their darker brothers ." (Stearns 42) they found themselves mixing and being influenced by blacks. Blacks too were not impervious to the influences of Creoles. Musically they started to play together in semi-organized groups at various functions. Marching bands performed in parades and were a very popular form of social exchange for both blacks and whites. Music was needed for entertainment at picnics and other social gatherings. In short, music and musicians were in constant demand right across the board which further encouraged Creoles and blacks to come together.

STORMING

Creoles and blacks brought their own musical practices into the cultural collision both Blacks brought cross rhythms in performance improvisation and a personal, more intimate spirit through the use of such techniques as blue notes, rasps and growls Creoles brought European songs and instrumental pieces, classical instruments, compositional forms and musical organization (e.g. the orchestra or the brass band) They brought marches with their strong drum beats forming a ground beat, rags with stride bass lines, again supplying a strong ground beat

Naturally, blacks were attracted to the music of the Creoles, familiar as they were to strong ground beats But equally natural was their tendency to introduce cross rhythms Blacks became familiar with the European influenced repertory of marches, rags, dances etc and started to experiment with these forms

At the same time young Creoles were listening to blues being played in black honky-tonks and were influenced by this and started to introduce blue notes and elements of cross rhythms into their playing

The influence of Storyville

Although jazz wasn't born in Storyville, Storyville was undoubtedly critical to the 'storming' stage of its development Before the opening of Storyville in 1897, the "playing (of) jazz was usually an avocation, a part-time job, integrated with the everyday life of the Negro community It was a folk music and the distinction between performer and audience was shadowy" With the opening of New Orleans's "official red-light district things began to change" There was money to be made Jelly Roll Morton, for instance, almost overnight went from working for little

pay as a "manual labourer in a barrel factory" to "making big money" as the featured "solo pianist" in Lulu White's. Others followed in his footsteps. By 1910 there were "almost two hundred houses of pleasure" as well as "nine cabarets, many dance schools, innumerable honky-tonks, barrelhouses, and gambling joints". The money from alcohol, gambling and prostitution paid the wages of many 100s of jazz musicians over the 20 years Storyville survived. Men, like Morton for example, who otherwise would have been playing only informally now, found themselves playing full-time. In the process with their professional involvement in jazz bands ("Storyville kept a dozen or so bands working every night") musicians from both traditions - Creole and black - found themselves ever challenged to adapt and develop their musical styles and techniques. For some, like Morton, this meant staying centre stage in the development of the new music, for others it was simply a way of making more money than they could from any day job. As Creole violinist, Paul Dominguez put it, "See us Downtown people, we didn't think so much of this rough Uptown jazz until we couldn't make a living otherwise. They made a fiddler out of a violinist - me. If I wanted to make a living, I had to be rowdy like the other group. I had to jazz it or rag it or any other damn thing". In either case the effect was the same, many other musicians, both Creole and black, over the 20 years of Storyville, were pulled together - in ever changing combinations of "personnel and location" - into that cauldron that forged the first jazz bands. (Stearns 64, 65, 71, 72)

The influence of instrument availability

This whole process of synthesis was facilitated and accelerated by the huge range of second-hand musical instruments that became available in New Orleans with the conclusion of the Spanish-American war in 1898 there arrived on the market a full range of second-hand musical instruments. These instruments were sold by the army when troops were disbanded. Many of these troops were disbanded in Cuba

and by 1900 instruments had found their way via the port of New Orleans into the shops. The instruments of these former military marching bands were typically wind instruments of all sorts. But the most important factor of all in the future development of jazz was the price tags attached to these instruments. They were at a price that even very poor blacks who really wanted to purchase one could afford, with some tightening of the belt. As music provided a route of escape from the back breaking labour they were tied to, many were highly motivated to learn an instrument.

Creoles with their European-influenced culture had traditionally been able to play a whole range of instruments. With the emergence of the marching band as the favoured means of popular entertainment, Creoles were ideally placed to partake in playing in these bands. With the availability of second-hand musical instruments, blacks too soon started to experiment on these instruments and quickly became proficient.

The motivation blacks felt to learn these instruments was very strong. Prior to this influx of military band instruments, blacks had known only a limited number of primitive, badly repaired or make-shift instruments. Suddenly they found they had a huge choice of instruments in perfect condition. Naturally, influenced by whites and Creoles they took to these instruments and started to play them.

These musicians became more concerned with the way music is played rather than with the music itself. This African-influenced practice of musician placing the emphasis on expression rather than pure music became a central characteristic of the style. In physical terms, wind instruments were perfectly suited for this.

A more personal expression could be achieved on wind instruments by coarsening their tones mechanically by means of mutes or through the use of lip thrills or throat

tones Blue notes could also be played on wind instruments to express climaxes in the music which could not be played on instruments such as the piano On the cornet, for example, it was especially easy to play very fast vibrato which were played at the end of notes which players made a hallmark of Dixieland jazz Through all these practices, these instruments allowed early jazz pioneers to express the spirit of their new music

Armstrong for example would have benefited from this influx Even as a poor black he could have afforded to purchase a trumpet But even Bechet, although an accomplished wind player would have been influenced by hearing so many wind instruments being played on the streets of New Orleans (cf Collier, 1981, 63-65)

Musical development leading to fusion: Morton, Bechet and Armstrong

From this coming together musical fusion began to occur As these black and Creole musicians listened to each other, played with each other, copied, criticized, envied or praised one another, slowly through this interaction they began to develop a distinct style which was more than the sum of its parts Each brought different characteristics or techniques to the encounter For example, the Creole Jelly Roll Morton influenced the emerging style by bringing to it a sense of form in composition His compositions were well thought-out with high points and rest points, mood shifts and a sense of logical progression

These musicians learnt from one another During his time playing with King Oliver, Armstrong, whose grandparents had been slaves, extended the principle of cross-rhythms, which Oliver, Morton and Bechet were experimenting with But Armstrong began to play solos with phrases that bore no relationship to the ground beat at all He began to play as if completely suspended in a different time scheme from the

other musicians In the recording of 'Potato Head Blues' in 1928 he departs from the ground beat almost completely

As there are no records of this actual process of musical fusion, it must suffice to illustrate it by its development in the lives of those artists who emerged as 'leaders' of the style This will involve reference to recordings made five to ten years after the original emergence of jazz, as these recordings are all that is available

The core musical development of jazz (i.e. Storming and Norming) took place over a twenty-five year period approximately 1895-1920 This can be divided into three periods within an artist's life

- 1 Artist learns the particular musical techniques associated with his tradition
- 2 Artist is exposed to the other tradition and begins to experiment
- 3 Fusion of the two traditions that form jazz occurs within the music of the artist

Jelly Roll Morton

Jelly Roll Morton (cf Berendt 8-24) was born a Creole in New Orleans in 1885 He studied Spanish guitar, violin, but particularly piano, together with theory and composition

In Morton's early music he played European-influenced rags, waltzes and overtures It would have been natural for him as a Creole to learn these pieces which were essentially European piano music which his Creole family encouraged But Morton was also being exposed to black blues and from these he learnt the elements that led him to start to swing his music By playing and mixing with Negroes he picked up the freer spirit of their way of playing By his mid-teens he

was playing in brothels in Storyville. On the streets of Storyville he heard music everywhere. Here he was exposed to the blues and at the night clubs he would be requested to play all sorts of music including blues. For becoming a musician he was thrown out of his home by his disapproving grandmother and began to travel and play all over Louisiana and further afield in Chicago and New York returning to New Orleans between times. This gave him experience in listening to and playing a wide range of both black and white music.

Between 1926 and 1930, Morton made recordings with the 'Red Hot Peppers'. These recordings were still strongly influenced by rags but there were moments when he was moving the rhythms and playing jazz. His band was to become the classic New Orleans line-up of three horns over a rhythm section.

Morton influenced his peers in the compositional direction and led to the emergence of jazz as a compositional art form. Morton was the first jazz composer. Others before him were content to arrange music or write songs but Morton composed from an intellectual basis similar to the manner of European classical composers. His compositions are full of shades in their arrangements, with sound textures contrasting each other. He could combine in a work melodies from rags, marches and blues and make a unified piece from these contrasting elements. By 1928 Morton's popularity was fading as Louis Armstrong's began to rise.

Sidney Bechet

Sidney Bechet (cf. Berendt 10-59) was born a Creole in 1897. He studied clarinet from an early age. By the age of 11 he was playing regularly around New Orleans and was thus exposed to black music. At 14 he began to travel, and by 1918 he was in Chicago where he started playing with a large group that was not so much a

jazz band as a concertising orchestra which played overtures, rags, etc

It was in London that Bechet came across a saxophone and quickly took to it and brought it into the jazz arena

In early 1923 he made his first recordings, and although he improvised, he was still playing rigidly rhythmically as in the old European mode. But by 1924 his recordings with the 'Red Onion Jazz Babies' of 'Cake Walkin' Babies' broke from this mode. He lifted the melody line away from the ground beat and swung it. His tone became fat and had a sharp cutting edge.

Louis Armstrong

Louis Armstrong (cf. Jones, Chilton 55) a descendent of slaves, was born in Storyville in 1900, and in common with most blacks in Storyville he knew severe poverty and deprivation. He grew up listening to black blues and spirituals with their cross rhythms, rasps and growls, until as a teenager he was sent to reformatory school where he received a formal musical education in the classical tradition. This was a major influence on his development which exposed him to the Creole tradition in music. Further interaction occurred in Armstrong's life when he began singing in street quartets and later when he progressed to "playing cornet in bars around Storyville" (Collier, 1981, 144). Through all this he was exposed to and influenced by Creole music.

He soon came to the notice of the well respected early jazz musician King Oliver who invited him to join his band in 1922 on a tour of the major American cities. This exposed Armstrong to a vast range of European-influenced music and gave him the opportunity to experiment with its various techniques and practices.

In 1924 he married Oliver's classically trained pianist who helped him develop his sight reading and further consolidated the influence of the classical tradition over Armstrong

In 1925 he made his first recordings known as the 'Hot five and Hot seven' These were landmarks in jazz history featuring Armstrong as soloist, bringing recognition for him and for the new art form of jazz On these recordings Armstrong began to replace the Dixieland cornet with the classical, brighter, more dynamic trumpet

Armstrong played his trumpet in a way that set him apart, and pointed new ways for his peers and others to follow His tone was warm and rich equalled by no other, yet he played with one of the strongest and clearest attacks of any trumpeter He had no doubt developed this through competing in "battles of music known as 'carving contests' " (fn 4) This was a competition where the player who blew the loudest and most powerful was declared the winner The spirit of these competitions greatly influenced later jazz and gave rise to the soloist's central position

In his playing, Armstrong spoke a language that all could understand whether musically knowledgeable or not His melodies were like sentences in speech conveying feeling and rationality This characteristic is similar to that of African music with its tendency to move freely from speech into song "Armstrong took the tools of European musical organization and added to them the rhythms of the church and of New Orleans and (by definition) Africa, brought into the music the blues notes, the tricks of bending and twisting notes, and played it all with his unexcelled technique " (Berendt 63)

Like Morton, Armstrong's music was also full of thought-through forms His music contains a great sense of unity, with each part fitting together with the other parts

He developed this sense of form to its greatest height and it was one of his many contributions to jazz. But perhaps the most important innovation Armstrong brought to jazz was to establish it as a soloist's art form. Prior to Armstrong, jazz had been the music of the group, big or small it was a music played by and large by all musicians together with occasional breaks from soloists to provide contrast. But Armstrong made the solo the essential element in a performance. From Armstrong on, the practice in jazz went away from the group in favour of the soloist, a move that has never been reversed. Because of his brilliant flair and melodic form, he naturally shone above the rest of the groups he played with. This greatly influenced his peers and younger players coming up, for in Armstrong they saw a star, a quality they quickly identified with and sought to emulate. Hence his influence spread far and wide and had a profound effect on the future of jazz, bringing the individual to the forefront.

NORMING

By 1920 a new form had emerged which, in the early days was called jass, but later became known as jazz. This music was played on European instruments, particularly wind instruments, but it was played in a new way which became known as 'swing'.

"The two words most frequently applied to it (jazz) are 'syncopated' and 'improvisation'..." (Hindley 66)

At some point, early jazz musicians began to support their music with a four-beat ground beat. This created a feeling of movement and energy coming from the ground up. Instead of playing two slow beats per bar they played four at twice the speed. They were laying down four beats to a bar rather than two, while at the

same time playing the first and third beats differently from the way they played the second and fourth. They were in fact playing somewhere between 2/4 and 4/4. The effect was a rocking motion. "Jazz musicians will always deliberately and in a highly controlled way deviate ever so slightly from notated rhythmic values" (Miller, Cockrell 250)

One of the most characteristic elements of jazz was the way musicians improvised or 'personalised' their way of playing their instruments. Improvising around the main melody gave musicians the opportunity to stamp their own personality on the music and a spirit of competition between soloists grew up. The roots of this can be found in the 'carving contests' of old. The trumpet, for example, with its bright sharp tone offered players sheer volume against which other instruments could hardly compete. In the hands of the very competent it could be played in a fast, melodic manner with trills adding flair and embellishment.

At the fore-front of improvising were soloists who fronted bands. These were technically virtuoso players, as well as creatively highly imaginative, and emerged as central figures in the formation of jazz.

These soloists, as well as the main body of jazz musicians, became more concerned with the way a note was played rather than how purely it was played. This was the influence of the African tradition where purity of tone was not sought in the same way as personal expression was. Just as in the African tradition coarseness of tone and variety of textures and timbres were sought, so too in early jazz, musicians were more concerned with feel in their music. They used mutes to coarsen their instruments' tones or used lip trills and throat tones to inflect tone-colour into their music.

Clarinetists found expression in a unique way by weaving contrapuntal melodic lines between the trumpet and the trombone. Like all playing in the Dixieland style they played with expressiveness and flair. The more gentle and subtle tones of the clarinet were later highly utilised in the hands of Benny Goodman.

In early jazz, drummers did little more than hold the beat. This would have been consistent with the old marches. It was not until after Dixieland jazz that drummers began to add more of their own personality to their playing just as their wind instrument player partners had been doing for years. Once drummers had been liberated thus and begun to make their presence felt by playing short drum breaks, the way was opened for the development of the full and dramatic drum solos of later years.

Bass players bowed their instruments which was the practice in the European classical tradition. They supplied the harmonic backbone for the group, while at the same time fulfilling a rhythmic role playing with the drummer. This rhythmic quality was brought more to the fore once the bow was dropped and players started to pluck the strings.

This plucking rhythmic manner revolutionised the playing of the double bass providing jazz with one of its most essential ingredients. Jazz bass players became equally important members of the ensembles in which they worked. No longer was it the role of the bass line to just provide a secure harmonic backbone for the rest of the music; the bass now challenged all other instruments for space and self-expression.

SUMMARY

In summary, the formation of the jazz tradition in music came about as a result of the cultural collision between Creoles and blacks that culminated in New Orleans over a period of almost twenty-five years starting in the late 1890s

Playing

Blacks introduced ways of playing associated with West African musical practices. They coarsened the tone of their musical delivery, rendering it more personal. They introduced blue notes, and most importantly, they started to use cross rhythms.

Thinking

Creoles influenced by the European classical music tradition underwent a shift in thinking towards an understanding of music as a spontaneous outpouring of inner emotions (expressed through improvisation) rather than an intellectually-structured work, refined through the reworking of a score.

Form

Creoles brought to the resulting musical collision the instruments associated with the European marching band tradition. They also brought the essential form which was influenced by their European classical music tradition with its strong sense of structure, musical organization and compositional techniques such as harmony and counterpoint.

Spirit

Blacks, on the other hand, brought to the musical collision the spirit of self-expression, characterized by improvisation, the use of blue notes and cross rhythms

Rejection

Older Creoles who had been exposed to West European culture rejected any association with black culture and hence its music. Younger Creoles, who grew up with the sounds of the New Orleans bands, and then began mixing with blacks musically (especially in Storyville), often broke with their parents' prejudices. Paul Dominguez captures the contrasting Creole views of jazz, which he clearly rejects: "A fiddler is not a violinist but a violinist can be a fiddler. If I wanted to make a living, I had to be rowdy. Bolden cause all that. He cause these younger Creoles, men like Bechet and Keppard, to have a different style altogether from the old heads, like Tio and Perez" (in Berger 463-8).

Needless to say, Dominguez was not alone in his views. As soon as jazz went to the northern cities and escalated in popularity among the younger generation of the 1920s, rejections from established opinion leaders, both musical and cultural, came fast and furious, and not only in the white community. Some leaders of Negro communities also condemned jazz, especially those who believed "that Negroes can improve their status mainly by acceptance of the standards of the white community." Thus New York City church leaders, Negro and white, were in agreement. Jazz was an "agency of the devil", a "retrogression" which "should be stamped out" for taking "our music to the African jungle". Not surprisingly, similar views came from the cultural establishment, e.g., the *New York Times*. "Jazz is to

real music exactly what most of the 'new poetry', so-called, is to real poetry. Both are without the structure and form essential to music and poetry alike, and both are the products, not of innovators, but of incompetents" (in Berger 463-8)

Technology

Technology influenced the shape of emerging jazz, in that marching brass band instruments suggested to blacks new sounds, tone colours and playing techniques which they could employ to express their feelings and sentiments. Since they had never experimented with such instruments before, naturally they found such an opportunity inspiring and creatively challenging.

CHAPTER 3 THE CLASSICAL TRADITION

On examining the jazz tradition we saw that two distinct traditions in music came together in a definite location over a relatively short period of time. However on examining the classical tradition, because its formation took place throughout a series of locations over so much longer a time period, it will suffice for the purposes of this study to identify the final formation of the tradition to coincide with the emergence of opera.

The cultural collision that occurred in the formation of the classical tradition was between the two main cultures within European society - those associated with the Roman Catholic church (Church Tradition) and the secular Courts of Western Europe (Secular Tradition).

The influence of technology on music, especially that of movable type, evolved and thus ensured a much wider and more rapid dispersal of music than was previously possible. These printed manuscripts also had the effect of allowing composers to 'see' different possibilities in composition thus encouraging them to think differently about the whole process of composition.

I. PRE-MUSICAL COLLISION

MIDDLE AGES: 800 - 1100

During the 9th century, the Roman Catholic church and secular society were effectively merged with the crowning of Charlemagne as emperor of the Holy Roman Empire. The church established itself as the dominant power in Europe and

from this time on it became possible to speak of a European culture entity with a common religious and political structure. The church became the centre of culture and learning and a period of stability reigned. Secular society was subjected to the rule of the church. The church effectively determined and moulded society both socially and artistically. In order for anyone to make progress in that society he had to turn to the church for the means as its rule was both spiritual and temporal. The price of this, artistically, for an aspiring composer was that he had to confine his writing to sacred music. Musicians turned to the church for patronage and in return produced music suitable for church needs. Composers often became priests or monks and worked within these confines to produce the first body of European art music. Those musicians who remained in the secular realm were never-the-less strongly influenced by the music of the church which surrounded their everyday lives (e.g. Mass and other religious services to which all attended). Rome was the centre of the church's empire, with its influence spreading out throughout all Europe.

Church Tradition

“Liturgical music of the Roman Catholic church, Gregorian chant, was the first common Western European body of music...” (Miller, Cockrell 16)

During the Middle Ages, music in the Roman Catholic church consisted solely of chants, which Pope Gregory the Great had formulated. This collection of chants represented the first body of Western European music. These chants were for the most part unaccompanied unison singing of modal melodies with a limited pitch range. They were gently flowing melodies which moved along with little extremes in

shape or dynamics, in a dignified, reflective mood expressing in music the spiritual text which they accompanied. The essence of these chants was their melodic shape, easily sung with little turns or twists, and with little consideration paid to rhythmic variation. Antiphonal singing (fn. 1) developed which allowed the chanter to be followed by the main congregation (illus. 1, Appendix 1).

In the Middle Ages, the church was the only centre of learning, and at the heart of this learning were the monasteries. Monks spent much of their time in study, and music, because of its central role in devotional services, became an important subject.

Monks, who were at the forefront in the composition and development of music, paid little attention to what was going on outside their monastery walls. As a result they did not record any of that music. The church of Rome was not concerned with secular music and considered it too closely associated with sensuality. Their approach was studious and academic, a characteristic that was to become one of classical music's basic features.

As these chants developed in length and complexity, a primitive form of notation was developed by monks. The primary purpose for these chants was to enhance the meaning of the text of services, particularly the Mass. The Latin Mass was the central service of the Catholic church and hence the chants were mainly concerned with its theme.

Developing notation became a priority for church musicians for two reasons. Firstly, in order to record and communicate music to others, and secondly, to try to control the new complexities that were being introduced into music. Developments began when the 11th century monk, Guido of Arezzo, devised a system of learning chants.

This system quickly spread throughout Europe and formed the basis for the tonic sol-fa teaching system used today. Guido claimed that through his system he could “teach boys a new song in three days” (Harman, Mellers 71).

Notational developments allowed a composer to look at his score and envisage new options in areas such as counterpoint or form. This, in turn, began to influence the way in which he thought about his compositions. As notation became more complex, the composer could control greater numbers of vocal lines and thus it became possible for him to think in terms of larger works.

Secular Tradition

“The secular musicians of the 10th and 11th centuries can be divided into two main groups; the educated group called ‘goliards’...and the largely uneducated group called ‘jongleurs’...” (Harman, Mellers 75)

The Goliards were ‘middle class’, intellectual student poets who travelled from teacher to teacher around Europe from the 10th century, while the Jongleurs were uneducated travelling performers. Both of these groups entertained at gatherings of all sorts, with the Goliards being more acceptable in aristocratic circles. Part singing began to be developed amongst these groups. Melodies were for the most part improvised upon, with a second part sung to embellish it. In order to avoid complete confusion, the two-parts would begin and end in unison. Singing in fourths and fifths would have been a natural progression from unison singing, as fourths and fifths are the next most consonant intervals.

MIDDLE AGES: 1100 - 1450

In the 11th century, the king of France wanted to extend his power base and break the dominance of the Holy Roman Empire. To this end he actively supported the establishment of an alternative papacy in Avignon. So it was that in 1054 the church, due to its own internal intrigue and political corruption and under pressure from the king of France, underwent a split resulting in two popes claiming total authority. France and Rome competed for power with one pope in Avignon and the other in Rome. This resulted in the weakening of church rule generally and the rise in power of French secular court society (cf. Hindley 49-51).

By the 12th century, France had become the cultural leader in Europe, largely because it was the most fertile region, with better agricultural methods and a large population, but also because of its involvement in the crusades. France had gained great prestige and influence as a result of its leading role in the crusades. French nobility were leading figures in the triumphant entry into Jerusalem during the first crusade in 1099. The crusade also helped the French kings to increase their power bases in that they were freed from the threat that a great numbers of landless leaders posed. These knights found in the crusades a glorious cause to pursue.

"The consequences of the crusades were numerous. They represented in fact the first great investigation by Europeans of the world beyond Europe and led to extensive cultural borrowings from the Arab world. Perhaps the greatest single treasure which the Arabs had to offer was the writings of the Greek Philosophers" (Hindley 50). These writings provided a world view that challenged that of the Catholic church and provided the basis for a cultural and intellectual flowering in secular life which gave rise to the building of the Gothic cathedrals and the

troubadour tradition in music with its spirit of chivalry. The 12th - 13th centuries saw the rise of France, and in particular Paris, as "the geographical centre of music" (Miller, Cockrell 31) with the Notre Dame school at the heart of musical development.

Church Tradition

Further musical developments occurred in the 12th century. Chief among these complexities being introduced into church music was the development of part singing which had almost certainly arisen first in secular music. Influenced by part singing in secular society, the church musicians began to experiment with part singing in religious music. France was the leading country in Europe and it was in the monasteries of France that part writing was adopted and fully developed.

Part singing was a natural progression from unison singing, with a second melody being sung along with the first (illus II, Appendix 1). Organum was the first primitive form of church part singing which took the form of a second line being added to the original chant. This second line was sung at an interval of a fourth or fifth from the chant which was the most natural choice. The second line was nothing more than just a duplication of the chant melody at a different interval.

"The rise of polyphony ranks as the most significant event in the history of western music, because it is the exploitation of this technique that most sets western music apart from that of other cultures." (Miller, Taylor, Williams 96)

As organum developed, the rhythmic nature of the lines began to become more independent of each other. Two-part rhythmically independent writing first appears in the 12th century in the music of the monks at the monastery of St Martial at

Limoges in France. This was a major step in the development of Western European music for it was the first major use of the technique of polyphonic writing.

The St. Martial school was characterised by the free flowing nature of its part writing. But with this type of rhythmically independent writing arose a problem in trying to convey where each part would be placed in relationship to the other. In order to avoid complete chaos, it became necessary for further developments in notation. This was done by defining the value of notes more accurately. 'Modal Rhythm', which was developed by monks of the Notre Dame school in France was a system of notation in which note values were given more precise durations which meant that singers could reach points in their music at the same time. During the 13th century the Notre Dame school became more and more concerned with the rhythm at the expense of melody. Melodies began to get shorter, leading to the development of three-part writing. The Notre Dame school began to bring a sense of shape and order to more and more complex musical compositions. (cf. Grout, Palisca, 5th ed., 77-80)

Secular Tradition

With the expansion of the king of France's political power and influence (which led to a strong secular court) came, in the 12th century, a new type of travelling musician; the troubadour in southern France and the trouvère in northern France. These musicians were often drawn from the ranks of the aristocracy and had a keen interest in the arts. They had grown up in a society where the church influenced every aspect of life. Education, for those fortunate to be able avail of it, was found in the church, and this, of course, included musical education. At Mass (to which all would have gone), church music with its emphasis on the expression of spiritual sentiments, would have saturated the ears of these young musicians-to-be. As a

result of the influence of church music the troubadours brought to secular music the more ordered approach of church composers. Thus secular music began to become more polished and refined. Most of these individuals were professional musicians who gained social status from their abilities in music. They were active mainly in courtly circles which offered them patronage outside the church. These groups, in keeping with the spirit of refinement and intellectualism of the day, sought to organize their music and give it a structured form. But above all they wanted their music to be relevant to the lives of the feudal court audiences to which they performed. To this end, they developed a body of secular songs in the vernacular which dealt with all aspects of mediaeval life, particularly courtly love and chivalry. (cf. Grout and Palisca, 5th ed., 61-65)

These troubadour songs were similar in many ways to the chants of the church, but they differed greatly in spirit. At one time they might be lively and free-spirited and at another time slow and sensuous. They also departed radically from church musical practices in that they were accompanied by instruments. These instruments were very basic and were used mainly to provide a doubling of the vocal lines. The main instruments used were the lute, guitar, trumpet and horn. The church considered instruments, with a few exceptions, to be a distraction to the spirit of reflection and more concerned with sensuality. Hence they were almost totally banned from religious services.

The ballade form, which was developed during this period as a dance form, was later to become refined into a song form. The rondeau song form was brought into life by the troubadours.

Only the troubadours' poetry, as opposed to music, spread to Italy as the church's influence was too strong. Devotional songs which were sung outside the church

were associated with the penitential movement with its 'flagellation songs' (fn. 2). These songs were banned by the church, but persisted in Germany where they flourished and led ultimately to the 16th century oratorio.

II. MUSICAL COLLISION

GRADUALLY EVOLVING COLLISION

"The 14th century was the time of the initial separation of church and state and between religion and science ... Above all was a pervading sense of humanism, after centuries of domination by the church."

(Miller, Cockrell 17)

The pope in Avignon increasingly became involved in politics, which presented the king of France with an acceptable excuse to further weaken the power of the church. He succeeded in this by breaking the wealthy French order of the Knights of the Temple (fn. 3). This critically weakened the pope's power thus leaving the French court more in control of the country's wealth and freer to pursue more worldly goals. This shift in power provided church musicians with the opportunity to move away from the patronage of the church and seek patronage in the courts of France. Thus polyphonic church music gradually began to find its way into secular music. From the 13th century on, secular music became polyphonic in a basic form at first.

During the 13th century, composers began to write for both religious and secular purposes. This led to great similarities between the two with only the text

distinguishing them. Slowly, composers began to favour writing for secular purposes, as they had greater freedom to experiment especially in the area of rhythm. Throughout the century both church and secular composers were increasingly experimenting with rhythm, giving rise to rapidly flowing music with a distinctive worldly spirit that was much appreciated in the French courts. The church's response was predictable - to try to curtail such developments by imposing harsh measures on church composers. By the 14th century, Pope John XXII decreed that such musical experimentation must be stopped to free sacred music from "these notes of small value with which every composition is pestered" (Harman, Mellers 132).

By then French composers had begun to look on church practices in music as 'old art', and inspired by the philosophy of humanism, sought to develop art free from the restrictions of the church. Rhythm became the central element and was developed to a "level not equalled until the twentieth century" (Miller, Taylor, Williams 100). In the 14th century, in France, the 'New Art' (Ars Nova) developed was based on a new form of notation which gave greater control over rhythm to composers.

The range of emotional expression associated with church music had been greatly restricted, but now secular music began to explore a much wider span of expression. A much greater variety of compositional techniques were employed, though often at the expense of a sense of unity in works, which is not surprising given the change over from cathedral to court audience. Exemplary of the cross over which had occurred from church to secular music, the greatest exponent of 'New Art' was in fact a French priest, Guillaume de Machaut.

Guillaume de Machaut was a priest who applied "techniques learned in sacred music to secular" (Harman, Mellers 132).

He was like many clergy of his day, a man who enjoyed worldly pleasures and in this spirit wrote mainly secular music experimenting with rhythms. Rhythmic development was a characteristic of 'New Music'. Diversified rhythms and faster note values were introduced and rhythmic writing in general became increasingly complex.

Indicative of the new spirit of secularism is Machaut's philosophy. "Towards the end of his life Machaut wrote a Prologue to his collected works in which he says that music is the science of 'laughter, song and dance'". (B.B.C. Music Magazine, 1996, vol.3)

INTENSE COLLISION

RENAISSANCE: 1450 - 1600

FORMING

From the early Renaissance, France suffered upheavals which inevitably made it a less attractive place for composers to live. Firstly, "The once mighty Kingdom of France was humbled by the ravages of English armies, which, supporting their king's century-old claim to the French throne occupied vast territories and were only expelled in the 1450's ... In addition to foreign armies, France had also to suffer the feuds of the great magnates (i.e. powerful regional dukes) which seemed likely to dismember the kingdom" (Hindley 85).

There then followed the Reformation in which, throughout Europe, people turned

away from the church due to its corruption. In Germany, with the support of German princes, Luther spear-headed and gave voice to this outrage. The Reformation sparked off Wars of Religion throughout Europe. In France the conflict was long, bloody and recurring, with the Catholic establishment fighting the Protestant reformers resulting in France being torn apart by civil war. The consequence of this upheaval was that composers, especially those who were highly trained (i.e. those from the Franco-Flemish region), were predisposed to move to areas (i.e. the cities of northern Italy) where their talents were highly prized.

“The crusades had bolstered the commerce of the Italian cities ... and had established trade markets of enduring importance.” (Funk & Wagnalls, 1994, vol.7, p.360)

For centuries, northern Italian cities - Florence, Venice and Milan - had grown strong in commerce, industry and banking, as a result of the immense wealth derived from their position as the great entrepôts of the trade between the populous states of northern Europe and the new luxury markets of the East. By the 15th century, conditions were ripe in this region for an artistic flowering inspired by classical learning - humanism (fn. 4). The Italian city of Florence, which from the 12th century became Europe's financial centre and from c.1430 was ruled by the Medici family of merchant bankers, saw some of the greatest works of the Italian Renaissance. “Cosimo de' Medici (1389-1464) encouraged the teachings of classical scholars ... Lorenzo de' Medici (1449-1492) encouraged, among others, Leonardo da Vinci and Michelangelo Buonarroti ... The Renaissance gave artists, once near anonymous craftsmen, new status: the best known were idolised.” (cf. O'Neill 83-4)

With the rise in patronage outside the church, came a flood of former church musicians spreading out from the Franco-Flemish regions to the cities of northern

Italy in answer to the demand for the best artists. The Franco-Flemish region was one in which the church's influence was strongly felt and consequently church musicians of this region were highly skilled in the polyphonic contrapuntal style of church music. In these Italian Renaissance cities, these Franco-Flemish composers met with Italian composers whose music was concerned more with harmony and chordal writing reflecting the spirit of entertainment (i.e. song and dance forms which employed the use of instruments). Guillaume Dufay was such a French composer who travelled to northern Italy. "Like so many of his contemporaries, Dufay led a cosmopolitan life enjoying a huge international reputation. He earned the respects of princes amongst whom one of the most illustrious was Lorenzo de' Medici." (Hindley 98)

STORMING

" - the time of the Italian Renaissance, roughly - that composition began to find its feet - its wings, rather." (Bacharach 33)

The Renaissance saw the church and secular society compliment each other. No longer did the church rule absolutely, yet it still retained great influence in secular society. This balance was reflected in the music that developed in northern Italy. The fusion of practices from both church and secular musical traditions began to take place solidly during the Renaissance. The church-influenced Franco-Flemish region's imitative counterpoint spread to northern Italy and met there with secular-influenced melody, rhythm and tonality in the form of dance and song.

Church musical practices

Imitative counterpoint developed in church music as a natural development of

polyphony Since composers were restricted in the range and scope of their musical experimentation, imitative counterpoint provided one of the only acceptable technical devices permitted, as it was judged to enhance the meaning of sacred text and it did not interfere with the spirit of reflection Imitative counterpoint was undoubtedly the most important development of the period and became one of the fundamental practices associated with the classical tradition

Secular musical practices

Franco-Flemish, church-inspired imitative counterpoint (fn 5) met with the Italian, secular-inspired homophony (fn 6) Franco-Flemish imitative counterpoint was characterised by its intricate weaving of vocal melody lines with simple, easy-flowing rhythms and modal tonality The Italian secular style of homophony had strong lively rhythms, with simple folk-like melodies which used repeated notes, and placed a greater emphasis on harmony rather than counterpoint and most importantly a greater sense of major/minor tonality During the Renaissance secular music was still modal but a shift was taking place towards a more major/minor tonality

Rhythms had broken out of the more strict limits imposed by church rules and moved into more complex spheres associated with dance Courtly life enjoyed song and dance, and music was developed to suit this demand

Musical fusion

As Franco-Flemish composers emigrated to the trading cities of northern Italy, they took with them their well developed form of imitative counterpoint Thus imitative counterpoint found its way into secular society in the form of the motet The motet

was a religious form of imitative counterpoint which was quickly adopted by secular society, thus a synthesis of musical practices began to take place. By this time secular society had been influenced by the spirit of Humanism that swept across society like a fresh breeze after centuries of domination by the church and its philosophy of other-worldliness. This led to a new emotional charge in music no longer limited to the expression of sacred sympathies only.

As both former church and secular musicians began to mix musically, cross-fertilisation began to occur. Composers started to shift with ease between Franco-Flemish counterpoint and the Italian chordal style in the same work.

The most important secular vocal form to evolve through this process was the madrigal. The madrigal was a short setting of a poem in the vernacular, typically about love or nature. It could use imitative counterpoint or harmony or both, and was written for four to six voices. As composers developed word-painting to a high degree, madrigals replaced motets as the most popular form. The madrigal represents the gradual change-over of musical leadership from the Franco-Flemish region to Italy, from imitative counterpoint to harmony (cf. Harman, Mellers 239, 242-275).

Another consequence of this coming together was the rise in interest in instruments. Part writing had always been for voices but now instruments were added to duplicate some of the vocal lines. With the new awareness of humanism, the very nature of the relationship between instrument and the voice began to be questioned. No longer was the role of music to simply embellish the meaning of sacred text but to abstract concepts started to form the basis for compositions as well. This was a radical departure from practices in church music.

Exemplary of this transition was Josquin des Prez, who was born and received his musical education in the “ fertile musical soil of of the Franco-Flemish region soon followed the example of many of his predecessors and went to Italy” (Hindley 103) In his writing, Josquin developed imitative counterpoint to unprecedented levels to produce fugal textures (illus III, Appendix 1) He brought a new realism to the use of words which in former times had been seen as “made up of so many syllables, to be fitted to music” (Robertson, Stevens 1-20) He began to obey the prosody of natural speech in setting words to music This new feeling for words went beyond prosody It extended to “emotional content of words as well ‘no one has more effectively expressed the passions of the soul in music” (Robertson, Stevens 1-20) In Josquin’s music is found some of the first attempts to match human emotions with appropriate musical symbolism

Printing

Humanism lead to a spirit of scientific inquiry, resulting in technological developments, most importantly the development of print “Printing from movable type, known in China for centuries and perfected in Europe by Johann Gutenberg around 1450, was used for liturgical books with plainchant notation about 1473 ” (Grout and Palisca, 5th ed , 160)

Printing accelerated the dispersal of manuscripts For example, Josquin’s book of Masses published by Petrucci in 1501 meant that other composers throughout Europe could learn from the developments he had made in the texture of his polyphony “ printing of music had far reaching consequences, instead of a few precious manuscripts laboriously copied by hand and liable to all kinds of errors and variants, a plentiful supply of new music in copies of uniform accuracy was now available Printed copies meant that many more works would be preserved for

performance and study " (Grout and Palisca, 5th ed , 163) (fn 7)

Once printed-scores became widely available, composers began to be influenced by them. Prior to printing, composers came in contact with a limited number of scores, but after the arrival of printing, composers began to see the works and techniques of a huge range of composers from all periods and countries. This naturally impacted on their ways of composing. Printing also meant that at a glance, composers could see new possibilities in terms of, for example, harmony, counterpoint, orchestration or arrangement. This consequently influenced their ways of thinking about composition and the options open to them. (The development of compositional techniques can be traced through illus I, II and III, Appendix 1)

Music was now more readily available. The tastes of secular society placed new demands on musicians. A wider expression of everyday living was required and not just that of the spiritual dimension. Along with this new spirit of worldliness continued the church's spirit of reflection in music. The Renaissance became a period of mutual coexistence.

The balance of power between the Roman Catholic church and secular society was gradually shifting. In summary, the church dominated during the Middle Ages, with a decline in its influence and power and a rise in the power of the aristocracy taking place during the Renaissance. During the Baroque era, secular society's influence came to dominate. This was the flow and direction of influence over a period of approximately 900 years which facilitated the fusion of certain musical practices from the music of both traditions which ultimately gave rise to opera, the form which marked the full development of the classical tradition in music.

NORMING

BAROQUE: 1600 - 1750

“The Baroque saw the decline of the church and the aristocracy as primary benefactors of musical life. They were still important Institutions, no doubt, and composers like J.S.Bach received their lives’ support from them. The cosmopolitan G.F.Handel was more typical, though, and his livelihood often came from the public.” (Miller, Cockrell 89)

During the Baroque era, a new philosophy of rationalism inspired by the writing of the Newton and Galileo emphasised the role of man as a unique rational being, capable of understanding his world and determining his own destiny. The 17th century had seen the exclusion of religion from politics, the 18th century saw an attack on religious thought itself.

This spirit of self-determination and scientific inquiry brought about a new influential social class who through trade and commerce came to shape the course of society. Co-existing alongside this were the still powerful courts of Europe with their local princes who ruled their own states. With this came a wider demand for entertainment. All this gave rise to the first public opera houses and concert halls being opened. Patronage in German states, and their courts in particular, was prompted by considerations of prestige. Many states lavished patronage on opera houses especially that of Hamburg. The first public opera house had been opened in Italy in the 1630's, and now the demand spread throughout Europe. Musicians now began to take on the role of international entertainer. In the Late Baroque era,

Handel, who perhaps epitomises the new status of musicians, became a cosmopolitan composer travelling throughout Europe. His performances were to packed opera houses. Church rulers no longer controlled musicians nor their musical styles - the tastes of local princes and the new elitist merchant class now dictated which musicians prospered, and which failed.

“The 17th and 18th centuries witnessed the formation and climax of a new language of musical expression ... the opera ... the symphony ... were major contributions to the world of musical form, while the language of tonality which finally supplanted the use of the modes worked a revolution in the very nature of composition.” (Hindley 156)

The Early Baroque era was a period of two musical styles - the old church-influenced style and the new secular influenced style. The old style was characterised by its use of imitative counterpoint which placed little emphasis on text, and the new style was characterised by its monody (accompanied solo sing) and homophonic textured music where text could be heard and understood. The old was in the tradition of vocal a cappella counterpoint, while the new saw a return to the more simple homophony in both vocal and instrumental music and the fuller expression of human emotions, particularly through the dramatic form of opera.

The most striking form in which this gradual synthesis can be identified was in the emergence of opera in the Baroque era. Opera emerged as the most important form in the final development of the classical tradition. For in opera, the secular-influenced spirit of entertainment and drama merged with the church-influenced spirit of control and craftsmanship, achieved through highly developed notational techniques.

"Claudio Monteverdi (1567-1643) is the composer whose works best illustrate the transition from the Renaissance to the Baroque style and who most clearly fused the disparate musical elements of the early 17th century into the new Baroque musical language " (Miller, Taylor 126) Monteverdi, as a choir boy and later in his early youth, was steeped in the imitative polyphonic tradition of church music Most of his adult career was spent as director of St Mark's Cathedral in Venice and as part of his responsibilities he wrote, especially in his early works, polyphonic music for church celebrations But he was also independent enough from the church to be in a position to compose dramatic music (using monody extensively) for secular society for performance in the great houses of Venice and even in the courts of other cities In this way he not only acted as a bridge between the Renaissance and the Baroque but also between church-influenced musical practices and secular-influenced musical practices

The importance of Monteverdi's pivotal role in bringing together such different practices can best be seen in his first opera 'L'Orfeo' It was in this work that "Monteverdi, already an experienced composer of madrigals and church music, drew on a rich palette of vocal and instrumental resources Monteverdi introduced many solo airs, duets, madrigalesque ensembles, and dances, which, taken together, make up a large proportion of the work and furnish a welcome contrast to the recitative " (Grout and Palisca, 5th ed , 284) He " combined the resources of voices and instruments shows the beginning of many different kinds of music, since in it there are at least three distinct kinds of solo song besides dramatic choruses and a great deal of instrumental music The modern orchestra had its birth as it were in this opera" (Colles 77)

He also developed new techniques in playing which were revolutionary For example, " the effect got by drawing the violin bow rapidly to and fro on a single

note imagine how impressive it must have been to unaccustomed ears and this was only one new effect among innumerable other ones which Monteverdi gained for his orchestra” (Colles 21)

By the Late Baroque era, elements from the church and secular musical traditions had so fused that distinctions were almost impossible, “composers were glossing over these distinctions and writing in nearly the same way” (Grout and Palisca, 5th ed , 272), in their music

This was the period when instrumental music fully equalled vocal, and within instrumental music the bass line began to assume equal importance to the upper melody line Instrumental music was moving away from text as a source of inspiration and began to look towards direct abstract ideas The church practice had always been the former but now musicians had reached the point where they conceived music for its own sake without any need for other interpretations

But perhaps the most important element in the final formation of the classical tradition was that of tonality Progressively, secular music had been moving in the direction of clearly defined tonality, but it was not until the Baroque era that tonality became fixed around the diatonic scale From the early days of chants, church musicians in the first instance, and later secular musicians, had been gradually moving away from the old modes and towards the new era of fixed tonality The establishment of diatonic tonality opened the door for the huge range of modulations and experimentations with chords and chord relationships which is at the very heart of the classical tradition

In the works of composers J S Bach and G F Handel, these various elements can

be identified. For example, in their large choral works they used imitative counterpoint in the choruses, and monody in the recitatives and arias. The emotional content of their music expresses the highest spiritual aspirations of man, in works such as Bach's Passions and in Handel's Oratorios, while in works such as Bach's Brandenburg Concertos and Handel's Water Music, the spirit is one of novelty and entertainment. The use of instruments in their music is of equal importance to that of voices and both composers wrote large scale, instrumental works as well as vocal compositions. Tonality in their works is fully established around the diatonic scale lending opportunities for extensive modulations.

SUMMARY

In summary, the classical tradition came about as a result of the cultural collision between the Roman Catholic church and court secular society. The collision took place over a long period, starting in the Middle Ages and reaching its fullest expression in the Baroque era and in particular, in the form of opera. The changes that took place over this period and culminated in opera, may be summarised thus:

New ways of playing

In the Middle Ages playing was almost entirely restricted to voice. That is, compositions were for singing, with little or no instrumental parts. Later, with the development of instruments and the rise of secular influences in society, the playing of instruments became part of music making. Finally in opera, techniques of playing the full range of orchestral instruments had developed.

New ways of thinking/composing

In the Middle Ages, compositional techniques developed slowly as composers experimented with various practices and notational systems. Musical thinking was based on vocal-line writing, with various lines working independently, and conceived of, in an horizontal, contrapuntal fashion. In the Renaissance, thinking became more 'humanistic' with words being treated as vehicles to express emotions, instruments beginning to assert their importance, and harmony beginning to assert its equality with counterpoint. By the Baroque era, thinking had continued to change thus bringing about, in opera, for example, the equal standing of instruments with voice, the acceptance of the mixing of counterpoint with harmony, and a new understanding of the role of drama in music to express human emotions.

Form

In the earliest church music, simple chants had been in antiphonal form. In secular music, forms had been that of the song or dance. From the Middle Ages on, forms developed in size and complexity, bringing about in the Renaissance, the development of the motet and the madrigal. Finally, in the Baroque era, opera form developed, which employed large choral sections, small arias and recitatives, large forces of instruments, choirs, and soloists - both instrumentalists and vocalists.

In general, the church was mainly responsible for the practices of counterpoint and imitative counterpoint, for control and order in music achieved through highly developed notation, for a studied approach to music or 'art music', for the practice of written composition as opposed to improvisation.

Spirit

The spirit of mediaeval music was dominantly sacred. In the Renaissance, the secular spirit expressing human love and sentiments began to find voice. In opera the spirit is one of intensified expression in voice, music, and drama, of man's deepest felt conflicts and aspirations, be they spiritual or temporal. Secular society, in general, was responsible for those characteristics which facilitated the expression of human conflicts and emotions including, for example, song dance, opera, and concerto, the fixing of tonality around the diatonic scale, the use of monody, the use of instruments as equal partners to voices, and the expression of the full range of human emotions in compositions.

Rejection

At different transition points, a backlash occurred in response to new developments led, not surprisingly, by the older, established generation of the day. In the Middle Ages the church rejected any moves its composers made towards secular music. Later, the pope banned developments in rhythm. Of opera, a 17th century composer wrote "An opera may be allowed to be extravagantly lavish in its decorations, as its only design is to gratify the senses, and keep up an indolent attention in the audience" (Watson 319).

Technology

The technological development of printing facilitated the dispersal of scores on a scale previously not possible. The evolution of score writing itself offered composers new compositional possibilities while at the same time challenged them to examine new ways of thinking about composition, as they were now in a position

to see on paper its shape and design

The technology of instrument making was gradually perfected enabling composers to write for instruments which offered much greater flexibility in areas such as range, tuning and tone colour

CHAPTER 4 THE R&R TRADITION

The cultural collision that occurred in the formation of jazz and classical music took place between two different social groups and their musical traditions. These collisions took place by direct contact between the social groups in definitive locations. In the case of the R&R tradition, the cultural collision also occurred between two different social groups and their music: the white culture's musical tradition of country & western and popular/Tin Pan Alley music (**White tradition**) and the American Negro's musical tradition of rhythm & blues and gospel music (**Black tradition**). This collision initially took place in the Southern States of America.

The influence of developments in instrument technology was of great importance, offering as it did R&R artists new opportunities in sound production (e.g. the development of guitar amplification and electrification presented an array of new sound possibilities, which in turn suggested new ways of playing (for example, using the effect of sliding down the strings on the electrically amplified guitar, a technique used by Bill Haley on his record 'Rock around the Clock').

The developments in communication technology such as radio and records allowed a much greater, and more rapid, dispersal of music than had been possible anytime before in the history of music. This made possible the wild-fire spread of R&R in the late 50's, firstly throughout America and later throughout the world. This rapid dispersal also resulted in musicians learning from and being influenced by each other, despite geographical distance.

In the formation of R&R, the spirit of the music came from black R&B music which captured the imagination of a young white generation. These young whites were the children of a 'baby boom' (fn 1) generation in America in the 40's. This older generation had lived through 'The Depression' (fn 2) and World War II, and through

these experiences had formed a philosophy of self-sacrifice and endeavour. After the War, America experienced huge economic growth, becoming the wealthiest, most powerful country in the world. The children of this generation rejected the world their parents had built and sought a life of more immediate gratification and they had the economic independence to pursue it.

Blacks migrated in massive numbers from the South to Northern, Mid-West and West Coast cities in the late 30's and early 40's with the development of War industries. After the War, they found themselves packed into urban ghettos where poverty and pain remained much the same as before in the South, only the pace of life had greatly intensified.

Black music expressed a sense of urgency and immediacy in keeping with their lifestyles, while white music was more restrained and ordered reflecting, white lifestyles of the early post War years, in particular the rush to domesticity of the 'baby boom' years. It was not surprising that young, white musicians started to listen and relate to black R&B music, for it captured the spirit of 'rebellion' (fn 3) they themselves wanted to live by. Nor was it surprising that young black musicians started to adopt characteristics of white C&W and popular music in order to make their music more acceptable to the larger white audiences.

This cultural collision occurred firstly in the Southern States of America, and then spread to the major cities throughout North America. Young whites in the 50's were captivated by black R&B music that was being played on local radio stations, radio stations whose primary aim had been to cater for black, urban tastes.

I. PRE-MUSICAL COLLISION

“Each field had its own group of artists and record companies a series of radio stations on which its music could be heard, and an audience to which it made its strongest appeal.” (Belz 16)

BLACK TRADITION (Rhythm & Blues and Gospel)

Rhythm & Blues was an urban music with its roots in the rural southern blues. The blues tradition in music, which was examined previously when looking at the formation of jazz, can be summarised thus:

Blues was the music of the blacks in the Southern States of America who worked in the plantations and on the building of the railroads. It was a music which expressed the feelings of these workers who had little to hope for and whose lives were a matter of survival.

Blues had been an expression of black struggle and inner suffering. But by the 1920's and 30's, in its new urban setting, it was no longer introspective but had become primarily music for entertainment. As blacks formed into communities in the Northern cities of America, their music found expression in the night clubs and bars in the ghettos. Rural blues now became urban R&B. R&B was louder, more brash, expressing the new spirit of city life. “In the city private meditation took too long and was drowned out by the roar and bustle.” (Palmer 158). In the fast, impersonal life of the city, R&B provided blacks with a means of asserting their own identity in a fast moving white's world. R&B became black race music serviced by independent

black record companies with black artists and black audiences. Their predominant sound was no longer self-pitying but 'Cool Pose' (fn. 4) with boundless energy and urgency. White-dominated society was repelled by this coarse music and considered it anti-social.

“The expression R&B by 1952 had become the general accepted term to describe music and records for the Negro market.” (Gillett 121)

R&B became a more up-beat version of the blues, reflecting the more lively pace of city life. The tempo became more regular, with time measurement more structured with the strict 12-bar sequence forming the basis for songs.

The format of R&B bands became centred around the line-up of vocalist, guitarist, bassist and drummer with the occasional addition of a soloist like a saxophonist. This format was to be the essential one employed in the later R&R tradition.

Most important of all, from the point of view of the development of the R&R tradition, was the amplification of instruments, especially that of the guitar. Amplification gave R&B a more aggressive edge with the potential of out-doing any noisy audience by sheer volume. With the power of amplification, R&B musicians were able to play to much larger audiences than previously possible. With the amplification of the guitar, began the process which was to find its fulfilment in the R&R tradition of using modern technology to express human emotions. Guitarists began to use the extra volume to hold notes and bend strings in a uniquely personal way. In the same way the singer could control notes better by not having to sing so loudly all this foreshadowed the R&R tradition. (cf. Gillett ch.7)

Black gospel singing grew out of the practice blacks had of singing on all occasions

leading to singing on the occasion of worship.

Singing in church, "emotions could be expressed, feelings bared, despair admitted, hope cultivated, and change considered - and white people need never know" (Gillett 153). Gospel music concentrated more on the interplay between voices, which were often coarsened to stress the emotional conviction of the singers. Gospel singers were concerned with emotions in a different way from R&B or C&W. Blues tended to be concerned with relationships or experiences between people. Gospel with its ideas of God was an abstract concept akin to the ideal concept of love which adolescents often have.

When blacks moved into the cities throughout America, they took with them their tradition of gospel singing just as they did their blues. Like the blues gospel singing became more urbanised with black gospel groups emerging, and like R&B artists they found small local radio stations willing to play their records. During the 1940's most of the companies that recorded R&B music also included some religious records.

WHITE TRADITION (Country & Western and Popular)

Country & Western music had its origins in rural white southern music known popularly as 'hillbilly'. Among the important sources of white hillbilly music are: The folk ballad tradition which had originated in Europe and was adapted to Southern life and Instrumental dance pieces or fiddle tunes, a vernacular tradition in the South.

These styles merged to produce an up-tempo dance music, which was to influence the R&R tradition in the direction of dance entertainment. The instruments used

were mainly the guitar and fiddle which accompanied the voice which was sung with a Southern nasal tone and was often speech-like. The dominant themes were subjects concerning everyday life and real human issues.

The earliest white settlers in the U.S. had brought with them songs from their native Ireland, Scotland, Wales and England. These earliest settlers travelled South into remote valleys. These hill settlers adapted their songs to tell of their new life pioneering America. They played primitive instruments including the banjo, fiddle and dulcimer. This music was of a communal nature which was played on all kinds of occasions such as dances and picnics. Soon 'hillbillies' began to move down into the main Southern towns where they provided music to liven up social gatherings or political rallies and generally play music so that they could earn more money than they could working on small farms in the hills.

In the 20's and 30's, hundreds of local radio stations were set up throughout the Southern States. Hillbilly musicians were popular on these stations for their live performances. Radio work brought followings for these musicians, which in turn spread their reputation far and wide throughout the Southern States. Recordings were made which sold to these Southern audiences. With the experience of recording and being involved in the commercial marketing of their music, hillbilly artists began to tailor their music more and more, refining and polishing their product for a larger, i.e. 'popular', market. This led to a greater degree of emphasis being placed on lyrics which contained exaggerated sentiments which would appeal to their audience, such as themes of tragedy, death, sorrow and loss. Songs like 'The Prisoner's Song' by Vernon Dalhart established this as the norm for hillbilly themes (cf. Belz 23-25).

II. MUSICAL COLLISION

GRADUALLY EVOLVING COLLISION

During the late 30's and 40's, blacks and whites migrated from the Southern States of America to the North and West to find work in the military or support industry for the war. This migration was fuelled by the devastation caused to the general population by the 'Dust Bowl' (fn 5) in the South and South-West which coincided with 'The Depression'. On going North, these Southerners brought with them their music: blacks bringing their R&B and whites bringing their country music.

In the ghettos of the Northern cities, blacks played their music in bars and clubs and radio stations began to pick up on this black ghetto audience. Thus R&B artists in the major cities began to reach large black audiences.

One D J (disc-jockey) in particular, realized the potential appeal that this black music had to young whites and so began to play R&B directed at whites. Alan Freed was the first D J who played black music to a young white audience. He discovered that young whites loved the beat and energy of R&B. Through his radio show, stations generally began to realise that a market existed for this music. The response of the major record companies, whose management and established audiences consisted of an older white population, was to ignore and try to suppress this new music, thus leaving the way open for smaller, independent record companies (Indies) to come in.

Indies needed a few thousand sales in order to pay their overheads, while the major record companies needed tens of thousands. Thus, the Indies were able to service small local audiences in R&B. "In the early 1950's, the R&B field was largely composed of independent record companies ... (these) enjoyed only a fraction of the business which was enjoyed by the major record companies of the pop field." (Belz 20) Through these Indies black R&B found its way into young white homes.

After the war, Nashville began to see the commercial potential of hillbilly music and began to sign hillbilly artists en masse, churning out C&W records by the score. America needed smooth, easy-listening music that would help to heal the wounds of war, and country music answered this need. "... The term 'hillbilly' itself seemed uncouth and thus was replaced by 'country & western' or just 'country' ..." (Palmer 43)

Lyrics avoided any reference to the South, or rural life, or anything distasteful to rapidly expanding white suburban 'baby boom' population of the early 1950's. The themes of the cowboy took centre-stage, presented in a style strongly influenced by that of Tin Pan Alley (i.e. lush orchestral arrangements and backing vocals over a rhythm section of double bass, drums and guitar).

INTENSE COLLISION

FORMING

"While white popular music was sophisticated and urbane R&B was gulleless, direct and spirited. These elements were crltical to the

acceptance of R&B by young white audiences in the 1950's who were seeking an alternative to what they considered to be a stilted and overly self-conscious white popular music style" (Miller, Cockrell 258)

In the 50's, a new generation of young whites wanted to break away from the ideals of the older generation. Ideals which had seen two world wars and The Depression, and were characterised by the principles of struggle and self sacrifice. "The pop field in music reflected and appealed to adult tastes and values just as the industrial structure of pop music was formed by adults for the benefit of adults" (Belz 20)

The teenage generation sought freedom and independence from their parents' morality. The teenage generation was one that had not taken part in any war. "The mid 50's smacked of disillusion youth went sour on everything associated with the past and they wanted a music and an idol to express this feeling" (Palmer 218)

The new generation wanted to experience life here and now and to the fullest possible degree. R&B provided the spirit they sought. White music was dominated by Tin Pan Alley compositions which were slick and refined and dealt with the loftier levels of human love and experience. Tin Pan Alley singers were not concerned with real relationships, and their songs did not seem to be located in any real physical context, while black R&B gave context, e.g. cars, street names, suede shoes and jukeboxes to their songs. This older generation's tastes were for the more sentimental moods in records. Solo singers such as Frank Sinatra and Bing Crosby were the big names whose music was elaborately arranged and orchestrated. "In almost every respect the sound of R&B contradicted those of popular white music. The vocal style was harsh with often explicitly sexual lyrics,

the dominant instruments - the saxophone, piano, guitar and drums - were played loudly with an emphatic dance rhythm, the prevailing emotion was excitement " (Gillett 15)

Similarly, blacks were being exposed to white culture and its music. Society in America in the 1950's was dominated by white culture and blacks were subordinate to it. This inevitably meant that for a black to achieve wide-spread recognition he had to fit into that culture and be deemed acceptable by it. So black musicians, naturally being thus motivated, began to experiment with elements of white music, and in particular, incorporate aspects of its form and lyrical content.

So it was that young white musicians in the Southern States who had grown up being exposed to black R&B music and had been playing their own version of it, and young black R&B musicians who similarly had experimented with white music, began to fuse elements of their two musical traditions more intensely.

In the late 1940's and early 50's, increasing numbers of white adolescents became interested in black R&B. By 1956 this group had grown so large that its taste was reflected in the hit parade. Indies were in a position to take advantage of this new white market. Thus the Indies were able to service small local audiences, first in R&B then in R&R. 'Sun' records of Memphis was the first Indy to introduce country R&R (which had a small localised audience) to white Southern youth when it was not nationally acceptable. As R&R began to take hold " major corporations with every financial advantage were outmanoeuvred by independent companies " (Gillett XII). These white-dominated major record companies, because of their traditional prejudices against all things black, tried everything to resist R&R and keep pop music on top in predictable controllable lines as in the past. But with the success of Elvis on the Indies 'Sun' label, major record companies began to

change. The music industry eventually realised the commercial potential of this new market, and set about reorganizing in order to capture this market. "The change in attitudes forced a change in institutions" (Gillett X). But because the social prejudices against blacks was so ingrained, record companies over-looked all black artists and instead sought only to promote white artists who were playing R&B. Decca was the first major record company to take this course by signing Bill Haley.

STORMING

The new spirit of rebellion saw young white musicians begin to play R&B. As they began to play the repertoire of black R&B artists, naturally they started to pick up the characteristics of this music while at the same time maintaining essential elements of their own white tradition of C&W and popular.

Through this movement a fusion between elements of black R&B and the music of these young whites (i.e. C&W and popular) began to occur. The music that resulted from this fusion became known as R&R.

The major contributor to this new music was the spirit and beat of black R&B with white C&W lending the story-telling form of the ballad to the lyrics and refocussing the content off life in the urban black ghetto and onto life of white teenagers.

In their formative years, young white musicians in the Southern States in the 40's were, as a part of their everyday lives, exposed to black blues and R&B. This music was all around them - on the streets, in the bars and on the radio. It was not that they regularly mixed with blacks, musically or socially, but rather it was through a general exposure that young white musicians in the South became familiar with

black music.

Elvis Presley (cf. Pleasants 262-279) was such a young white musician. He was a Southern musician who was ideally placed to absorb both black R&B music and white hillbilly music influences. In his early years he described himself as a Hillbilly Cat - hillbilly (a white term) cat (a black term).

Elvis Presley's father was an occasional gospel singer and the family attended church where young Elvis sang and was exposed to this type of music. On moving to Memphis, the family had to live in the middle of a black slum, for work was short and Elvis's father could only get part time work. Thus Elvis was exposed to black blues and R&B, hearing black musicians perform in the street and in the night clubs. In the early days of his artistic career, Elvis could sing like those black singers, copying their characteristic inflections. His first record was a "... a pure white country song ('Blue Moon of Kentucky'), back to back with a real black song ('That's alright Mama') ..." (Palmer 214). On Elvis's 'Heartbreak Hotel', RCA introduced vocal group choruses and a much fuller orchestral sound while still keeping the guitar prominent. The record coupled a C&W song with a blues song. The basic blues song - bare instrumental accompaniment of slap bass and rhythm guitar - is supplemented by this much fuller C&W arrangement.

Thus Elvis, because of his early exposure to black music, brought about in his music a fusion of elements from black and white music traditions. This fusion of black R&B and white C&W had an appeal across the board. On release, his record, 'Heartbreak Hotel', quickly spread from the C&W market into first the pop market, and then the R&B market.

Other white Southern musicians who like Presley, were exposed to black R&B, and

whose music became a fusion of that music and white C&W, were Buddy Holly, and The Everly Brothers. These, in particular Holly, added a stronger back-beat to their music. This added a new essential dimension - they " emphasised a rock beat while retaining the twanging guitar and high pitched whining drawl of the country vocal" (Belz 72). But they replaced country themes with less soul-searching ones (e.g. 'Maybe Baby', 'Wake up little Susie'). Dance rhythms later became the most characteristic element in all R&B music.

"Haley was a clod. By any black standard he was amateurish and feeble. To the white world however, he was a bomb shell." (Miller, Cockrell 259)

Bill Haley was also a white artist who was exposed to black R&B music. The influence of this black music helped shape and form the sound that became known as R&R.

"Haley's records were not straight copies of any particular black style. The singer's voice was unmistakably white and the repetitive choral chants were a familiar part of many 'swing' bands. But the novel feature of Haley's style, its rhythm, was drawn from black music. Although in Haley's style the rhythm dominated the arrangements much more than it did in Negro records. Every other beat was accented" (Gillett 14). Haley's music had a novel sound and spirit, a spirit that young white teenagers could identify with. It was a style that suggested adventurousness and rebellion.

Haley's first hit was a song called 'Shake, Rattle and Roll' which had already been recorded by a black artist, Joe Turner. Haley straightened the back-beat, toned down the lyrics and generally made it less sensual. But compared to the songs of

other white artists, it was shameless in the extreme

Through this process, white R&R artists narrowed the the reference of their songs to adolescence, and simplified rhythms to a simple 2/4 with the accent on the back-beat "Haley's 'Rock around the Clock' was the first R&R record to reach the number one chart position The music featured a heavy back-beat, a 12-bar blues structure, the instrumentation of R&B and a text that encouraged adolescent rebelliousness, all characteristics of the style " (Miller, Cockrell 259)

Bill Haley possessed all the attributes that the white record industry wanted He was white, middle class, not from the South, played black R&B music, and was rebellious enough to appeal to the average white middle class teenager

Black artists were also being exposed to white popular and C&W music, and as a result of this exposure were fusing elements of their own subordinate music culture with those of white dominant music culture This fusion resulted in the black adoption of new elements, especially in the area of form Lyrics now began to express sentiments more associated with the lives of young white middle class teenagers, while the spirit of the music came predominantly from the black music tradition expressed mainly in the strong back-beat that was fundamental to the new style

In Little Richard's first recording session, for example, hours of studio 'takes' yielded nothing of interest It was only during a break, when he came across a piano and a live audience in a local bar, that Little Richard burst forth his raw black music's spirit that his producers were looking for The lyrics of 'Tutti Frutti' had originally expressed undiluted sexuality (e.g. "If it don't fit, don't force it") Needless to say, these were quickly toned down to lines like "Got a girl named Sue, she knows just

what to do" making the song acceptable to white teenage audiences, and more particularly, to their parents (cf White 49-51)

Chuck Berry, whose music style also resulted from his exposure to white popular and C&W music, was " a C&W singing black cosmetician from St Louis who played blues guitar " (Ward, Stokes, Tucker 101) who migrated North to Chicago. He was signed to the Indies record label 'Chess' which saw the commercial potential of his R&B music if he were to 'refine' it to make it more suitable for white ears

In Berry's, first song, "Maybellene", he changed the lyrics (taking the loved one, Maybellene, out of her Southern town context and placing her in a car) making them reflect young urban white lifestyles. This blending of the two spirits was to prove a very successful one for Berry. D J Alan Freed (who found his way onto the record credits) played the song until it went to the top of the R&B charts in 1955 and then broke onto the pop charts

NORMING

Between the mid 1950s and the very early 1960s the basics of R&R were established, in the course of numerous musicians recording with small independent labels (Indies) - largely in major cities - all around the United States. In practically all cases the styles that developed were " in reaction to the evolution of electrically-amplified guitars and to the emphatic back-beat from drummers " The exception to this pattern, "Vocal group rock 'n' roll", was like all the other styles tied to the rhythmic expression of black music. In this case the rhythm came not from guitar and drum, but rather from the backup singers whose particular combination of voices provided a "rhythmic and percussive impact " that attracted attention to their

records" (Gillett 31)

Beyond this rhythmic core the lyrics (as indicated in the earlier references to Little Richard's 'Tutti Frutti' and Chuck Berry's 'Maybellene') were sizably 'toned-down' and rewritten to fit the realities of white teen life. This was essential not only to appease the parents of white teens, but simply to achieve air-play in the first place. In the case of Berry's first major hit, 'Maybellene', for example, the "beat was much cruder than any (he) ever used again." It was only "Berry's clear enunciation (that) enabled his record to 'pass for white' on the radio stations that generally kept such stuff off the air" (Gillett 30-31). Similarly, 'Shake, Rattle and Roll' which Joe Turner first recorded for "the Negro market in 1954", was practically sanitised by Bill Haley for his later version. For example, Turner's lyrics,

*"Well you wear low dresses,
The sun comes shinin' through (2x)
I can't believe my eyes,
That all of this belongs to you "*

were rewritten as,

*"You wear those dresses,
Your hair done up so nice (2x)
You look so warm,
But your heart is cold as ice "*

Haley himself commented "We steer completely clear of anything suggestive! We take a lot of care with lyrics because we don't want to offend anybody" (in Gillett 20-21)

Overall the music that emerged as the first generation of R&R gave a voice to the core issues of the newly emerging youth culture. These are of course the very same concerns which have continued to drive the creation and marketing of R&R music ever since. In short, all of the musical styles and stars of early R&R gave a voice to the core teen concerns with social identity, competence, sexuality, and individuality. Central to all of these is the generational conflict regarding independence and 'freedom'.

Interestingly, the first national evidence of such a youth culture (and hence market for music) existing came not from music, but from Hollywood. It came from "two pictures in the first half of the fifties that focused specifically on generation conflicts of the time, *The Wild One* (1954) and *Rebel Without a Cause* (1955)". Just like the early R&R stars who would soon follow them, Marlon Brando and James Dean "provided figures with whom the new teenagers could identify, figures whose styles of dress, speech, movement, facial expressions, and attitudes helped give shape and justification to unrealised feelings in the audience" (Gillett 15).

The major record labels were slower than Hollywood to pick up on the vast potential of the youth market. A lot of this had to do with the role of established decision makers at the major labels. These people were highly trained professionals in terms of creating music, but also almost to a man (and they were virtually all men) hugely prejudiced against both black music and the notion that teenagers could have anything to say that was worth recording. The mid 1950s was after all the intensely conservative early years of the Cold War, and the people who were running the major music labels, not to mention the television and radio stations, had just elected Eisenhower and Nixon to the highest offices in the land. For instance, "ASCAP, the association of the 'establishment' (music) publishers... did everything it could to prevent major radio networks from playing... rock 'n' roll songs". Billy

Rose, a senior member of ASCAP, had this to say about them "Not only are most of (these) songs junk, but in many cases they are obscene junk, pretty much on a level with dirty comic magazines " (in Gillett 18-19)

As a result the early recordings - those which came to define the direction of R&R - were all done in connection with small, regional, independent labels, the 'Indies' Out of these emerged a variety of individual stars and unique recordings which, like Brando and Dean in their movie roles, connected to the core concerns of some portion of the ever growing teen audience Thus, "with Little Richard, the rock 'n' roll audience got the aggressive extrovert to enact their wilder fantasies, and his stage performance set precedents for anyone who followed him Dressed in shimmering suits with long drape jackets, baggy pants, his hair grown long and slicked straight, white teeth and gold rings flashing in the spotlights, he stood up at, and sometimes on, the piano, hammering boogie chords as he screamed messages of celebration and self-centred pleasure *Well Long Tall Sally, She's built for speed, she's got everything that uncle John needs* " (Gillett 26)

From 'The Penguins' out of Los Angeles we get the "heartfelt devotion" of first love "Earth angel (*thud*, from the drummer), earth angel (*thud*), will you be mine? (*thud*)" From 'The Platters' much the same, as Tony Williams voice "swoop(s) up to stratospheric heights declar(ing) his undying devotion in 'Only You', and (then again in) 'The Great Pretender'" Not only did such songs resonate the pangs of teen romance, but they served equally to rebel against their parents' generation "Earth Angel", for instance, "for the professionals in the industry was seen as undeniable proof that the youth of the day had lost their marbles Was the singer male or female? Where was the song (located)?" And worst of all, "the record featured the bane of all professional musicians, triplets, where the pianist just held a chord and hammered it three times on every beat, so simple, no self-respecting

musician could bear to do it " (Gillett 33-34)

From Elvis, on his early Sun recordings, we get another uniquely personal style "Singing high and clear, breathless and impatient matching the urgent rhythm (of Bill Black's bass and Scotty Moore's guitar) (he varied) his rhythmic emphasis with a confidence and inventiveness that were exceptional for a white singer The sound suggested a young white man celebrating freedom, ready to do anything, go anywhere, pausing just long enough for apologies and even regrets and recriminations, but then hustling on toward the new " (Gillett 28)

Finally, to conclude, these examples of variations within the common spirit and form of early R&R, we have the "'Chicago rhythm and blues' style of Chuck Berry, perhaps the major figure of rock 'n' roll" (Gillett 30) After his breakthrough with 'Maybellene', Berry "amplified the black half of his artistic personality in three of (his next) four singles" None of them reached the ears of the white teen audience Only the fourth, "'Roll Over Beethoven', which introduced Berry's other half, the rock 'n' roller, achieved any success Chuck got the message His next release, 'School Day', was another complaint song, but this time the complaints were explicitly adolescent and were relieved by the direct action of the rock 'n' roller " (Christgau 63) After that, with his electric guitar and "limited but brilliant vocabulary of riffs, (he) came to epitomise rock 'n' roll" "By adding blues tone to some fast country runs, and yoking them to a R&B beat and some unembarrassed electrification, (Berry) created an instrumental style with biracial appeal" Not only did "every great white guitar group of the early Sixties imitate (that) style", the next generation of rockers (which included Dylan), and every subsequent one, also followed his lead in writing their own lyrics (Christgau 62)

SUMMARY

In summary, the formation of the R&R tradition in music came about as a result of the cultural collision between young blacks and whites first in the Southern States of America in the 1950's. The black tradition of R&B music brought to the collision the spirit of the music expressed in characteristics such as a strong back-beat, a personalised vocal style using groans, rasps etc., and the 12-bar chord progression which dominated all blues. The white music tradition of C&W brought to the collision the ballad story-telling song-form which became R&R's most commonly used form.

The developments in communication technologies, especially those of radio and records, influenced the dispersal of music, enabling R&R to become a global music tradition. The development of instrument technology (i.e. the amplification and electrification of instruments, along with developments in sound recording technology) gave R&R artists new sound options and challenged them to think along new structural and compositional lines.

New ways of playing

A new way of playing emerged which saw the back-beat straightened to give a more positive, concrete support to song arrangements. One instrument came to dominate (i.e. firstly the piano but later the guitar) which was responsible for expressing the electrifying energy that artists were generating. Performances became the main focus for attention on which the artist stamped his own individual character and style thus aiding his rise to stardom, e.g. in the case of Little Richard, "We decided that my image should be crazy and way-out so I'd appear in one

show dressed as the Queen of England and in the next as the Pope" (in White 65-66)

New ways of thinking

A new way of thinking grew out of this new way of playing in which artists no longer saw themselves as a small cog in the Tin Pan Alley wheel but instead as the creators of their own product. To this end, they began to write their own songs (e.g. Buddy Holly, Chuck Berry) and take a hand in arrangements. Small production groups formed in place of the large corporate body. For example, Elvis worked with Sam Phillips and his session group selecting songs and tailoring productions to suit his developing image.

Form

The form that R&R took came from white American culture's tradition of popular and C&W music. The characteristics of this form were lyrics which dealt with white teenage concerns and lifestyles. The ballad story-telling song form was used to express such sentiments.

The quartet became the basic musical unit consisting of a drummer, a lead guitarist, a rhythm guitarist and a bass guitarist with one of these taking on the role of lead singer while the others supplied backing vocals. This form was strongly influenced by white country, and country & western groups. Perhaps the most important influence came from the newly emerging phenomena of white suburban America of the mid 1950's (i.e. the teenage peer group - the make-up or form of a band was modelled on these small peer groups with their tastes and styles in dress and music).

Spirit

The teenage group adopted the spirit of black R&B music for it expressed their mood. These teenage cliques of adolescent males spent their time competing and co-operating with each other in sorting out their identities, status, and especially their sexuality with regard to teenage girls for whom they were constantly 'performing'. They were also engaged in the newly emerging and continual 'psychological' rebellion against their parents' and teachers' values and life-styles (cf. Santrock 381-385).

The spirit of R&R, coming from black American culture's R&B music expressed this spirit. Musically this, above all, was exemplified by the use of the strong back-beat. Rhythm was a fundamental characteristic of all black music and the fusion of this element into the new tradition of R&R gave it a spirit of vitality and energy.

The black style of singing was also fused into the new emerging tradition. R&R artists began to sing with groans and rasps in order to give their music a more passionate and compelling spirit. They also began to improvise around the given melody, a black practice, which gave their singing style a more individualistic character. It was not just a new musical style but a new attitude to life - work, pleasure, the past and the future (cf. Ward, Stokes, Tucker 64-71). This new attitude to life was expressed in music by artists who personified rebellion - their music was loud and sensuous and their performances said everything that could be said about their approach to life (cf. 'New ways of playing', above).

Rejection

"In the 50's Encyclopaedia Britannica described R&R as 'Insistent

savagery’.” (Orman 67)

The older generation were generally unsympathetic to teenage styles and tastes. This is not surprising considering teenage tastes were designed to run contrary to parents' tastes. The older generation for example considered Elvis to be a bad influence on their children's morality, this resulted in the banning of television cameras from shooting him from below the waist. Elvis himself told how the old folk in his town considered black R&B music to be the devil's music. Little Richard experienced similar rejection when playing in El Paso, Texas, "police came in and stopped the show, stopped the band and everything and put Richard in jail. He had this long hair, and he was shakin' about up on the stage, you know? Elvis Presley was due to be coming into that town a couple of weeks later, and the police told Richard, 'If you see that guy Elvis Presley tell him we're gonna lock *him* up, too, cos he has long hair' " (in White 67).

Technology

Developments in instrument technology strongly shaped the influence of R&R music, in particular, the electric guitar with the large array of effects, pedals and sound-altering processes and techniques, offered R&R artists new musical possibilities. Communication technology, in the form of records, radio and television made possible the dissemination of R&R on a global

CHAPTER 5 DIGITAL MUSIC - NEW TRADITIONS IN MUSIC?

The first part of this chapter (Pre-musical Collision) will consider the characteristics of two cultural traditions, i.e. classical and R&R, whose music has developed in conjunction with the use of analog technologies (instrument and production). Following this we will look at two aspects of Postmodernism which has become the dominant culture of the late 20th century. These are "Postmodernism and Digital Technology", and "Postmodern Cultural Forms".

The second part of the chapter (Musical Collision) will present an analysis of the 'takeover' (see Chapter 1, pp. 6-7) of the classical and R&R traditions with their analog technology by Postmodernism and its digital technology, arguing that this 'takeover' has resulted in the emergence of two new musical traditions, i.e. 'Electro-acoustic', and 'Technology-R&R'. As in the earlier analyses of jazz, classical, and R & R, the collision process will be analysed in two sections, i.e. "Gradually Evolving Collision" and "Intense Collision".

I. PRE-MUSICAL COLLISION

For a conceptual understanding of the different cultural traditions associated with classical and R&R music, this discussion will rely on the work of the French sociologist Pierre Bourdieu (1986). His "monumental study", Distinction: A social critique of the judgment of taste, first published in 1979, presents a huge amount of data and analysis relevant to the role of class and education in creating differences among people in terms of what "they find aesthetically pleasing and what they consider tacky, merely trendy, or ugly" (Bourdieu back-cover).

Bourdieu's distinction between the "Aesthetic Disposition" and the "Popular Aesthetic" seems particularly appropriate to the present discussion of the cultural bases for the classical and R&R music traditions. According to Bourdieu, the "Aesthetic Disposition" toward making judgments of taste "tends to bracket off the nature and function of the object represented" (e.g. in music, art) "and to exclude any 'naïve' reaction - horror at the horrible, desire for the desirable - along with all purely ethical responses, in order to concentrate solely upon the mode of representation, the style, perceived and appreciated by comparison with other styles" (Bourdieu 54). In contrast to the popular reaction which is its "very opposite", the "aesthetic" introduces a distance, a gap - the measure of his distant distinction - *vis-a-vis* 'first degree' perception, by displacing the interest from the 'content', characters, plot etc., to the form, to the specifically artistic effects which are only appreciated relationally, through a comparison with other works which is incompatible with immersion in the singularity of the work immediately given" (Bourdieu 34).

The "Popular Aesthetic" in contrast is "based on the affirmation of continuity between art and life". It "implies (a) subordination of form to function", and is tied to a "deep-rooted demand for participation", for experiencing in, e.g. art or music, the "passions, emotions and feelings which *ordinary* people put into their *ordinary* existence" (Bourdieu 32).

Not surprisingly the "Popular Aesthetic" is common to the "working class and middle-class fractions least rich in cultural capital", while the likelihood of having an "Aesthetic Disposition" (or "Legitimate Taste") "increases with educational level and is highest in those fractions of the dominant class that are richest in educational capital" (Bourdieu 16, 32).

Bourdieu argues that the process of acquiring either 'aesthetic' involves intensive and sustained influence by two related but distinguishable variables, i.e. class and education. In trying to account for the "close relationship" he found "between academic capital (measured by duration of schooling) and knowledge or practices in areas as remote from academic education as music or painting" (Bourdieu 18), Bourdieu argues that "academic capital is in fact the guaranteed product of the combined effects of cultural transmission of the family and cultural transmission by the school (the efficiency of which depends upon the amount of cultural capital directly inherited from the family)" (Bourdieu 23)

How does this happen? It starts in the family. "Family heirlooms not only bear material witness to the age and continuity of the lineage and so conserve its social identity, which is inseparable from permanence over time, they also contribute to transmitting the values, virtues and competencies which are the basis of legitimate membership in bourgeois dynasties. What is acquired in daily contact with ancient objects, by regular visits to antique-dealers and galleries, or more simply, by moving in a universe of familiar, intimate objects 'which are there', as Rilke says, 'guileless, good, simple, certain', is of course a certain 'taste', which is nothing other than a relation of immediate familiarity with the things of taste. But it is also the sense of belonging to a more polished, more polite, better policed world, a world which is justified in existing by its perfection, its harmony and beauty, a world which has produced Beethoven and Mozart and continues to produce people capable of playing and appreciating them." (Bourdieu 76-77)

The "school also helps (to a greater or lesser extent, depending on the initial disposition, i.e., class of origin)" "Through its value-inculcating and value-imposing operations, the school helps to form a general, transposable disposition

towards legitimate culture, which is first acquired with respect to scholastically recognised knowledge and practices but tends to be applied beyond the bounds of the curriculum, taking the form of a 'disinterested' propensity to accumulate experience and knowledge which may not be directly profitable in the academic market " (Bourdieu 23) Such extensions of the formal academic curriculum are "implicit(ly) guarantee(d)" by insuring (through, e g , "teachers' conscious or unconscious expectations and peer-group pressure") that students participate in "activities as alien to the explicit demands of the institution as keeping a diary, wearing heavy makeup, theatre-going or dancing, writing poems or playing rugby " (Bourdieu 25-6)

At the end of the day, schooling alone is never enough to attain the true "Aesthetic disposition" What crucially distinguishes the "pure gaze" from the "vulgar" is what Bourdieu terms "Distance from Necessity" "To explain the correlation between educational capital and the propensity or at least the aspiration to appreciate a work 'independently of its content' and more generally the propensity to make the 'gratuitous' and 'disinterested' investment demanded by legitimate works, it is not sufficient to point to the fact that schooling provides the linguistic tools and the references which enable aesthetic experience to be expressed What is in fact affirmed in this relationship is the dependence of the aesthetic disposition on the past and present material conditions of existence which are the precondition of both its constitution and its application and also of the accumulation of a cultural capital which can only be acquired by means of a sort of withdrawal from economic necessity" (Bourdieu 53-4) The "conditions of existence, which are the precondition for all learning of legitimate culture, whether implicit and diffuse, as domestic cultural training generally is, or explicit and specific, as in scholastic training, are characterised by the suspension and removal of economic necessity and by

objective and subjective distance from groups subjected to those determinism's " "In order words (having the aesthetic disposition) presupposes the distance from the world which is the basis of the bourgeois experience of the world " (Bourdieu 54)

With relation to the present thesis' concerns it is expected that the cultural tradition sustaining classical music will be distinguished from that sustaining R&R by just such differences in their "distance from necessity" and hence in the accumulation of "cultural" and "academic capital", underpinning the associated "aesthetic", i.e. "the aesthetic disposition" with the classical tradition, and the "Popular aesthetic" with the R&R tradition. In both cases this discussion will focus on musicians at the heart of each tradition to illustrate the application of Bourdieu's analysis

CLASSICAL TRADITION

Sosniak's (1985) study of 21 American concert pianists under the age of forty (Sosniak 19) gives a fair picture of the cultural and educational capital involved. All of these pianists were Caucasian, 80% were middle class, and virtually the same percentage were practically raised on classical music. Four of the families had a parent who was a professional musician with a symphony orchestra. In five others, a parent was actively playing music as a "hobby", a "very serious" hobby which involved "practic(ing) regularly, sometimes arrang(ing) informal chamber music groups, and generally (finding) a great deal of pleasure and relaxation in their music making". In eight others there was plenty of classical music in the home - e.g., FM classical radio was "on all day" (Sosniak 21-3)

By the age of six, 76% of these future pianists were seriously "taking piano lessons" (Sosniak 27), i.e. "spending between forty-five and ninety minutes a day, six days

a week, at the keyboard" (Sosniak 34), working their way through, e g , "the John Thompson series of music books", learning "to play pieces from beginning to end", with their teacher letting them know when "a piece was finished by putting a star at the top of the page" (Sosniak 33)

A few years on with the groundwork behind them, we find these future pianists seriously learning about form, i e the "aesthetic disposition" "By the age of twelve or thirteen, (they) typically were working with teachers who were recognized experts in at least their part of the country, well connected and well respected in music circles and well versed musically" (Sosniak 47-8) These teachers "were very specific about what they wanted" A few examples would include "the minutest movement would be discussed Just how you held your hand", doing "things over and over and over and over to make them as beautiful as possible", doing "Fingering phrasing, sound quality, the shape of the hand, articulation", "Czerny and Brahms exercises, , Chopin etudes", doing "the same piece nine, ten, eleven, twelve weeks in a row, going over it note by note, phrase by phrase, 'until I got it right'" (Sosniak 47-49) Or as Bourdieu (1986) might put it, these young pianists were acquiring that "propensity to make the 'gratuitous' and 'disinterested' investment demanded by legitimate works" (Bourdieu 53-4) They were acquiring that "sense of belonging to a more polished, more polite, better policed world, a world which is justified in existing by its perfection, its harmony and beauty, a world which has produced Beethoven and Mozart and continues to produce people capable of playing and appreciating them " (Bourdieu 76-77)

R&R TRADITION

A cursory glance at the biographies of the early legends of R&R is all that is needed

to document the vast differences in “cultural” and “educational capital” between the musicians at the heart of the classical and R&R traditions. Elvis was the son of a “common labourer” whose father “didn’t have any trade”, just “mostly drove trucks” (Guralnick 24). Little Richard, the son of a “a bartender” and “seller of bootleg whiskey”, left home as a “young teenager” to tour with the likes of “Doctor Hudson’s Medicine Show” and “Sugarfoot Sam from Alabam” (Winner 54). Chuck Berry “served time (for) robbery”, “acquired a degree in hairdressing and cosmetology”, took “a job on an auto assembly line”, and was “working as a beautician” before “Maybellene” hit the charts in 1955 (Christgau 61, 66).

While not all R&R stars have been driven by the sort of economic necessity as say Elvis, or Hendrix, or the Beatles, even Fats Domino, Mick Jagger, Frank Zappa or Madonna would scarcely have the type of “educational capital” common to Sosniak’s pianists, i.e. the kind of “capital” which allows you to “bracket off the nature and function of (the music being heard) to exclude any ‘naive reaction’ (to it) along with all purely ethical responses, in order to concentrate solely upon the mode of presentation, the style, perceived and appreciated by comparison with other styles” (Bourdieu 54). As one of Sosniak’s pianists put it with reference to studying with a “master teacher” “the distinction of becoming a musician became clear every time I took a lesson because we talked about music. We began to try to become more intellectual about how phrase structure (worked) and what it meant and what you were trying to say, rather than how do you accomplish this at this instrument” (Sosniak 62). This classical approach would never be confused with the “continuity between art and life”, the “demand for participation”, for the “passions, emotions and feelings (of) ordinary people” which, for example, “the *Killer*” might bring to his performance, wrapping up “thirty brutal minutes of nonstop rock” by torching the piano with lighter fluid (Miller 76, Bourdieu 32).

POSTMODERNISM

Postmodernism as a Dominant Culture

Postmodernism in Kaplan's words, "is linked to the new stage of multinational, multi-conglomerate consumer capitalism, and to all the new technologies this stage has spawned" (Kaplan 4). This stage, as discussed in chapter one, is based on basic transformation of late twentieth century capitalism from "rigidities of Fordism" to what Harvey calls "flexible accumulation" (Harvey 41). This transformation is "characterised by entirely new sectors of production, new ways of providing financial services, new markets, and above all, greatly intensified rates of commercial, technological and organisational innovation" - innovation which has resulted in worldwide experience of an "intense phase of time-space compression that has had a disorienting and destructive impact upon political-economic practices as well as cultural and social life resulting in the emergence of new dominant ways in which we experience time and space" (Harvey 41). By the 1980s this change in our experience of time and space, or "the structure of feeling" (Harvey 41) had permeated all areas of culture. In the process the culture of modernism had been largely supplanted by that of postmodernism.

In cinema, for example, the likes of *Citizen Kane*, in which "a reporter seeks to unravel the mystery of Kane's life by collecting multiple reminiscences and perspectives from those who had known him", had given way to the sort of postmodern format we find in, for example *Blue Velvet*, where the "central character revolves between two quite incongruous worlds - that of a conventional 1950s small-town America with its high school drugstore-culture, and a bizarre, violent, sex-crazed underworld of drugs, dementia and sexual perversion" (Harvey 48).

Equally in the field of town-planning the modernist tendency to “look for ‘mastery’ of the metropolis as a ‘totality’ by deliberately designing a ‘closed form’ has given way to the postmodernist approach to viewing the urban process as ‘uncontrollable and ‘chaotic’, one in which ‘anarchy’ and ‘change’ can play in entirely ‘open’ situations” (Harvey 44) The 1960s’ efforts to develop large scale, comprehensive, and integrated planning models have been replaced by approaches which “seek out pluralistic and organic strategies which see urban development as a ‘collage’ of highly differentiated spaces and mixtures” The “grandiose plans of modernism have been replaced by the ‘collage city’ of postmodernism” (Harvey 40)

Likewise the accelerated pace of production under postmodernism has required a work force that operates with greater flexibility with a “ move away from regular employment towards increasing reliance upon part-time temporary or sub-contracted work arrangements” (Harvey 149) These flexible employment arrangements have resulted in a work-force that is “ expected to be adaptable, flexible, and if necessary, geographically mobile” (Harvey 149) Partaking in such a work-force renders the individual’s sense of identity as “ ‘subject’ (i.e. vulnerable) open to indeterminacy of people and the external environment” (Deetz 2) In his general life too the individual experiences a vulnerability, a lack of permanence, of continuity of stability The alienated individual of modernism has given way to the fragmented individual of postmodernism An individual living in a world characterised by “inherently incomplete social structures and ever unstable relationships” (Mahajan 45) This shift is reflected perhaps most tellingly in literary fiction, where the modernist perspective of trying to “get a better bearing on the meaning of a complex but nevertheless singular reality” has given way to “the foregrounding of questions as to how radically different realities may coexist, collide, and interpenetrate” where “characters often seem confused as to which world they

are in, and how they should act with respect to it" (Harvey 41).

Happily for multinational corporate capitalism these individual vulnerabilities; this sense of fragmentation with lack of permanence, continuity, and stability in a world where radically different realities "... may coexist collide, and interpenetrate" has a solution ever at hand - i.e. "... the constant supply of consumer goods provide by the market, which provides a framework, a focus, according to which an individual's identity can be continually replenished" (Miles 150). In short the individual's behaviour, like the dynamics of postmodern culture, in Jameson's words "... replicates or reproduces the logic of consumer capitalism" (Jameson, 1988, 28-29).

Postmodernism and Digital Technology

In considering the role of transnational corporations in driving the development of digital technology, which is now at the core of postmodern experience (see for example, Jameson, 1992, 36-38 and Henderson 3-6), it is worth noting Marx's observation regarding "the 'coercive laws' of market competition which force all capitalists to seek out technological and organisational changes that will enhance their own *vis-a-vis* the social average, thus entraining all capitalists in leapfrogging processes of innovation ..." (Harvey 105). Thus in the postmodern "world of quick-changing tastes and needs and flexible productions systems access to the latest technique, the latest product, the latest scientific discovery" is often the key to "seizing an important competitive advantage" (Harvey 159). Not surprisingly, with the acceleration of "flexible accumulation" (versus the "relatively stable world of standardised Fordism") since the mid-1970s, "organised knowledge production has expanded remarkably" (Harvey 159-60). At the heart of this expansion has been the conversion of "many university systems in the advanced capitalist world from

guardianship of knowledge ... to ancillary production of knowledge for corporate benefit" (Harvey 160). Of particular relevance to the present discussion is the role of universities in the accelerated growth of digital technology, as exemplified, for example, by the "celebrated Stanford Silicon Valley or the MIT-Boston Route 128 'high tech' industry configurations", configurations that "are quite new and special to the era of flexible accumulation (Harvey 160).

With regard to the music industries, the role of corporate pursuit of sales/market share in driving the development of digital technology can be easily illustrated with reference to two key components of the postmodern musical experience, i.e. MIDI and the music video.

MIDI (Musical Instrument Digital Interface) is a "set of machine protocols" which "enable different components in any music-making or recording set-up, such as synthesisers and sequencers, to communicate with each other and with general purpose microprocessors. MIDI communications systems enable, for example, a computer to *control* a keyboard or drum machine, or to *receive*, store and manipulate data generated by such an 'instrument'. Musical information (textures, rhythms, melodies, tempi, etc.) is coded and stored in digital form, and hence can be manipulated and edited like other kinds of computer data" (Durant 181). According to Durant (182), "perhaps the most significant technical development" with regard to MIDI occurred in 1981, and was "not in fact a technical development at all, but a commercial decision". This was the agreement "between the company Sequential Circuits, manufacturers of Prophet synthesisers, and the companies Oberheim and Roland, on the question of a 'system standard' that would specify digital music technology protocols (i.e. MIDI)." By 1983 the protocols (now agreed between US and Japanese manufacturers) were "updated to MIDI 1.0, a language deemed by its

designers sufficiently under-specified to facilitate software innovation rather than simply the use of existing software " Not surprisingly, at the heart of the 'system standard' agreement was a "pricing constraint" that "imposed design restrictions on the technical specifications of the interface" What followed of course was a boom in the "design and production (and sales) of a wide range of relatively cheap, digitally-based musical instruments" (Durant 182)

As with MIDI commercial considerations have been central to the development of the musical video and the digital technologies associated with it Right from the outset, i.e. EMI's production of a "promotional video to accompany Queen's *Bohemian Rhapsody* single" in 1975, the development of the music video has been driven by producers' "reliance on innovations in effects technologies to stimulate and retain audiences" (Hayward 128) In the case of Queen, EMI decided to produce a "big budget" video to increase sales after *Bohemian Rhapsody* had peaked in the mid 'Top Ten' of the British singles charts " The "aim was to provide a visual *impact* for the song which would distinguish it from other singles" then being presented in the "relatively formulaic" style used by the "Top of the Pops's (in-house) production team " Key to this was the use of "'high tech' visual effects which used feedback to extend and distort images of singer Freddie Mercury and the band in a manner only previously familiar to British TV viewers through the similarly 'high-tech' opening visual sequences of the BBC Science Fiction show *Doctor Who*" The effect was "spectacular" *Bohemian Rhapsody* shot to number one and stayed there for over two months (Hayward 128-9)

Following the success of the EMI venture promotional videos have become standard vehicle of all major labels to create, reinforce and even change the "established images" of artists and bands By 1984-5 the "American MTV network

developed into a major broadcasting service with a significant share of the national youth audience", and in the process accelerated the use of the music video to promote singles. Essential to the marketing success of these videos has been the development of a wide "range of new image processing and effects technologies, particularly various types of animation, graphics, video editing". Not surprisingly the accelerated pursuit of "increasingly hi-tech" imaging has continued ever since. (Hayward 129, 132,137)

Postmodern Cultural Forms

Four postmodern cultural forms will be considered here. Before considering them individually, it is worth noting that two aspects of the postmodern experience are basic to understanding the nature of postmodern cultural forms, and common to both is the fragmentation of life inherent to the postmodern condition. These two aspects might simply be described as the 'macro' experience of, to paraphrase Jameson, continually consuming "ever fresh waves of ever more novel seeming goods" (Jameson, 1992, 130) and the 'micro' experience of fragmented work and social relations.

With regard to the 'macro' experience of fragmented work and social relations, Harvey notes that the "enhanced powers of flexibility and mobility" characteristic of postmodernism have increased the power of employers relative to labour (Harvey 147). "Organised labour (has been) undercut by the reconstruction of foci of flexible accumulation in regions lacking previous industrial relations (i.e. third world), and by importation back into the older centres of the regressive norms and practices established in these new areas" (Harvey 147). Thus, for example, there have been substantial reductions in the "core group" of permanent full-time employees and

increasing reliance on “much more flexible work regimes and labour contracts” (Harvey 150) including the likes of “short term contracts, public subsidy trainees, delayed recruitment, job sharing, and part-timers” (Harvey 151) The result of such ‘flexibility’ is increasing fragmented changing, and often unpredictable life experience both on and off the job for the vast majority of the work-force

With regard to the ‘micro’ experience related to the daily consumption of goods and services, in Harvey’s terms, the “relative stability of Fordist modernism has given way to all the ferment, instability, and fleeting qualities of a postmodernism that celebrates difference, ephemerality, spectacle, fashion, and the commodification of cultural forms”, and with it, the “mobilisation of all the artifices of need inducement and cultural transformation that this implies” (Harvey 156) In the process the “turnover time” for commodities has plummeted from the “five to seven year half-life of a typical Fordist product” to the likes of “three years in the textile and clothing industries” and a mere eighteen months for “video games, computer software and other types of ‘thought-ware’” (Harvey 156) In short “cultural eclecticism has become a way of life one listens to reggae, watches a Western, eats McDonalds’s food for lunch and local cuisine for dinner, wears Paris perfume in Tokyo and ‘retro’ clothes in Hong Kong” (Denzin 5) and every night watches “all the divergent spaces of the world assembled as a collage of images upon the television screen” (Harvey 302)

Not surprisingly the cultural forms which have emerged in relation to such a fragmented, ephemeral, ever “shifting world” (Harvey 302) are those best suited to accommodate the “two divergent sociological effects of all of this on our daily thought and action” (Harvey 302) On one hand these cultural forms reflect, even maximise this experience, allowing us to “take advantage of all of the divergent

possibilities" (Harvey 302). Included here are the forms of 'time/space compression', 'surface/simplicity', and 'pastiche'. These cultural forms are themselves, as McHale observes with regard to postmodern fiction, "mimetic" of the "ephemerality, collage, fragmentation, and dispersal" that characterise the postmodern world (Harvey 302). These forms are easily illustrated with reference to a variety of texts. Needless to say, any given text will typically employ multiple forms within it.

Time/space compression

Denzin (155), who examined the use of postmodern forms in the films of David Lynch, argues that 'time/space compression' is perhaps the most significant form of postmodern culture - a form in which the boundaries between the past and present have been blurred; a form where the future does not exist, where all events take place in the perpetual present. Popular culture of the past, especially film and pop music (1950s' and 1960s' R&R) now define the present. Noisy, bright coloured television ads are interrupted by the soft nostalgia of an old black-and-white film, as film stars from the fifties sell today's products. A consequence of time/space compression is that all past and present forms and styles are instantly available, leading to an overabundance of choice. In Jameson's words, this in turn leads to a "... world in which stylistic innovation is no longer possible, all that is left is to imitate dead styles, to speak through the masks and voices of the styles in the imaginary museum" (Jameson, 1988, 17).

Surface/simplicity

With regard to 'surface/simplicity' the postmodern approach to text/images emphasises textual elements as they are currently experienced in relation to the array of other elements surrounding (and hence contextualising) each. This is in

contrast to the prior modernist concern with depth and complexity, with the use of successive elements/narrative structures to further elaborate a complex and gradually developing and meaningful whole. Jameson's discussion of art video entitled 'AlienATION' (Jameson, 1992, 79-83) provides a thorough illustration of this form in action. The flow of images includes, to cite a few examples, "experimental mice, voice-overed by various pseudoscientific reports and therapeutic programmes (how to deal with stress, beauty care), then science fiction footage (including monster music and camp dialogue), mostly drawn from a Japanese film, *Monster Zero* (1965)". This is followed by a "rush of image materials" including "optical effects, children's blocks and erector sets, reproductions of classical paintings, as well as mannequins, advertising images, computer print-outs cartoon figures rising and falling (including a wonderful Magritte hat slowly sinking into Lake Michigan), sheet lightning, a woman lying down possibly under hypnosis, etc a child on a big wheel and a few pedestrians carrying groceries, a haunting closeup of detritus and children's backs on the lakeshore (in one of which the Magritte hat reappears)". As Jameson notes, the video "works". It "can be seen again and again" simply viewed as it inevitably must be at a 'surface' level, in terms of the "perpetual present" of the text, much like a "plot-less novel" in which the viewer "tries to sort the material out into thematic blocks and rhythms to re-punctuate it with beginnings and endings, with graphs of rising and falling emotivity, climaxes, dead passages, transitions and the like". Only here, in contrast to the familiar modernist form with its emphasis on developing complete and complex narrative wholes, the viewer's "reconstruction of these overall formal movements turns out differently every time we watch the tape".

Pastiche

Miming and imitation are central to 'pastiche', but unlike parody there is no "ulterior

motive" involved. As Jameson puts it, "pastiche is blank parody, parody that has lost its sense of humour". It might involve, for example, "the imitation of a peculiar or unique style, the wearing of a stylistic mask, speech in a dead language" (Jameson, 1988, 16). In pastiche elements from past and present are often combined, unrelated elements are placed side by side to convey a text. No judgments are made of any of the elements. All are allowed to coexist in all their stark differences. Referring to MTV, Kaplan states that pastiche is "a kind of art that is anti-essentialist, plural, where discourses are not hierarchically ordered, where sex and other differences are transcended, where the metaphysical category of difference no longer exists" (Kaplan 33). David Lynch's film *Blue Velvet* (1986) offers a clear example - "cars from the 1950s, 1960s, 1980s (drive the same streets) sophisticated 1980s' computerised medical equipment is shown in a late forties' hospital room, and a scene from a 1950s' movie flashes across a black-and-white TV screen" (Denzin 75).

Nostalgia

The second, directly opposite response to the fragmentation of postmodernism can, in Harvey's terms, probably "best be summed up as a search for personal or collective identity, a search for moorings in a shifting world" (Harvey 302). This search "for roots" (Harvey 303) is of course readily and profitably accommodated by the production and marketing of nostalgic images. Whether real, "tampered or fake the photograph, the document, the view, and the reproduction become history precisely because they are so overwhelmingly present" (Harvey 303). This 'nostalgia' form, provides a sense of continuity, connection, even identification with a "historical tradition" through the continuous construction and presentation of images of an "illusory past" (Harvey 303). In *Blue Velvet*, for example, David Lynch has "framed the film with rock sounds so as to appeal to a 1980s' adult generation

that still venerates the music of its adolescence" (Denzin 76-79) In one of the most violent scenes of the film Roy Orbison's song 'In Dreams' is played, supplying a reassuring backdrop "This is a film which evokes, mocks, yet lends quasi-reverence to the icons of the past" (Denzin 75) Nostalgia is of course often combined with other postmodern forms Jameson, for example, discusses "Pastiche in nostalgia mode" (Jameson, 1988, 18) This is where elements of the past are recalled so that the audience can re-live this known, reassuring experience He uses as an example the film *Star Wars* which "re-invents the 1930s-1950s American hero 'Buck Rogers' model *Star Wars* re-invents this experience in the form of a pastiche" (Jameson, 1988, 20) Not surprisingly, the nostalgia form is often manipulated for political purposes, be they big or small For example, Ronald Reagan and his public relations managers "appealed to a kind of nostalgia utopianism" to justify the US invasion of Grenada They "deployed precise narrative and imagistic strategies clear scenarios, manichean characterisations, fast-paced action, and minimal thought - in short, the conventional array of devices of the Hollywood fiction film with which Reagan had been associated in the forties Grenada, for example, was cast as the damsel in distress" (Kaplan 139)

Common to all four of these postmodern cultural forms is the use of 'collage/montage' in which fragments of text/image out of "different times and spaces are superimposed to create a simultaneous effect" (Harvey 21) An effect whose "inherent heterogeneity stimulates us", in Derrida's words, "to produce a signification which (can) be neither univocal nor stable" (in Harvey 51) This effect is inevitable because "each cited element" in Derrida's terms, "breaks the continuity of the discourse and leads necessarily to a double reading that of the fragment perceived in relation to its text of origin, that of the fragment as incorporated into a new whole, a different totality" Moreover 'the effect' (occurring in relation to any of

the four cultural forms cited above), is of course, virtually 'mimetic' of the postmodern condition itself, i.e. it "calls into question all the illusions of fixed systems of presentation" (Harvey 51, 302)

Finally, it should be noted that all four of the postmodern cultural forms are ideally suited to the capacities of digital technology (as discussed earlier) to continually access, store, edit, re-work, and produce virtually any imaginable form of text

II. MUSICAL COLLISION

SOURCES OF DATA

Since the evidence presented thus far in the present chapter indicates that a collision between Postmodernism (with its associated digital technology and cultural forms) and the existing analog musical traditions of classical and R&R is currently in progress, it was decided to combine several sources of information in studying this process. These are (1) research findings currently or recently reported in relevant books and academic journals, (2) information available from relevant web-sites on the World Wide Web (the Web), and (3) interviews with Irish musicians currently involved with Electro-acoustic or Technology-R&R music. The rationale and method used in selecting and interviewing these musicians is elaborated below.

Interview Rationale

Aside from the obvious need to have interviewees from both Electro-acoustic and Technology-R&R, there was the further need to have both older and younger musicians represented in both areas. In particular the older musicians were those whose formative years as musicians (i.e. pre- to late-teen years) occurred prior to the availability of synthesizers in the late 1970s. The younger musicians' formative years would have been after this time, i.e. during the 1980s when MIDI and subsequent digital 'instruments' were becoming widely available.

Having both age groupings was important in relation to the theoretical concerns of this thesis for several reasons. For one thing having both older and young musicians allowed the interviews to cover a much wider time period in terms of the development of both analog electronic and then digital musical technology. It also meant that different perspectives on the development of both technology and music would be available.

For example, someone who has spent ten years playing electric guitar as a R&R musician is going to bring a different perspective to the emergence of the synthesizer than is a 12 year old who is given one for Christmas.

Finally, comparing the views of the older and younger interviewees within each area (Electro-acoustic or Technology-R&R) was specifically relevant to the theoretical issue of 'rejection' in regard to the emergence of a new musical tradition. It was expected that the older musicians, having developed their ways of playing and thinking about music (as well as musical identities) within the older established classical or R&R traditions (with their analog instruments), would tend to 'reject' the

emerging digital technologies of the 1980s with their new ways of playing and thinking about music. For the younger musicians, whose formative years coincided with the development of these digital technologies and their postmodern musical forms, no such rejection was expected.

The method of comparing 'age cohorts', first developed by Glen Elder in his 1974 study, *Children of the Great Depression*, was used here in selecting the younger and older cohorts of musicians. Elder's original study compared many aspects of the social, economic, and psychological development of two cohorts of American adults who as children had lived through the 'Great Depression' of the 1930s. The older of his two cohorts (born 1920-21) differed in many ways from the younger (born 1928-29). For present purposes the many findings of this extensive study can be summarised by pointing out that "the particular sequence of historical conditions (i.e., of) prosperity, depression, and war - their variable timing in the life course - distinguishes the developmental histories of the two cohorts" (Elder, Modell, and Parke 17).

For present purposes the only 'historical condition' of consequence is the introduction of digital musical technology in the 1980s. Hence the older cohort of interviewees were selected from musicians who were born in the early-mid 1950s, while the younger cohort were born in the early 1970s. As a result the older cohort would have gone through their formative years as musicians during the early 1960s to early 1970s, while the younger cohort would have been preteens and teenagers during the mid 1980s and early 1990s.

Interview Method

Twenty-two Irish musicians currently involved in either Technology-R&R or Electro-acoustic music were interviewed (See Appendix 2 for names and further information) The interviews were taped and typically about 45 minutes in length They took the form of a general discussion which the interviewer guided through specific areas The following topics were covered with regard to the interviewee

Own development

Introduction to musical training

First compositions

Exposure to the computer and sound technology

Experience in learning to 'play' the computer

How playing affected composing

View of new music

Firstly, in the case of the older groups in both the classical and R&R traditions, the opinions of the interviewee towards, and the understanding of, the early use of music technology in their tradition, were discussed These older groups were young musicians when these developments were taking place The objective was to sketch the social and musical landscape, to identify attitudes, skills and practices during these early formative periods and to identify changes that have taken place both technically and conceptually, within their traditions Technological areas such as multi-track recording, signal processing, tape editing, and early use of synthesizers, were discussed The influence of communication technology on the dispersal of music was also discussed Social issues, such as attitudes of the day towards classical and R&R cultures, were discussed It was judged to be of

importance to learn about the interviewees' attitudes to the use of technology in music in the earlier days of R&R and Electro-acoustic and contrast them with their attitudes to today's technological developments, to see if any shifts had taken place

With both groups, the use of technology in music today was discussed in detail in order to establish the interviewees knowledge, skills and attitudes towards technology and the type of uses he put this technology to in his everyday production work. Areas such as the role of the computer in composition, new ways of playing music using technology, how this technology is affecting attitudes towards composition and music-making generally, the expression of human emotions through the medium of technology, live performance, the role of the video and its link with audio and how technology is affecting the dispersal of music

The over-all objective of the interviews was to see if patterns, similar to those found in the development of jazz, classical and R&R, were occurring

Interviewees were also asked to provide, if possible, a sample cassette tape (fn 2). The tapes were analysed for evidence of postmodern characteristics in 'form' (e.g., pastiche) and subculture characteristics in 'spirit' (e.g., rebellious spirit in Technology-R&R)

GRADUALLY EVOLVING COLLISION

In prior examinations of the formation of the jazz, classical and R & R musical traditions we found that early on there was a period of ongoing but very partial, sporadic contact between musicians from each of the contributing cultural

groupings (e.g. Creoles and descendants of slaves in jazz) and music and instruments of the other tradition. It is expected that a similar process of “gradually evolving collision” will occur here between musicians in both the classical and R&R traditions (with their analog technologies) and the emerging postmodern culture (with its digital technologies). Since digital technologies are central to the production and proliferation of postmodern cultural forms, the analysis here will focus on those developments within electronic analog musical technologies (both instrument and production) which anticipated the eventual ‘takeover’ by digital technologies (i.e. post-MIDI) in the 1980s. It is anticipated that while the pursuit of these new technologies (e.g., multitracking, synthesiser) will be done within the “spirit” of the existing tradition (classical or R&R), the “forms” of expression (both musical and visual) will, in line with the characteristics of the technologies, increasingly approximate those of postmodernism.

Much of the information used in the following analysis comes from Andy Mackay's (1981) short but useful description of the history of electronic music. In order to highlight the similarity (in the use or effect) of these analog forms of expression to later digital forms which are dominant under postmodernism, underlining has been added to the text in the following analysis.

Tape recording, Electronic Studio, and Multitracking

Classical Tradition

In the late 1940s and early 1950s the development of tape recorders and then electronic studios had visible effects within the field of classical Music. In France “experiments with organizing prerecorded ‘everyday’ sounds using tape

recorders led to the creation of the first electronic studio" (Mackay 34) Typically the "basic studio equipment consisted of several tape recorders with variable speeds, microphones and other recording facilities, tape editing equipment and devices for mixing and playing more than one tape at (a) time, so that cross-fades and superimposition could be carried out" (Mackay 34) One of the first important contributors to the development of the French approach to electronic music or *musique concrete* was Pierre Schaeffer, whose professional training was not as a musician but as a sound engineer

His work was driven by a "belief in the transforming power of the studio" which could "turn (an) everyday environment into a musical instrument" (Mackay 68) For example, in *Etude aux Casseroles*, Schaeffer used "speeding up and slowing down the tape, altering the pitch, reversing the tape and playing the sounds backwards, the addition of echo and reverb, and, of course, strange juxtapositions and superimpositions" to create a "montage" of music from the sounds of saucepan lids (Mackay 34)

In Germany a parallel approach developed that "employ(ed) electronic sound generators and modifiers rather than 'natural' sounds in its compositions" (Ernst 26), i.e., it used "sounds that were generated purely electronically" (Mackay 34) Stockhausen's work developed out of this approach His compositions are "concerned with the interrelationships between the physical elements that make a musical event" In *Studie 1*, for example, "electronics enables him to relate pitch, rhythm, timbre and volume serially" (Mackay 72) In *Gesang der Junglinge*, for example, the human voice is likewise manipulated "the sound of a boy's voice reciting the words from the *Benedicite* (is) broken down into parts of varying length, mixed with electronic sounds, and given a spatial dimension by the use of

several loudspeakers" (Mackay 72)

In America no distinction was ever made between the montage approach of the French and the purely electronic one of the Germans. The work of John Cage is exemplary. The "first composer to use electronics as a basis for creating new music", his "earliest tape pieces", e.g. *Williams Mix* (1953-54), "used natural sounds, instrumental sounds, noises, electronic sounds juxtaposed and mixed with a great deal of tape splicing" (Mackay 36, 75)

In *Imaginary Landscape No. 4* (1951) he "used twelve radios, each independently operated for volume and tuning by two performers", thus creating a piece with clear parallels to much later digital developments. As Mackay notes, "the composer's role consisted of setting up a situation in which radio broadcasts can be heard not for their content but for their sound, as part of a musical performance. There is also a surreal element in the unusual combinations of information that may occur, a parody of a familiar contemporary situation" (Mackay 75-6)

Interviews with the classical composers/performers indicate that the Electro-acoustic developments of the 1950s, while widely known, clearly did not as yet constitute any real challenge to the existing classical tradition. "Stockhausen", as one interviewee (J) noted, "was working in an extremely innovative way even with mono-recorders his work *Kontakte* is a good example". In a world of acoustic symphony orchestras the Electro-acoustic approach couldn't help but stand out. "Stockhausen, in his composition for the Pavilion in Brussels at the World Fair in 1958, was using quite a number of channels to send sound across the hall" (J). In fact for a short time it became obligatory for all self-respecting composers to dabble with Electro-acoustic composition, as one interviewee put it "everyone had a go" (E). After the initial

rush of interest, attitudes settled and "Electro-acoustic composers were regarded largely with indifference by the main body of musicians" (J). This attitude then became more strident as the Electro-acoustic composers began to produce more expanded works. "There was quite a lot of resistance to Stockhausen's music", but nevertheless, "the Avant Garde was much more respectable then than it is now" (E) - indicating perhaps, in line with the arguments of the present thesis, that Electro-acoustic approaches presented much less of a threat to the existing tradition than they do now.

R&R Tradition

Within the R&R tradition "Fundamental change (in) recording technique" came from the development of multi-track tape which allowed the producer to use the "recording studio as a creative tool in its own right." (Mackay 31). With the "introduc(tion of the) four-channel tape recorder ... in 1958", musicians were able to "accompany themselves and add to their own recordings by using the technique of overdubbing" (Negus 25). "Overdubbing" or "double-tracking" made it possible for musicians, for example, to be recorded "on all four tracks and (then transferred) to one or two tracks of another four-track machine. This left spare tracks available which could be used and transferred (with the original mix-down) to another machine" (Mackay 32). In the process multitracking "restructured studio working relations by increasingly involving the recording engineer in complex manipulations of the raw material provided by musicians. Deferred decision-making led to important compositional inputs from traditionally 'non-musical' studio personnel." (Durant 179)

In the early to mid-1960s overdubbing was used to create effects of echo, reverb,

phasing, selective mixing of voices and instruments (e.g. "two separate takes of *Strawberry Fields Forever* in different tempos and keys"), and the addition of extra instruments and sound effects (e.g. the "Moog-Theremin and a cello" on Brian Wilson's production of The Beach Boys' *Good Vibrations*.) (Mackay 32, 104) In short, R&R producers using electronic tools and techniques were now able to create "sounds totally unlike any live performance" (Mackay 31)

The recordings first of Phil Spector (whose production of "the ultimate pop record", *You've lost that lovin' feelin'* (1964), featured "an almost overwhelming complex of echoes and effects created electronically"), then of Brian Wilson and The Beatles' George Martin, made "extravagant multitracking *de rigueur* " for R&R music (Mackay 32, 90, 104, 109) By the late 1960s with the introduction of the Dolby noise reduction systems (to solve the problem of increasing "hiss build up" with each successive overdub), the number of tracks expanded from four to eight, and "during the 1970s studios increasingly used 16, 24, 32, and 48 track recording equipment" (Mackay, 32, Negus 25) Analog multi-tracking, with all the now obvious antecedents of today's digital technology, was now established in the R&R tradition, but of course, it was only available at huge expense to the very few musicians (mostly established artists) who could afford to pay for not only the technology, but the studio time and personnel as well

Electronics in Performance

If ever a convincing demonstration of the import of cultural traditions in determining the use of technology were needed, the contrast between the classical and R&R traditions in their use of electronics in performance provides it. The R&R tradition, governed by its "popular aesthetic", with its "demand for participation", for

expression of the “passions, emotions and feelings (of) *ordinary* people” (Bourdieu 32), has given us Hendrix and Woodstock, Pink Floyd and The Rolling Stones.

In stark contrast the classical tradition, in line with its “aesthetic disposition”, has “exclude(d) any ‘naive’ reaction” to the “nature and function” of electronic technologies, focussing instead on “specifically artistic effects”, on the “mode of representation, the style, perceived and appreciated by comparison to other styles” (Bourdieu 34, 54). As Mackay notes, “even after the availability of synthesizers ... the development of avant-garde electronic performance” has focussed on, for example, how “the traditional balance of instruments could now be completely altered”, or how “sounds never before thought of as musical could be used” by the composer (Mackay 49).

In short, within the classical tradition electronic performance has focussed (in contrast to R&R) not on the “nature and function” of the technology, but rather on the “form” of sounds which it made possible (Bourdieu 34, 54).

Classical Tradition

John Cage, who was at the forefront of using electronics in performance from the early 1940s on, exemplifies the classical focus on “form” with his attempts to make “the entire audible world ... available to the composer” (Mackay 49). Notice also how his compositions and others cited below use analog electronic technology in performance in ways which clearly anticipate the later potential of postmodern digital technology. Cage’s earliest live electronic performances, for example, used “an amplified coil of wire” (*Imaginary Landscapes, No. 2* (1942)), a “contact mike on a marimbula” (*Imaginary Landscapes, No. 3*),and “twelve radios with twenty-four

operators" (*Imaginary Landscapes, No 4* (1951)) (Mackay 49)

Stockhausen's live performances have equally focussed on creating electronic variations in the form of sound. In his first live work, *Mikrophonie I* (1964), he uses "microphones going through filters attached to a large gong (tam-tam)". He later incorporated "extensive use of both ring modulators" other forms of instrumental intermodulation and complex tape delay systems" in *Solo* (1965-66), for example, Stockhausen "uses six movable playback heads, enabling alternation of delay times, and four technical assistants, one of whom switches the playback heads" (Mackay 52)

Electronic instruments have also been used by mainstream classical composers. Not surprisingly, their use has always been to extend or modify some aspect of the classical "form". Of the "new (electronic) instruments of the twenties and thirties", two - the "trautonium and the ondes martenot" - even attracted the attention of "established composers", and "for each a firm repertoire was established". These compositions, while extending the use of "glissandi and vibrato effects", were always "within the conventional modern musical idioms of the time". Several decades later, when the electric guitar finally entered the classical tradition, nothing much had changed. In Boulez's *Domaines* (1961-69) and Berio's *Chemin I / II* (1970-72) the electric guitar is used simply to add "tone colour" to the "existing instrumental line-up" (Mackay 64)

R&R Tradition

While many instruments have been electrified (including the sax, trumpet, flute, viola, and violin), the use of the electric guitar in live performance most clearly

illustrates both the influence of cultural aesthetics - i.e. expression of the "passions, emotions and feelings (of) ordinary people" (Bourdieu 32) - and parallels in the use/effects of analog electronic technologies to later digital developments

The "dominating instrumental voice of the (20th) century", the electric guitar, was ideally suited to R&R music "Sexy, noisy and modern (it is) suitable for almost any electronic treatment" while at the same time "expressing the individuality of the player" (Mackay 41). The electric guitar's "ability to sustain a note" (Mackay 41) combined with its own "signal being picked up by the guitar again, after it has come (back) from the loudspeakers produces a sustained note with some distortion and strongly reinforced high harmonics" (Mackay 56). This "feedback" used "at low levels, combined with fuzz pedals and wah-wah contributed to the sustained and highly emotional sound of the late sixties exemplified by the playing of Eric Clapton" (Mackay 58). In the hands of Jimi Hendrix (who as one interviewee (B) noted, was "known by the sound of his guitar"), it could "produce an astonishing range of snarls, whines and howls, all delivered at bone-shattering volume" as for example in his "devastating version of '*The Star-Spangled Banner*'" (Mackay 58, 100).

Mixed Media/Multi-Media

In this section it is worth noting at the outset how the classical and R&R traditions distinguish themselves once again in terms of their 'cultural aesthetics'. This time the distinction becomes clear simply by noting the different terms each uses to describe more or less the same thing, i.e. the combining of audio and visual sensory experiences in live performance. Again following Mackay's (1981) discussion, within the classical tradition we find descriptions such as "mixed-media event",

“music and movement”, “theatrical aspects of performance”, “relationship between musicians and artists”, and (in Cage’s words) “an activity of movement, sound and sight” (Mackay 52-54, 80) By contrast in the R&R tradition we have the likes of “multi-media rock”, “happenings”, “trip festivals”, “monster rock concerts”, “light-shows”, and “high-technology rock” (Mackay 56, 58)

Continuing to document the ways in which the uses and effects of analog electronic technologies foreshadow later developments in postmodern digital technology, it’s interesting to note that in this section parallels to postmodern cultural forms and even software packages become evident As earlier these parallels are underlined to highlight the common characteristics

Classical Tradition

Within avant-garde composition and live performance there was inherently a “theatrical aspect” (Mackay 52) almost from the outset In Mackay’s words “Almost any use of electronics in performance has some element of theatre, especially when combined with improvisation and extensive exploration of unconventional ways of producing sounds The complex arrays of speakers, mixing-consoles and other bits of electronic paraphernalia had a tremendous fascination for audiences, and added an element of sculpture” (Mackay 50- 51 (photo), 52) What is most striking about many of these ‘mixed-media’ performances is that once electronics is used to systematically link the music to the triggering of other sensory experiences (or vice versa), they become striking parallels to (sometimes even parodies of) late 1990s’ digital productions In Cage’s *Variations V* (1965), for example, “rods on stage contain sensors for sounds which allow movements of dancers to be converted directly into music” (Mackay 54) Looking at a photo of such a performance (Mackay

53) immediately brings to mind almost a parody of the sort of 'installations' common to late 1990s in which software packages such as Director are used to allow a viewer's movements to trigger visual effects on computer monitors

Viewed in terms of postmodern cultural forms Cage's work and many others, - for example, David Tudor's *Rainforest* (1968) in which "transducers attached to resonators of varying substances which reproduced the sounds of oscillators played through them with differing resonance" had their output relayed to "conventional loudspeakers", thus creating a "feedback system" in which "musical devices 'recycle(d) sounds" (Mackay 82) - bring to mind the "Surface/simplicity" postmodern form As with today's postmodern video, these performances "can be seen again and again", much like a "plot-less novel" which the viewer/listener tries to "punctuate" meaningfully, only to discover that it "turns out differently every time" (Jameson, 1992, 82-3)

Other postmodern cultural forms are equally evident in these mixed-media performances Composer Salvatore Martirano, for example, used "a gas-masked performer, his voice modulated to castrato pitch by a helium atmosphere, to declaim the Gettysburg address" (Mackay 55) One thinks immediately of "Pastiche" and "Time/space compression" in that Martirano has combined unrelated elements from the past and present to create a text

R&R Tradition

As Mackay notes, "by the early 1970s, the pattern of the monster, touring rock band had been established Equipped with lights, lasers, thousands of watts of amplification, special effects and a stage full of thousands of pounds' worth of high

technology and instruments the major groups set out with fleets of articulated lorries carrying the equipment to build night by night a multi-media show of formidable proportions" (Mackay 56, 58) Throughout the 1970s these groups competed "with each other to stay ahead in the league of technological overkill Led Zeppelin with a huge PA and lasers, Emerson, Lake & Palmer with a revolving drum kit and a complete symphony orchestra individually amplified with contact mikes, Funkadelic, its members emerging in glittering space suits from a rocket, and the undisputed masters of the rock concert as multi-media show, Pink Floyd " (Mackay 58) Within the limits imposed by the analog technology of the era, the tens of thousands packed into any one of these "night by night" arenas got what from our perspective can only be described as a 'full-blown preview' of postmodern culture On any given night the full gamut of postmodern culture forms ('time/space compression', 'surface/simplicity', 'pastiche', and 'nostalgia'), not to mention the underlying psychic concern of 'identity fragmentation', was whipped to a frenzy A few examples from the stars of 'glam/glitter rock' will serve to illustrate this point

With reference to 'time/space compression' and 'nostalgia', consider Albert Goldman's observation regarding the "heroes (of) glitter rock (they) are human time machines who programme themselves back, back, back - like Bette Midler and the Pointer Sisters - to the chunky, clunky, platform-soled, and lipstick-smeared glamour of the forties, or back - like David Bowie and Lou Reed - to the cold, enigmatic, slightly sinister beauty of the movie queen, or back - like Alice Cooper - to the horrors of Dracula " (Goldman 185)

Consider the following with regard to 'identity fragmentation' "a charismatic actor who assumes in the course of his performance a number of bizarre roles" (Alice Cooper), he "was nominated by a Hollywood dress designer as one of the world's

ten best-dressed women" (David Bowie), "On a recent night at the Fillmore East, he made a grand entrance in a floor-length blue cape and engineer's cap, threw off the outer garment to reveal a satin-faced canary-yellow tail-coat, and wound up his tease by stripping to baby-boy coveralls over a purple peppermint sweatshirt" (Elton John) (Goldman 189-91)

Finally, 'surface/simplicity' and 'pastiche' are well evidenced in "Frank Zappa's tenth anniversary party (at a) ludicrous Paris nightclub called the Alcazar the evening's entertainment is a kind of acrobatic-musical-sexual-satirical cabaret with a cast of thousands Every so often the waiters - all nattily accoutred in 'DiscReet' T-shirts - quit hauling round the champagne and bound onto the stage for a quick chant and prance Meanwhile, the regular cast - who seem able to switch make-up and set within seconds - scamper through a succession of sketches, parodies and musical production numbers An angel flaps around for a few seconds and vanishes, an aerialist does a few swift undulations around a trapeze Mae West, The Andrew Sisters, Barbara Streisand and Sylvie Vartan are mimicked, and the whole thing is spiced up with plenty of tit Periodically a sign reading 'Welcome Zappa' is flashed overhead Suddenly, with the velocity of a striking poodle, Uncle Frank himself is on the stage, looking more scarecrow-orientated than ever dipping and wheeling through a deadpan tango right there with the cast eventually, of course, it all arrives at the big finish (whose name, naturally, is Oscar) and Frank, sneer at the rakish angle, descends smoothly from the ceiling in a setting that would have made Busby Berkeley ejaculate over the boards " (Murray 61-62)

Synthesizers, Early Computers, & Music Videos

As developments in electronic technology (in the form of synthesizer, main frame

computers) began to more nearly approximate the data processing capacities of digital technology of the post-MIDI era, so too did developments in both classical and R&R start to move rapidly toward those anticipated for the period of "Intense Collision"

Classical Tradition

First, consider the development of 'new ways of playing and thinking' While electronic music always involved "new ways of playing and thinking", the impact of this requirement was suddenly much more substantial with the advent of the synthesizer and the computer The reason for this is simply that the synthesizer (in contrast to earlier electronic music which was either prerecorded on tape, electronically generated, or created live with by, for example, turning radio dials or "raising and lowering a gramophone needle on to a record" (Mackay 78)) actually had to be 'played' to create the music The problem with 'playing' the synthesizer is that, in stark contrast to all traditional instruments, it has virtually no defining characteristics The synthesizer is so versatile that its identity is compromised As Pressing notes, it has no "special playing techniques, characteristic sound (timbral palette), associated repertoire and constellation of associated baggage, standard shape and construction" (Pressing 12) In contrast to the likes of a piano, violin or oboe, the synthesizer "can make almost any sound, and playing techniques have downright inconsistencies Pitch bend for example is accomplished by wheels on some instruments, by joysticks on others and even ribbon controlled" (Pressing 3)

Playing the synthesizer also led to new ways of experiencing and hence thinking about sound The classical interviewees commented on this in relation to their own experiences "Playing the synthesizer was totally different to the piano it opened

up all kinds of stuff like sounds, sound effects" (A) It was "completely different You could select different sounds that you could change and the way you played transformed the result Sounds suggested their own type of music a brass sound would suggest obviously not a very pastoral thing a more up-beat jazzy type of thing" (V)

When the computer was used as part of the composition process, as with Xenakis, playing the music often becomes somewhat like "playing in a game, where points are awarded for getting as close as possible to the original score" For example, in one of Xenakis's piano solos, *Eryali*, "chords are spread out over the whole keyboard Either notes have to be missed out or some other means of reducing the chords to a playable medium has to be found, such as transposing parts of it up or down a few octaves This of course gives a whole new dimension to interpretation, since exactness and accuracy are out of the question" (Mackay 112)

Using the computer in composition also clearly shifts the emphasis in thinking away from the traditional "composer's lot (of) constantly monitoring and reworking the 'tones in his head'" (Gardner 100) In Xenakis's case, for example, the thinking involved is much closer to Gardner's "logical-mathematical" than to his "musical" intelligence "Much of his music is derived from mathematical formulae, often calculated with the aid of a computer, transferred to graph paper and thence to musical notation, and finally interpreted by the individual composer or performer" (Mackay 112)

Secondly, consider the issues of "form" and "spirit" of compositions with synthesizer and computer The form is clearly postmodern in many respects, especially with regard to the assessing, editing, interweaving of data (sounds) at rates and

capacities previously virtually unimaginable For instance, Milton Babbitt's *Composition for Synthesizer* (1960-61) and *Ensembles for Synthesizer* (1962-64) are "dense, polyphonic works which use the synthesizer as a kind of super-performance machine" (Mackay 74) Likewise, Iannis Xenakis's has used computers to develop "stochastic" compositions whose "literal live performance (is) impossible" (Mackay 112)

Another striking postmodern aspect of "form", i.e., "interactivity", also appears in some of the classical works, a direct consequence of the data processing capacities of computers In Gordon Mumma's 'cybersonic' pieces, for instance, a computer interacts with the musicians during live performance In his 1967 composition, *Hornpipe*, "a kind of analogue computer attached to the belt of a french horn player analyses and responds to the resonances of the space in which the piece is performed " (Mackay 54, 105)

The "spirit" of such compositions on the other hand consistently remains within the classical tradition In Babbitt's "best-known work", *Philomel* (1963-64), for example, "the soprano line has a distinct classical form, with sections corresponding to recitative, arioso and aria" (Mackay 94) As Mackay notes, "serialism (as in Babbitt's compositions) could be seen as an extreme form of classicism, with antecedents in renaissance and baroque counterpoint, (and) indeterminacy (as in Xenakis's "chance music") is the extreme of romanticism" (Mackay 78, 94, 112)

Finally, in line with our expectations, as the characteristics of electronic music (both in 'form' and 'playing and thinking') deviated more and more from those of traditional analog music, the 'rejection' of this music increased, at least among older, established generation of musicians This of course is not surprising Why

give up being a virtuoso with years of training and expertise on, for example, the piano or violin, to become a 'jack of all trades' on the synthesizer, an 'instrument' whose sound-waves in fact could only roughly approximate the "peaks and troughs of the more complex contours produced by" "your original instrument" (Mackay 37) As Mackay put it, "in general, composers eschewed the predictability of such factory devices" (82) In fact, "since the late 1960s (even) composers who had once been enthusiastically involved with (computers and synthesizers in) electronic music have tended to use more conventional instrumentation" (Mackay 83, 112)

Generational differences in attitudes toward electronic music were probably best illustrated by the dismissal of three assistant professors in the Columbia University Music Department in 1971 All three of them were actively involved in electronic composition and one, Charles Wuorinen, had "recently been the winner of the 1970 Pulitzer Prize (for) his electronic composition, 'Time's Encomium'" At the centre of this "acrimonious philosophical disagreement" were these young composer/performers involved in "The Group for Contemporary Music at Columbia University, one of the country's most prestigious avant-garde ensembles", and "the ruling circles of the Music Department" who were "overwhelmingly musicological" and had, as Wuorinen put it, "by concentrating so much on the past (and) allowing their own active practice of the art to atrophy into scholarly sedentariness, developed a hostility to the present (and) come to fear those who compose and perform" (In Deaver 4-5)

R&R Tradition

Given the technological characteristics of the synthesizer described above, it is not

surprising that new ways of playing and thinking about music rapidly emerged among R&R musicians. The synthesizer “encouraged flashy keyboard virtuosos like Keith Emerson and Rick Wakeman” to “spectacular feats of showmanship”, while “jazz and funk players developed a use of the synthesizer that was closer to the human voice, by using its ability to bend notes and perform portamentos” (Mackay 91-92)

R&R interviewees frequently commented on how the synthesizer affected their approaches to playing and thinking about music

“The method of playing a synthesizer can be completely different to that of a piano because the envelope of the sound is generated completely differently . you could end up playing the synthesizer completely differently to playing the piano” (H)

“Synthesizer techniques were totally different, because I started playing lead passages like the guitar, because it was much the same. If you used your bender a full tone, you could use it like a guitar. You don’t want to play chords. Don’t use the left hand, treat it as a new instrument. Sound comes from 2-3 notes, if you play more than that you’re going to clutter everything. The less you play a synthesizer, the better” (Q)

“guys started using pad chords to give a back-drop to their song, like ‘Soft Cell’” (N)

Sequence lines became part of the make-up of the backing track. The sound these groups produced became so studio-dependent that

“they (Ultravox) were producing a lot of stuff in the studio that they couldn’t do live” (B)

Through interacting with the new instruments, artists began to develop new technical skills

“Windmill (a professional recording studio in Dublin) had a Prophet (one of the first synthesizers), if you wanted to get a session in Windmill, you had to be able to play the Prophet Not alone play it, but try to programme it as well” (H)

In the hands of the “former child prodigy”, Stevie Wonder, the effect was phenomenal When you consider that a synthesizer is “in effect a complete electronic studio” (Mackay 42), it is not surprising that Stevie Wonder “took total control of his recording acting as composer, arranger, producer and multi-instrumentalist” and in the process became “the single most respected performer in the whole of rock music” (Mackay 112)

With the advent of increasing complex electronic technology (both audio and visual), the ‘form’ of R&R became increasingly ‘postmodern’, but the ‘spirit’/‘aesthetic’ remained consistently ‘popular’

In Bourdieu’s words, the ‘spirit’ continued to express the “passions, emotions and feelings which *ordinary* (youth) put into their *ordinary* existence” (Bourdieu 32) Exemplary of this ‘spirit’ would be Keith Emerson whose “theatrical excesses with the (electronic) Hammond organ (and Moog synthesizer) include(d) sticking daggers in the keyboard and allowing the instrument to crash heavily on to the

stage (creating a loud, explosive reverberation)" (Mackay 58, 93)

The same would be true of disco music, whose "steady insistent rhythms were obtained with the use of a rhythm box, (and) extensive use of synthesizers" (Mackay 93) Goldman's account of a night in New York's Studio 54 (in 1978) gives a clear sense of this 'spirit' - "as you swing around the corner and confront the floor, you're struck head on by *Bruuuuumph!* FEE FIIIIIE! FOR FUHMB! YO LOOKIN' DOWN DA BARREL O' DA DE-BIL'S GUN! roaring like King Kong in rut, the colossal boogie voice booms into the darkness suddenly the image flips from the *Heart of darkness* to Times Square Winking-blinking, racing-chasing marquee lights bedazzle your eyes *Zap! Zap! Zap!* A score of blinding strobes is raking the floor the dancers scream! The beat booms louder The floor fibrillates *Zap! Zap! Zap!* Your brain is starting to reel You feel you're flying while standing still Then the back wall of the hangar lights up - and you crack up!" (Goldman 280-81)

At the same time the 'form' of R&R was becoming increasingly postmodern The capacity of the synthesizer instantaneously (and video edit studios much more slowly) to store, edit, and interweave massive flows of sound and vision together in disco (as in Studio 54) or music videos (starting with *Bohemian Rhapsody* (1975)) offered a preview of the digital '90s (see Hayward, 1990, re music videos) Stevie Wonder, for example, with his "mastery of the synthesizer", produced albums with an "astonishingly varied (and) subtle range of colours and effects" - practically a musical version of *Photoshop* (Mackay 112) Throughout all of it - disco, albums, videos - 'collage/montage' was emerging as a pervasive form

On the surface there was little rejection of the new technology This is not surprising The voltage controlled synthesizer, like the Sony Series V edit suite,

gave young “fame hungry people” access to new ways of expressing themselves Suddenly they could “hit upon solutions and gain familiarity with a few tricks that the dominant scene had never thought of and, in many ways, could never think of” (Barber 114, 116-17)

The R&R interviewees comments give a clear sense of this excitement about the new possibilities inherent in the synthesizer “I could do stuff with the drum machine and really use a different rhythm that a drummer wouldn't play” (Q) “Quality of sound and separation became really sophisticated” (B) In Mackay's words, “rock musicians have always been enthusiastic (about) synthesizers” (Mackay 91)

Of course it wasn't that simple Often invisible under the younger emerging generation of musicians, fans, and video artists were the older ‘rockers’, those who skills, values, and status were closely tied to the traditional ways of playing and producing R&R music For them using synthesizers to “emulate ‘real’ instruments” didn't work, the sound didn't have the “same quality or ‘feel’” For example, one “record producer and arranger (Keith Negus) spoke to when carrying out research for (his) book (on producing pop music) complained that synthesizer players composing on computers were writing music according to the requirements of technology rather than with ‘feeling and musicality’” Some went even further, seeing synthesizer music as “imitation” or even “outright deception” (Negus 30-31)

INTENSE COLLISION

The period of intense collision between Postmodern culture - in particular its cultural forms and digital technology - and the classical and R&R traditions arguably

started in the mid-1980s. As Durant notes, at the heart of this collision are “changes in music technology relating to a general system for encoding, storage and manipulation of musical signals (digital, rather than analog), and to the standardisation of a system ‘language’ or set of machine protocols known as MIDI (Musical Instrument Digital Interface). This enables different components in any music-making or recording set-up, such as synthesizers and sequencers, to communicate with each other and with general-purpose micro-processors. In general terms, MIDI communications systems enable, for example, a computer to *control* a keyboard or drum machine, or to *receive*, store and manipulate data (finally, sounds) generated by such an ‘instrument’ during the time that the musical information (textures, rhythms, melodies, tempi, etc.) is stored in digital form, it can be manipulated and edited like other kinds of computer data.” (Durant 181)

Once an industry-wide protocol (MIDI 1.0) was agreed in 1983, what followed was “the design and production (and sales) of a wide range of relatively cheap, digitally-based musical ‘instruments’ (including) a new generation of drum machines, which store predefined drum sounds that can be triggered in preprogrammed patterns, samplers which record and replay excerpts of sound and then allow manipulation of the sounds which have been stored, other kinds of MIDI controller based on existing musical instruments (triggering pre-stored sounds by plucking a guitar string), and sequencers, which programme and store rhythms, melodies, tempi and harmonies, and can be thought of as composing and performing computers” (Durant 182). The impact of the accessibility of such “relatively-cheap” digital ‘instruments’ is evident in Barber’s comment regarding music making in the late 1980s: “Digital drum machines currently sell at around £300, as little as eight years ago they cost thousands. It is the same for practically everything else. Nowadays, it is inspiring to hear the amount of ‘home made’ music that is in the

charts Bands such as 808 State, 49ers and Black Box have had great success with records such as *Pacific State*, *Touch Me* and *Ride on Time* (all 1989) They work on easily available machines but still come up with good tunes They really don't need anything super-tech, they know exactly what they can get out of their own equipment and play to its strengths " (Barber 122)

Similar developments have also occurred, though at a slower pace, with regard to digital video, which since the mid-1980s has also been at the heart of marketing records within the R&R tradition As Hayward notes, the mid-1980s was "significant for introduction of a range of new image processing and effects technologies, particularly various types of animation, graphics, video editing and matting" (Hayward 132) The Cars' *You Might Think*, for example, "attracted immediate attention and helped the single to number three in the (American) national charts In the video "singer Ric Ocasek pursues a beautiful model by metamorphosing into a variety of precisely visualised forms such as a human headed fly and a giant King Kong scale figure who eventually grabs her from her flat " In 1984 producing such a video "required two and a half hours of post production for each second of the final video" and cost the record company \$250,000 (Hayward 133) By 1999 while £5000 would finance a PC and 'video grabbing card' adequate to produce (low) industry standard video, MTV music video production was still well out of range of all but label sponsored musicians

Hence while musicians in both classical and R&R traditions will clearly have felt the impact of digital video technology on their lives since the mid-1980s, the analysis to be presented here will focus on the impact of huge increase in the accessibility of digital audio technology since that time

New Ways of Playing and Thinking

The emergence of new ways of playing and thinking about music is overwhelmingly self-evident by now. This section will illustrate the range and variety of these developments, and then consider their general characteristics. Although it is artificial (and often not feasible) to separate 'playing' from 'thinking' either in experience or in analysis, to facilitate discussion this section will focus first on 'new ways of playing' and then on 'new ways of thinking'. Developments in the classical and R&R traditions will be considered together in each of these sections. As these developments are indicative of the emergence of new musical traditions, henceforth the terms 'Electro-acoustic' and 'Technology-R&R' will be used in place of 'classical' and 'R&R' respectively.

New Ways of Playing

First of all, it is worth noting that all the musicians/composers who were interviewed experienced the sorts of changes that came from playing digital 'instruments' early on. Electro-acoustic interviewees, for instance, noted

"I like what the sampler can do to the basic sound that you have. In one piece called 'Today', for example, these girls are all laughing. They change into the sound like birds. By changing the pitch, by reversing the actual sample, putting it up a couple of octaves and so on, playing the instrument as a sampler, playing it as an instrument, it is actually a keyboard instrument rather than a module." (V)

"I started off playing the programme, just a sound, and then one idea will

spark another and I'd build the track around it and with the hard disk recording, you can layer tracks one on top of the other and you can actually build them up and build the timbres over time " (G)

There was a desire to interact with the computer to find a more personal approach
As one interviewee commented

"Sometimes I'd just play it in [to the computer] and play it back on different instruments to see what it would sound best with, you can do a whole part, say for an oboe, and see what it sounds like with something else " (R)

The Technology-R&R interviewees had similarly experienced new ways of playing

"The keys are so light [on the synthesizer] when I played the piano again and hit the keys, nothing happened " (O)

"With the computer you could actually make up your own drum patterns and lower the hi-hats or raise the hi-hats to your own level and make it sound like a real sound even though it took quite a long time " (Q)

"The one big advantage of MIDI is the way you can layer things up, the way you can have a complete arrangement at your finger tips If you want a string part, an organ part, a woodwind part, a brass part, a percussion part - you can literally create it yourself " (P)

Of course since the advent of MIDI in the early 1980s, the development of software has become ever more sophisticated and specialised For example, a number of

methods have been developed which use digital technology to make more precise usage of the musician's analog movements "One of the first efforts in this area is the T-MAX project, developed by Bruce Pennycook and his colleagues at McGill University" The T-MAX task was "to perform jazz improvisations through three partitions in the programme 1 Listening 2 Pattern matching 3 Playing" The effect of this "call and response" exchange between the musician and the T-MAX was to radically challenge the musician in a way that previous, non-interactive sequencing programmes had not "Interactive systems, unlike MIDI sequencing programmes engage the performer so that he shares the creative process with the computer" This in turn challenges the composer/performer's way of thinking about the computer No longer was the computer merely a tool to "play back music *for* people", it had become "increasingly adept at making new and engaging music *with* people, at all levels of technical proficiency" (Rowe 256, 261, 263)

Numerous other directions have also been pursued Three samples from the "Winners of the First International Music Software Competition" give a fair sense of the range and diversity of such developments

Tom Erbe's "SoundHack" is designed to "make sophisticated sound processing available on (an) inexpensive, intuitive computer and, consequently, to make it accessible to most composers" (Erbe 35)

"MIDI Formers consists of a set of MIDI-event-generating applications They interpret the elementary MIDI codes produced by a keyboard and generate coherent and virtuoso flows of events " For example, "'Rebond' triggers note bounces offer(ing) a wide variety of bypasses, slowdowns, suspends, and gravitation changes" 'Metro' explores the notion of echo and periodicity,

repeating played notes with changing velocity 'Random' offers various types of random phenomena (such as) randomised transmission periods, note and pitch durations, last-played notes which can be adjusted and combined on note flows " (de Laubier 39)

Mark Stramaglia's "BackToBasics" "allows its user to make any number of keyboard setups having different sounds associated with each key on the standard Macintosh keyboard Each key can be set up to trigger a different sound, or several keys can trigger the same sound Each key can also be set up to transpose its sound across a range of 10 5 octaves, or to have its own individual volume setting which can amplify a sound from 0-400 percent, and pan it anywhere between left and right stereo sound channels " (Stramaglia 41)

The potential for technological extensions/refinements following from the development of MIDI is seemingly endless Nonetheless, as Durant observed relatively early on, the consequences of such developments in "digital production technologies" can be described in terms of "three main types of practical musical innovation", i.e. "*Textural or sound-colour possibilities*", "*Composition and editing possibilities*", and "*Idiomatic possibilities quotation and musical reference*" (Durant 183-85)

Regarding '*textural possibilities*', Durant observes that "samplers give access to an extended range of sounds and provide (new) ways of using (them)" This is achieved in two ways firstly, by "superimposing textures/preset sounds to create new orchestral voices", and secondly, by "manipulating" sounds "beyond (what is possible) in their pre-sampled, 'natural' occurrence" Similarly, it is possible to, for

example, "combine disparate sounds (such as creating a new 'voice' to play a melody that is texturally a combination of a sampled cello, a dog bark and a pneumatic drill)" Needless to add, the "range of sounds or textures a musician (or user) can make is no longer limited by technical facility with the mouth or fingers or by how many fingers or mouths human beings have" In short, "what this aspect of the technology leads to is easier orchestration and an enlarged and enhanced sound-world" (Durant 184-85)

Regarding '*composition and editing*', Durant notes that it is now "possible to create entire musical pieces either by writing a traditional score into a sequencer (or) by playing in real-time into the sequencer, then editing the notated form the machine encodes" Since "the MIDI clock gives a unique address (like a time code) to each beat or note in the recorded material, making it possible to edit from any given point (and to drop in and out automatically, modify the acoustic characteristics of any single sound etc)" The result is that "this aspect of the technology leads to (an) extension and enrichment of traditional compositional processes, by offering solutions to problems of inaccurate, incomplete, or technically impossible performance, and by allowing for intensive scrutiny, manipulation and repair of anything entered into the machine" (Durant 185)

Regarding '*Idiomatic possibilities*', Durant makes reference to the likes of "musical forms such as House" Here the process of sampling involves "not only the use of individually selected sounds", but also "the sampling of whole phrases, riffs, melodies, bass lines and drum patterns and fills" from "commercially available records and tapes" When "this is done extensively, new styles come into being based on the embedding of section of musical material in kinds of musical collage" In short, "this use of the technology leads to (the) possibilit(y) for generic

innovation" (Durant 186-87)

New Ways of Thinking

Not surprisingly, all of the interviewee's found their approach to thinking about (and often composing) music was sizably affected by the experience of using the new digital technologies. Here is a sample of comments from the Electro-acoustic interviewees

"I think even the basic technology, not even MIDI, has completely de-mystified the orchestra. Before, I had this preconception that writing for an orchestra was this high God-like thing. You'd have to have an amazing gift to hear all the sounds and all the different instruments. Here, in the computer, you can just plot them in here." (F)

"Learning the skills I'm finding it's really interesting and I find I'm more inclined that I want to write now. The more I learn the more I come up with some ideas." (R)

"Composition, as it is normally practised in the Western world, has to do very much with notation. The problem I have with that now-a-days is that notation limits the way you think, because you tend to think about what is notatable. There is a danger that you can be composing with relationships which can be notated rather than relationships which exist in the sounds which the notation is supposed somehow to represent." (S)

"I think writing is just having the stuff, the sound objects if you like, and

assembling them. It wouldn't have been possible for me, say with a Revox years ago, to take little bits, get out the blade, cut and stick bits back together. modern technology makes it possible " (V)

"You have to look at sound in a different perspective, normally you're just thinking of notes, a set way of thinking about notes, but technology is completely different. Thinking in terms of sounds and even mathematics and what you can do with computers and what not, with all these special effects, that you don't think of when you're playing the piano" (U)

"You tend to think more structurally. you've got to make decisions what you're doing. it's not like working with a blank sheet of score paper. the screen is there in front of you with the programme on it " (I)

"I went in there (the studio) and it totally changed my perception about what music was, about what composition was, about what I was as a musician. I had this notion that if you were a real composer, you didn't use the piano, you were supposed to be able to do it all in your head. The way I write now is that if I didn't have instant feedback from the material in the studio, there wouldn't be any composition. It wasn't until I met this full exposure in the studio, where I could take the sound, and without any rules or regulations or preconceptions about what was right or wrong, and actually manipulate it, and get all kinds of new possibilities within the sound, that I suddenly realized what a relatively restrictive musical existence I had led up to that point " (S)

Technology-R&R interviewees had similar observations about how playing the new

digital 'instruments' had affected their 'thinking' about music

"I don't know where you start defining music and stop defining sound I believe that all sound is music " (O)

"Compositions are perceived more in terms of works made up of pieces of information - 'chunks' - visually represented on the computer screen, which are ordered to taste " when you initially start to write a song you'll immediately be thinking in little chunks of sequences you're treating the song in terms of pieces of information to be moved around in chunks on the screen" (M)

The thinking about structure has shifted away from the older song form of choruses and verse The emphasis is now on a powerful back-beat " it's like, here's the beat!" (C)

"Technology is changing the way people approach writing Andrew Strong was writing songs with 'Airsynth', what they do is they come up with a melody and they put it on a loop and they keep on playing that until they come up with lyrics " (B)

Musicians have broken away from the old practice of individually controlling and shaping their music Now there is an interaction between the musician and the computer The computer has become part of the compositional process rather than just a means to realize preconceived ideas "Computers make the music, you just interact with them, they'll do it for you " (C)

Barry Truax offers a concise summary of many of these observations "The structure and behaviour of music software provide a framework within which the music is conceived and realized, and, moreover, the computer affords new possibilities for organizing and manipulating sound (whilst allowing for the imitation of traditional methods) These new frameworks allow the composer to think differently about sound and evaluate the results in terms of their musicality " (Truax 155-156), and in the process they "constrain and facilitate the composer's thoughts in particular ways" (Truax 155-56)

For one thing the widespread use of digital audio technology has generated a whole new knowledge base, whole new sets of terms, concepts, and "ways of thinking about music" - what Durant calls "*a new literacy*" (Durant 188)

Durant is referring to "'literacy' (in) the sense (that) this term captures a set of specialised skills and concepts musicians are likely to need to learn, involving both what might be called a 'reading' component (a shift from staff notation to computer notations), and a related 'writing' component (not only 'copying out', as in sampling, but also writing creatively, making up pieces of music)" The new knowledge base underlying this 'literacy' has two aspects new terminology and new "operating formats" The first of these refers to "new and specialised terms (which have) develop(ed) to describe not only rhythms but also individual sounds, so that they can be recognized and easily accessed from disks which may contain twenty different guitar sounds or fifteen door chimes" (Durant 188-89)

The second refers to the "instructions in composing software" which, reflecting the emergence of a new 'literacy', typically are "modelled on tape-machine commands (rewind, record,) which would be familiar to "the generation of 'analog' musicians

who are currently re-educating themselves" In terms of 'new ways of thinking', the key point is that the "ability to 'read music' (or to produce a score) is increasingly (being) displaced by software literacy" (Durant 188-89)

The extent of this 'displacement' is evident in any new music software package Heinrich Taube's "Common Music", for instance, "provides an extensive 'compositional toolbox' and a public interface through which a composer may modify and extend the system Sound is rendered on demand, by traversing high-level structure, producing sound descriptions, and transforming these into a variety of control protocols for sound synthesis and display Realization targets currently include MIDI, Csound, Common Lisp Music, Music Kit, C Mix, " (Taube 29)

Obviously there are many areas of digital music into which this 'new literacy' is extending itself Two examples will suffice to illustrate how such extensions are accelerating the development of new 'ways of thinking about music' 'interactive composition' and 'spectro-morphology'

'Interactive composition' refers to the use of the computer as a partner in the process of creating new music Many of the interviewees referred to this "instant feedback" (S) As one put it, the "computers make the music, you just interact with them" (C) Truax talks about this process as one in which "the computer (becomes) more than something which assembles the result of creative thinking (it becomes) an intelligent partner in the compositional process" In this way "the music (is) discovered not imposed, revealed not asserted" (Truax 159, 173)

This interactive process is built into a number of music software programmes Robert Rowe's 'Cypher', for example, is one such interactive system for composition

and performance. It has two main components: a listener and a player. "The listener (or analysis section) characterizes performances represented by streams of MIDI data, which could be coming from a human performer, another computer programme, or even Cypher itself. The player (or performer section) generates or plays musical material" (Rowe 39). Cypher influences the musician's playing, and therefore thinking, by "contributing to each of the various stages of the compositional and performance process" (Rowe 40). The architecture of the programme is set thus: the listener is set to track events arriving on some MIDI channel. Several perceptual features of each event are analysed and classified, features such as "density, speed, loudness, register, duration, and harmony" (Rowe 42). The listener then reacts to this information and generates a response. Thus the spirit of the user, his expressions and gestures, are taken as fundamental elements in the formation of this response. The most usual responses involve transformation of the incoming data through various operations, for example, "acceleration, inversion, delay, or transposition" (Rowe 44). When several operations are applied the resulting output can be unrecognizable from the input material and so much so that one might legitimately consider the output material as emanating from a fellow performer and not a machine. This, naturally and fundamentally, demands a reappraisal on the part of the composer/performer of the nature of the compositional process.

"Spectro-morphology", as Smalley notes, "concentrates on the spectrum of available pitches and their shaping in time" (Smalley 61). Traditionally, in Western music, concerns about tonality and harmonic and melodic relationships dominated, while timbre was largely taken for granted and not explored. With developments in the twentieth century such as "atonality, total serialism, the expansion of percussion instruments, and the advent of Electro-acoustic media" (Smalley 61), a shift in

thinking began to take place and the musicality of all sounds began to be recognized. With the development of spectro-morphology, a new perspective on the nature of musical structure is available. Composers can now create new structures and timbres by shaping the sound spectrum. All sounds can be “moulded in a spectro-morphological manner” (Smalley 62). Some interviewees spoke of their experiences in this area, referring, for example, to “look(ing) at sound in a different perspective” (U), or to the discovery that “all sound is music” (O).

Michael Norris’s “SoundMaker Plug-In” for ‘Spectral Effects’ provides an example of the sort of ways in which musicians can use digital software to vary the ‘sound spectrum’ in their compositions. His plug-in allows musicians to use effects such as “interpolat(ing) spectral changes over a particular time period” (“Blurring”), “turning a harmonic spectrum into an inharmonic one (as for example in) a vocal sound turning into a bell-like sonority” (“Stretching”), or “analys(ing) two input sounds and synthesis(ing) a new sound” (“Masking”) (Norris 43, 46).

John Cage offers an observation on one effect of the ‘new ways of thinking’. “I think, if we look closely at much of our present work now - not only with computer but even with live electronic music - one could, without criticizing, use the word ‘waste’. Our attitude is changing, our minds are changing, our experience is changing from the insistence upon making the best choice to the willingness to make many choices. I hope that this shift from scarcity to abundance from pinch-penny mental attitudes to courageous wastefulness, will continue to flourish.” (Austin 20-21)

Karpen provides another complementary view, one which will serve to summarise this section. “With the computer, we can learn to cognize, recognize, and play with all sorts of structures in time and pitch that were unavailable before.” This has

affected our thinking about the very nature of music and the compositional process
“When I am composing, I now enter a musical dialog with the world a ‘jam session’
When I stand in a crowded room full of conversation it sounds like music ” These
conceptual changes are rooted in the postmodern digital society of today
“Changes appearing in musical conception (therefore in musical writing) are linked
to a frame of mind that requires the use of digital technologies these changes are
part of the so-called postmodernity stream, in which the treatment of information and
the manipulation of knowledge with digital technologies represent the new
relationship between human and machine ” (Karpen 13, 14, 16)

Form of the New Musical Traditions

As with the emergence of other musical traditions studied in this thesis (jazz, classical, R&R), it was expected that the ‘form’ (i.e. music technology and meaning structures) of the new traditions being considered here (Electro-acoustic and Technology-R&R) would reflect that of the dominant culture, i.e. postmodernism

Four postmodern cultural forms have been identified and discussed (see above)
‘Time/space compression’ is a form in which the boundaries between the past and the present are broken down, where the future does not exist, and where all events take place in the perpetual present

‘Surface/simplicity’ is a form that favours surface values over in-depth analysis, the simple over the complex In this form, textual elements are experienced and interpreted with reference to the array of other elements currently surrounding them rather than as part of an elaborate, gradually developing meaning structure

In the 'pastiche' form unrelated elements are placed side-by-side in compositions in order to convey a text. No judgments are made of any of the elements, all are allowed to co-exist to form an overall picture.

'Nostalgia' form is the postmodern practice of looking back on past history/events/characters with a nostalgic eye, often to give reassurance to the viewer/audience.

This section will consider the use of these forms in Electro-acoustic and Technology-R&R compositions. Tapes provided by the interviewees will be used as the primary source of examples, with reference being made to other publicly available sources as well.

Electro-acoustic

Postmodern forms were pervasive in the Electro-acoustic compositions provided by interviewees. 'Time/space compression' can be seen in the way composers break up or interrupt the flow of a composition with no apparent musical or structural purpose in mind. No start, middle or end is identifiable. This can be seen, for example, in the change from one rhythm to another or to no rhythm, or from one dynamic to another, or from a tonal chunk to a non-tonal chunk. For example, on tape C4, '*Pied Piper*', the composer herself explains, "In writing about '*Pied Piper*', it will become evident that the process of composing it is very akin to the postmodernist theory and method known as de-construction. This controversial theory, used in literary works, in the visual arts, and especially in contemporary architecture, involves breaking down already existing works or styles into their basic components. A new work is then constructed by combining some of these

elements, which are often taken from very diverse works, even from different historical periods. The de-construction in *'Pied Piper'* applies to the two sources of material: sound samples, and ideas taken from the Bach Partita" (F)

'Surface/simplicity' refers to a concern with the 'horizontal' rather than 'vertical' approach to composition. In the past, classical composers would have worked with, for example, the sonata or concerto forms, placing the emphasis on developing themes using 'vertical' explorations (travelling through various keys, and contrasting material and climaxing at the end, with, typically, the re-stating of the themes). Today, Electro-acoustic composers are more concerned with the fitting together of sound textures on a 'horizontal' level where sound textures are placed one after the other as the composer's ear, or even eye, judges they best fit. This form is evident in all of the sample compositions. Nyman argues that the postmodern composer uses this form to allow compositions to flow from the musician's imagination rather than to be corralled into ready-made patterns. By placing unrelated elements side by side in a composition, postmodern composers are "'unfixing' the elements traditionally used to construct a piece of music (so that) the sounds exist in themselves" (Nyman 210), and are not seen as building blocks in some grand construction.

With 'surface/simplicity' composition is guided by the imagination of the composer, who is free to change direction in response to the current array of sound or mood. The postmodern composer has not "simplified the complex technical paraphernalia which makes European art music respectable, he has quite bluntly ignored that paraphernalia" (Nyman 206).

'Pastiche' form appears throughout the tapes as a series of sound landscapes through which the listener travels. The pastiche is built by placing one "chunk" (F)

of sound on top of, or merging with, another. In example C1, a collage of an early morning breakfast radio show, is produced by the layering of the sound of a cuckoo clock with the voice of a radio DJ, with a back-beat and some unintelligible voices in the background. In example C3, 'a confused alarm clock' pastiche is made up of a female voice repeating the time, a hectic drum pattern, a synthesizer high pitched repeated note, and a repeated clip of a female trio, and a repeated clip of a DJ.

'Nostalgia' form can be identified in the way allusions from the past enter momentarily in a work. In example C3, an alarm clock collage is suddenly joined by an Indian sitar playing a clip of a traditional melody, which immediately invites the listener to turn back the clock to the 1960's Indian, Beatles era. In C1, a familiar, comforting, answering-machine-like voice message enters unrelated to anything else that is going on in the piece at that moment. In C1, an impersonation of the voice of Sean Connery's 'James Bond' enters and makes a comment and exits.

All four of these postmodern forms are readily evident in any of the wide variety of Electro-acoustic compositions currently accessible on the Web. For example, see Web-sites for "Inner Voices", "Recombinant" (e.g. Francis Dhomont, Stephane Roy), and the International Computer Music Association.

Technology-R&R

Postmodern forms are likewise pervasive in the compositions provided by the Technology-R&R composers. 'Time/space compression' form can be seen in the way the artist interrupts the flow of a piece by placing various elements together with no apparent musical or structural purpose in mind. This can be seen, for example, in the change from one dynamic to another or from a tonal chunk to a non-tonal

chunk This is evident in example R1, where the flow is interrupted when a voice enters saying something that is so technically processed and at times, unintelligible, that it leaves the listener slightly bemused

'Surface/simplicity' is frequently evidenced in the compositions, especially where a music line or sound is repeated over and over again without any development Drummers, for example, traditionally played with a personal style using various individualistic fills etc The very fact that the performance was recorded live, meant that subtle variations in tone and dynamics were present in the final recording Today, for example, a drum pattern of two bars will be programmed on a drum machine, where each beat will have little or no variation and will be played exactly on the beat with computer precision This pattern is then 'looped' (repeated over and over again) without alteration of any kind This kind of surface value pattern is acceptable in its own right, and no desire is felt to develop or refine it This is evident in example R2 where drums and a sequenced bass line enter and continue unchanged throughout Again, in example R3, this same kind of surface repetitiveness is evident in the drum pattern and bass line

'Pastiche' appears throughout the tapes as a series of sound landscapes through which the listener travels The pastiche is achieved by building up various sound passages In example R1 the pastiche is made up of an unintelligible voice, together with various processed sounds, a repetitive rhythm on a hi-hat and a distant, bird-like sound In example R2, the pastiche is made up of shooting-star-like sounds, a string-like swelling sound which plays various fragmented chords, with a bubbling sound and a repetitive bass line and a persistent drum pattern The over-all audio-picture or collage is of distant, outer-space

'Nostalgia' form can be seen in Technology-R&R in the manner in which a sound-element of a particular character enters and figuratively turns the listeners head back in nostalgia. This can be seen in example R2 where a D J -type voice enters and introduces "a simple little sentimental song which we've had many requests for". This voice has echoes of the past. It's reassuring and non-threatening.

All four of these postmodern forms can easily be identified in the numerous mixes and CDs of 'House', 'Electro', 'Tech House', 'Breakbeat', etc., available on the Web. See, for example, the Web-sites for "Tech House", "In-Site" or "Gotta Have House".

Spirit of the New Musical Traditions

As with the emergence of the other musical traditions studied in this thesis (jazz, classical, R&R), it was expected that that 'spirit' (i.e. reflections of the backgrounds, values, aspirations, and conflicts) of the new traditions being considered here (Electro-acoustic and Technology-R&R) would be that of the subordinate cultural traditions involved, i.e. classical and R&R.

In line with the earlier comparison of classical and R&R traditions, it is expected that the emerging Electro-acoustic and Technology-R&R traditions will differ in their underlying aesthetic preferences. The 'spirit' of the Electro-acoustic tradition is expected to reflect the backgrounds, values, etc. of, in Bourdieu's words, those "fractions" of the middle and upper middle class which are "richest in educational capital" (Bourdieu 16). In particular the 'spirit' of this music can be expected to reflect the "aesthetic disposition", a concern not with the immediate 'content' of a work and the feelings or reactions it might evoke, but rather with "the form – the mode of representation, the style – the specifically artistic effects which are only

appreciated relationally, through comparison with other works" (Bourdieu 34, 54)

The 'spirit' of the Technology-R&R tradition, by contrast, is expected to reflect the backgrounds, values, etc of the "working class and middle class fractions least rich in cultural capital" (Bourdieu 32) In particular the 'spirit' of this music can be expected to reflect the "popular aesthetic" with its "affirmation of continuity between art and life", its "deep-rooted demand for participation", for experiencing in music the "passions, emotions, and feelings which *ordinary* people put into their *ordinary* existence" (Bourdieu 32)

Electro-acoustic

The sample of tapes provided by the Electro-acoustic composers (as well as pieces available on the Web) consistently reflect the "aesthetic disposition" With specific reference to music, this disposition is perhaps best described by MIT music professor Jeanne Bamberger's distinction between 'formal' and 'figural' approaches to music The "individual (using) a *formal mode* of thought", as discussed by Gardner, "can conceptualize musical experience in a principled manner" Such a musician would be "equipped with propositional knowledge about music as a system", and would, for example, "understand what occurs on a measure-by-measure basis, (and) appreciate a passage in terms of the number of beats per measure and the occurrence of particular rhythmic patterns against this metrical background" (Bamberger 110-111) For the Electro-acoustic composer this 'formal' approach translates into, for example, the "rather slow and painstaking musical work" done at Princeton's Winham Laboratory where "the full power of available hardware and software is brought to bear in pursuit of highly idiosyncratic and individual musical ends" (CDCM Computer Music Series, 2000)

Just such 'formal' approach to music is shown in the Electro-acoustic compositions, each of which reflected a great deal of systematic thought, analysis and refinement. The sound collages in these compositions, for example, use sampled sounds that are manipulated extensively. Sound timbres are complex and subtly blended, very often resulting in the listener being unable to identify the original sounds. Works tend to be in-depth, combining an array of sound elements such as traditional classical instruments (often not used in their traditional manner), instruments from various other traditions (e.g. the electric guitar), and from all parts of the world (ethnic instruments), sounds of nature (e.g. the elements, animals), sounds of modern everyday life (e.g. traffic, telephone, industrial sounds), and sounds generated by the human voice (both pitched and non-pitched).

These same indications of the "aesthetic disposition" can be found in numerous examples of Electro-acoustic composition which are now available on the Web. For example, see the Web-sites for "CDeMUSIC", Frances White, or Katharine Norman.

It is not only the music itself, but the analysis and commentary provided by the composers which indicates the backgrounds, values, etc. characteristic of the "aesthetic disposition".

In tape C4, for example, the composer's own comments clearly indicate the concern with "form, mode of representation, style, specifically artistic effects which are only appreciated through comparison with other works" (Bourdieu 34, 54). In her commentary, discussed earlier, she talks about "the process of composing (being) very akin to the postmodernist theory and method (of) de-construction", with reference to "literary works", "visual arts", "contemporary architecture", and "ideas taken from the Bach Partita". Similar examples are readily available on the Web.

Frances White's *Still Life with Piano*, for example, "features a tape part which is made of computer-processed piano sounds, and a piano soloist who plays the source material for these sounds and various extensions of them " Frances White "attempt(s) to create a relationship between the two parts where aspects of the same entity evolve in different dimensions The computer acts as a kind of microscope, capable of vast distortions and expansions of time and spectrum, while the real piano quietly and persistently articulates these explorations and puts them in the perspective of its own personality" (CDCM Computer Music Series, 2000)

Technology-R&R

The sample of tapes provided by the Technology-R&R musicians, in contrast to those of the Electro-acoustic composers, consistently reflects the 'popular disposition' Again with specific reference to Bamberger's approaches to "processing music", the works created by the Technology-R&R musicians clearly reflect a "figural approach", an "approach which is intuitive, based solely on what is heard irrespective of any theoretical knowledge about music" These musicians are attending to the "global features" of the music such as "whether it gets louder or softer, faster or slower" Their concerns are with the "'felt' features" of the music (Gardner 110) In particular in these pieces of music there is that concern - common to all genres of popular music - with "the grain" of the music, with capturing, not the "correct technique", but rather that "unique and idiosyncratic" feel, (passion, emotion, personality), that expression of the musician's "physical presence within the music" (Negus 90)

Technology-R&R musicians convey the spirit of R&R in two identifiable ways Firstly, the singing style employs techniques such as rasping, growling, even shouting, and

'bending' notes around a set melody. These techniques are used extensively throughout the Technology-R&R tapes supplied. For example, in tape R1, a voice is heard shouting in the background in a manner that conveys a sense of rebellion, anti-establishment, street-talk.

The second way the spirit of R&R is found in Technology-R&R is in the combination of instruments used. R&R with its black R&B roots inevitably employed the simple combo of drums, bass, electric guitar, lead vocals, backing vocals, with occasional use of sax or piano. In Technology-R&R this combination of instruments largely dominates. For example, in the tapes supplied R1, R2 and R3 drums, bass, lead vocals and backing vocals are used extensively. The fact that the sounds of these 'instruments' are now coming from small boxes (i.e. synthesisers and drum machines) in the eyes of Technology-R&R musicians in no way detracts from the R&R spirit.

Similar examples of the importance of the individual "grain" within Technology-R&R music can readily be found on the Web. For example, In-Site Magazine's Spring 1999 edition comments on many of the stars of the 'new generation' of 'Electronic music'.

Each is distinguished by core features of the 'popular aesthetic', i.e. music that is uniquely lived, intensely/emotionally/passionately experienced, by a particular personality. Among them are

"Aphrodite, the 'King of the Jungle', (who is) 'The Man' when it comes to Drum 'n' Bass",

"Punisher, Detroit's best kept secret, (a) beautiful petite young lady (who is) into really hard Techno and hard Drum 'n' Bass",

"Bass Mechanic, the 'boss' of newest form of Techno, 'Ghetto-Tech' - a mixture of electro-techno and what could best be described as a 'Miami Bass' sound" (In-Site, 2000)

Rejection of the New Musical Traditions

As discussed at the outset of this thesis, rejection of musical productions (and values inherent in them) by opinion leaders of the existing musical traditions, is taken as evidence of the emergence of a new musical tradition (the theoretical arguments supporting this position are presented in Chapter 1 (21-23)) Clearly such rejection is expected in relation to both Electro-acoustic and Technology-R&R. Such rejection is expected for two interrelated reasons, both having to do with the ways in which the emergence of a new tradition threatens those whose lives are tied to the existing established tradition. On one hand there is the direct threat to the power base of the existing leaders, i.e. to their skills, knowledge and expertise. This threat is clearly evident in the present case, for example, in Durant's discussion of the pervasive "practical musical innovation(s)" inherent in the recent development of "digital production technologies" (Durant 183-85). Equally powerful, though perhaps less immediately obvious, is the threat to the larger, more implicit, values and traditions inherent in the established musical tradition, i.e. the threat to the tradition as a 'way of life'. Paul Lansky, for instance, comments on this problem from the point of view of an Electro-acoustic composer trying to work within the classical music establishment. "In the realm of classical institutions many of us constantly notice a conflict. Much of our music cannot survive in traditional showcases. The

social contract we make as composers is invalid. We have lots of patches. We involve live performers, we put blinking lights on our machines, we compromise our vision. But still, many of the things we do with our machines simply do not have appropriate contexts among the classical musical-social institutions. We can try to shoehorn them in, but that is missing the point." (Lansky, 2000). Clearly the development of 'musical-social institutions' more appropriate to the 'things machines can do' is not going to bode well for the existing classical ones.

Electro-acoustic

The threat to existing knowledge and skills of musicians within the classical tradition is readily evident on Web-sites. The "Network for New Music" which is "passionately devoted to performing, encouraging and commissioning a great diversity of new (classical) music of the highest quality", for example, recently had a total of 63 hits on its Web-site counter over the course of an entire month (Network for New Music, 2000). In an editorial lamenting the current problems of New (classical) music, Greg D'Alessio, notes that "it can often take years for the pieces of our foremost composers to get performed even a handful of times, longer still for them to be recorded and widely distributed" (D'Alessio, 2000).

Irish classical composers, commenting 'off the record', similarly felt 'very aggrieved' at the current lack of support for new works by 'modern composers' from the likes of the Arts Council and RTE radio. Such aggravation is understandable when you look at the "Composition Competitions" listed on the Irish Contemporary Music Centre's Web-site. For a ten month period there are a mere 16 competitions available internationally, and of these only 2 offer a financial award of any magnitude. The main attraction of this handful of competitions is clearly the

opportunity (however small) to have your work acknowledged professionally (The Contemporary Music Centre, 2000) Finally, perhaps most telling is the comment by Princeton University professor, Paul Lansky, a major figure in Electro-acoustic music, lamenting the “deeply disturbing fact” that “in the near future, if not already, the ability of a violinist to make a living in commercial areas will virtually disappear” (Lansky, 2000)

The responses to such a threat to the very future of classical instrumental skill and compositional ability by the rapid development of Electro-acoustical music are, at least publicly, restrained. None of the older Electro-acoustic interviewees, for instance, was willing to voice any objections ‘on the record’. Perhaps this is not so surprising given the fact that Electro-acoustic music/computer laboratories are by now a part of, and increasingly an influential part of, the classical music world. This importance is readily seen by visiting the Web-sites of many major university music departments (See, for example, those of Columbia University, Indiana University, Princeton University, University of California, Berkeley, University of Chicago). As in all families, small communities, and organizations where interdependence is basic to survival, public statements of prejudice/hostility tend to be kept to a minimum and spoken implicitly or coded in neutral terms. Thus distaste for Electro-acoustic is often coded in comments about the ‘still vast and unexplored possibilities of acoustic instruments’, or the possibilities of ‘blending electronic and acoustic instruments’ - a blending which in reality works out to using the computer as a tool for writing acoustic music. Such implicit rejection is common among Irish classical musicians and composers known to the author. It can equally be seen on Web-sites promoting ‘New music’, such as those cited above. The ‘programme notes’ for James Primosch’s composition, *Dream Journal*, provide one such example. He notes that the piece was “realized” by using “the formidable resources offered by the

ensemble of two pianos, percussion and electronic sound on tape” What exactly did this “electronic sound on tape” contribute to the “formidable resources”? It was used to “amplify and extend the musical gestures of the acoustic instruments” (Primosch, 2000)

The threat to classical music as a ‘way of life’ is likewise evident on various Web-sites Robert P Commanday, editor of the ‘San Francisco Classical Voice’, for example, laments the fact that neither of the major San Francisco papers any longer “support(s) the important performers and composers in our midst”, and as a result “our community and its quality of life (are) the poorer for the loss” (2000) Greg D’Alessio makes a similar observation regarding the “desire for a better future, for music, for ourselves as musicians, and for our culture” A desire which is “acutely and pervasively felt” now because “the place of Art music in the culture at large is increasingly tenuous and confused” (2000)

The role of digital technology, postmodern culture, and Electro-acoustic music in contributing to this demise in the “quality of life” is equally evident on the Web-sites. The Composers Guild of New Jersey “collection of essays”, entitled “Thoughts”, provides some good examples of this William Anderson in his “rantings about progress” comments on ‘revolution’ and ‘musical complexity’ in ways which clearly seem to be directed at Electro-acoustic music Early on Anderson notes that “the eighties and nineties have seen too many glib, facile revolutions in music” He then goes on to elaborate on “composers (he admires) like Brahms, Schoenberg and Babbitt for their not being revolutionary, for the way their music demonstrates a deep appreciation and assimilation of all that came before it ” He then illustrates, for example, how Babbitt’s music (one of the early electronic composers) is in fact within the classical canon in that it extended “harmonic rhythm, or what we

recognize in tonal music as the middle-ground harmonic motion" While such increases in "music(al) complexity (are) now out of fashion, that is O K " Anderson is confident that "it'll come back" (2000)

Others are not so sure Timothy Broege, for instance, in another of the "Thoughts" collection of essays, addresses himself to the "serious listener", the "citizen of the world of music", who has "certain responsibilities", responsibilities which it soon becomes obvious are in direct conflict with the cultural/digital world of postmodernism As with Anderson's essay, underlying all of Broege's 'responsibilities' is an assumed commitment to the classical music tradition Under "Literacy" for example, Broege suggests that "Morton Feldman's music (another early electronic composer who like Babbitt is now included within the classical canon)" is even more remarkable when heard as spiritual and stylistic heir to the musical legacy of Anton Webern Under, "Common Sense", he urges the listener to pay attention to "what one is hearing", that is, "a violin, a harpsichord, three tuned bongos, a keening voice, a consort of viols" - which is not exactly the world of Electro-acoustic sound (2000)

Implicit though they are, the message of these essays is clear All is not well for our 'way of life' Lansky, at home in both worlds - classical and Electro-acoustic - can afford to be far more explicit Even in summary his observations make it clear that all is never going to be well within the traditional classical 'way of life' He points out that the "old saw about the composer-performer-listener triangle", while "naive is a good simple model of a classical notion of musical-social interaction" Unfortunately (for the likes of Broege and Anderson) when "music-making machines and computers are added to the mix", Lansky argues that two more "nodes" must be added to the model 'sound-giver' and 'instrument-builder' "Being a sound-giver

may mean simply giving a cassette to a friend, or it may mean publishing a compact disc” Thus due to the “social effects of technology” it is no longer necessary to have musical “skill or genius” to be included, along with the composer or performer, as part of the “sound generating node” As for “instrument-builders”, with the advent of digital technology, and hence numerous people designing and using the likes of “Csound, Music5, Cmix, M, Performer ”, “ instrument design and construction (can) now become a form of musical composition” Moreover both of these activities, sound-giving and instrument-building, are “essentially independent of social institutions” In short, those most firmly rooted to the classical music tradition have every reason to fear the continuing emergence of Electro-acoustic music Implicit or otherwise, their rejection is to be expected

Technology-R&R

Given the differences in ‘aesthetic disposition’ underlying the classical and R&R traditions, (see above) it is not surprising to find parallel differences in the explicitness of their rejections of changes which threaten them, or as seen from the younger side of the age divide, in their rejection of “wussed out puddle rockers” and “creaking old relics” (Robb, 115, 227, 230) Perhaps the clearest evidence of the generational split between those raised on analog R&R and digital came in the late 80s with the Acid House raves, and the subsequent early '90s boom of the DJ club culture in which the “rock musician so long central to pop culture was superseded by ‘a bloke who plays records’” Or more to the point, the analog R&R band was replaced by “cut and paste culture on the front-line”, by a guy with an “incredible knowledge” of the likes of “vary-speeding the decks, working with technics and mixing”, i.e. of creating a “music that matched the nu digital times” (Robb 112-14, 236-37, 332)

There was of course another side to this, coming a few years later and representing no doubt a rejection of everything from The Beastie Boys and Ice T and Prodigy, to the “skatewear, wallet chains baggy Rock! kids the acid head “smileys”, “loon(ing) about on E jabbing sets of shapes” in sweaty Klub Sch-ooms, to the old “electro rappers building (their) drum loops (and) scratching records” (Robb 53-4, 226, 228-29, 238) This other side was the mid-90s boom in cover bands and “bands reformed”, including the likes of The Velvet Underground, The Sex Pistols, and New Order (Robb 115-16), not to mention an incredible resurgence of interest in the likes of The Rolling Stones Central to all of these groups is of course analog music, or more to the point, the “sexy, noisy, dominating instrumental voice” of the old rocker’s era, the electric guitar (Mackay 41) As for the cover bands, “made up of usually hotshot local musos who never quite got the break”, these “beer heads and losers were getting paid the full whack for pretending to be Oasis, The Beatles, The Stone Roses, The Who Pink Floyd or anyone” Not surprisingly in terms of the present analysis, the punters who were paying the “full whack” to keep the “gig circuit chock full of cover bands” were “people who can’t really be arsed if pop goes forward or not, preferring to wallow in the glorious past (even if it was a shallow copy)” (Robb 117)

The rejection of the new digital musical forms by those raised on analog R&R - or as Simon Price puts it, the rejection of “collage” by “people who still think craftsmanship comes from the soul” (in Robb 4) - is reflected in comments made by the older cohort of Irish Technology-R&R interviewees and by other musicians of their generation

With regard to the loss of the essence of the music, and the loss of the skills essential to delivering this music, the interviewees who made their careers as R&R

musicians in the '60s and '70s were typically unimpressed with developments in digital music. With regard to drum machines and the sampling and looping associated with them, the following observation is typical: "The 1980's dance music with its mechanistic drone ... needs to be humanised" (Ward, Stokes and Tucker, 620). For this generation of R&R musicians the essence of R& R is the backbeat and it can truly only be supplied by a 'real' drummer.

As one interviewee put it with reference to MIDI, "I was trying to make it sound like a drum sound and maybe a real bass sound but in the end of the day it never did" (Q).

This problem was also seen as being more general. For example, as one commented:

"It, MIDI, has the potential to affect your playing detrimentally because you can do it [play] either slowly and then speed it up, or quantize it or whatever ... and because you probably spend more time ... making a note longer or faster or harder ... manually rather than actually playing it, you can do it so many different ways." (H)

The ways of playing and thinking required for digital technology were simply incompatible with those the older generation of analog rockers had grown up with. As one put it,

"After a while it [technology] gave me a couple of ideas but I always reverted back to writing on the piano ... even different sounds distracted, it put something in the way ... it's really your imagination that writes ... Eventually I got a printout of one of the tunes I'd written. Once I'd got the printout I never

went near it [the computer] again " (Q)

With regard to the wider issue of losing their 'way of life', the older generation of R&R musicians would understand Frederickson's concerns about digital music-making "leading to a decline in the social character of music practice", about "technology transform(ing) traditional conventions of music-making by separating musicians from one another (so that) in place of musical dialogues, there is perpetual monologue, (so that) instead of communicat(ing) with others, the musician 'interfaces with a diskette'" (Negus 26)

Beyond this there is the actual experience of participating in the world of R&R music. On a musical level it doesn't feel right to the older R&R musicians. As one interviewee put it, "it is a sterile environment where there's no personality in the music" (B). And beyond that how do you fit in socially, after in Robb's terms, "Acid House changed the clothes, changed the drugs, and changed the music" (Robb 186a). As one of the older interviewees put it, "they look different, take different drugs and listen to different music" (N).

Perhaps the summary of such rejection by the older R&R musicians is best left to one of their generation who is not a part of their popular culture, but rather of the "unpopular culture". No matter, for as we have seen the loss of musical skills and the 'way of life' associated with them is equally felt within the R&R and the classical traditions. "To my mind there is no correlation between automation and musical virtue. The music doesn't get better simply because one person can do the work of fifty in a fraction of the time. It probably gets worse. There is also no virtue in the fact that we have come to accept the sound of machine-made music as reality in our media. As a matter of fact, I think we will pay a very stiff price in the loss of

generations of people who can make wonderful sounds with their mouths, fingers and toes " (Lansky, 2000)

EPILOGUE

Electro-acoustic and Technology-R&R as New Musical Traditions

While the nature of this thesis precluded any attempt to systematically document the process of intense collision - in particular the stages of 'forming', 'storming', and 'norming' that were studied in relation to the formation of prior traditions (jazz etc) - the existence of Electro-acoustic and Technology-R&R as new musical traditions seems undeniable at this point. At the outset of this thesis it was argued that a musical tradition is a particular approach to defining, learning, creating, and performing music. Moreover, this approach has to be widely recognized within society and actively promoted by a significant portion of its members. Clearly these points appear to apply to both Electro-acoustic and Technology-R&R in terms of contrasting them to the analog traditions each emerged from - i.e. classical and R&R. For example, a quick and easily accessible demonstration of this is ever available on the mp3.com Web-site's 'Top 40' play lists. Five of the sixteen overall 'genres' are "Classical", "Electronic", "HipHop/Rap", "Metal", and "Pop & Rock". What we have termed 'Electro-acoustic' is contained within mp3.com's "Classical" genre under two headings "Electronic Classical" and "Experimental Classical". The remaining 19 headings are either periods ("Romantic") or types ("Opera") or traditional analog instruments ("Piano") within the classical tradition. What we have termed "Technology-R&R" shows up almost exclusively in the "Electronic" genre (which contains the likes of "Breakbeat", "Drum 'n' Bass", "House", and "Techno"),

and the "HipHop/Rap" genre. Old style R&R, with its emphasis on verse/chorus songs featuring amplified analog instruments, especially electric guitar, shows up in "Pop & Rock" and "Metal" (See www.mp3.com)

If further evidence of the existence of Electro-acoustic and Technology-R&R as traditions separate from their analog predecessors (i.e. classical and R&R) were needed, Web-sites and organizations specifically developed to promote their interests are easily identified. For instance with regard to Electro-acoustic, the International Computer Music Association (ICMA), founded in 1974, and the Society for Electro-Acoustic Music in the United States, (SEAMUS), founded in 1984, are now powerful and well-established professional organizations (See Web-sites www.computer-music.org and <http://seamus.isu.edu>) Likewise with regard to Technology-R&R, see Web-sites for In-Site (www.in-sitemagazine.com) and Tech House (www.techno.ca/communication/lists/tech-house)

With regard to the four dimensions which were identified as being central to differentiating musical traditions - 'ideology', 'form/structure', 'technology', 'social organization' - (see ch. 1), the new traditions differ as expected both from their predecessors and from each other. The one dimension on which both Electro-acoustic and Technology-R&R are identical to their predecessors ('ideology') is of course as expected in terms of both of the existing analog traditions (classical and R&R) having been 'taken over' by the same emerging dominant digital culture, i.e. postmodernism (see intense collision above). Beyond this, several aspects of two dimensions - 'form/structure' and 'social organization' - are worth some consideration as they are indicative of the recent emergence of both Electro-acoustic and Technology-R&R as new musical traditions. In particular, in both Electro-acoustic and Technology-R&R there is clear evidence of on-going

uncertainty with regard to issues relevant to both 'form/structure' and 'social organization'

This uncertainty is arguably much greater within the Electro-acoustic tradition, and this should not be surprising. After all, the Electro-acoustic tradition is rooted in the same cultural world as the classical tradition, a world characterized by Bourdieu with phrases such as "permanence over time", "continuity of lineage", and "legitimate membership in bourgeois dynasties" (Bourdieu 76-77). Access to this world is not acquired overnight, or even over years, but rather over decades. In Bourdieu's terms it could be said that access to this "more polished, more polite, better policed world - a world which has produced Beethoven and Mozart and continues to produce people capable of playing and appreciating them" - and producing their 21st century equivalents in Electro-acoustic - requires a certain "distance from necessity" (Bourdieu 53,76-77). This is the sort of distance which comes from more than student fees or even government funding. It requires not only the right kind of private funding, but also visible links to right kind of people - people like Lincoln and Vanderbilt and Franz Liszt, like Woodrow Wilson and Augustus Juilliard, the "wealthy textile merchant" who died in 1919 and left "a bequest of \$20,000,000 for the advancement of music" (Juilliard School, 2000). There is no ready access to this world. Even today Juilliard has no involvement, however slight, in Electro-acoustic music. Similarly, while many of the major American university music departments have ties to computer music laboratories and/or Electro-acoustic courses, these facilities are often located outside the music department and tied to other departments (e.g. physics, psychology) as well. Academically Electro-acoustic music is also clearly subsidiary within the overall music programmes.

Such is not the case with Technology-R&R. Financed and driven by the 'youth market', every new technology and style which 'sells' is welcome. The uncertainties here aren't so much related to finding a place and expanding your influence within the old institutions, but rather with keeping your integrity as, in the words of In-Site publisher, Jonathan Wolff, "Advertisers, Record Executives, and other corporate types (start) popping their heads up (and) disrupt (ing) the vibe" (In-Site Magazine, 2000)

Uncertainties related to 'social organization' (where, when, by whom, and how the music is performed) are evident at various levels. In Electro-acoustic a major one of these is directly related to the ongoing problem of finding a place within the existing institutional settings. As noted above attempts to solve this problem vary hugely across universities. For many of the Electro-acoustic programmes ties to a music department and its performance facilities result in the sort of "shoehorn" solutions Paul Lansky talked about. Solutions which involve "lots of patches", for example, "live performers, blinking lights on our machines, compromis(ing) our vision simply (because) many of the things we do with our machines do not have appropriate contexts among the classical musical-social institutions" (Lansky 2000). This problem of how the music interacts with its audience - or in Lansky's terms, "negotiates terms with its listeners" - is a sizable one for a new tradition based on digital technology. As he points out a Brahms symphony, a Webern song, a film score, pop music, dance music, techno, all describe a particular world-space. Moreover, each piece of music negotiates terms of engagement, for example, "sit still and listen carefully, or dance to me, or talk over me with the listener" (in Riddell). For some Electro-acoustic compositions the existing concert stage is almost appropriate. Like Brahms's who "really mastered the large concert hall" (for example, the "ending of (his) Second Symphony, where there are series of big

chords while the horns hold a sustained D major triad. At that moment you actually hear the audience exploding with applause, or perhaps anticipating a huge ovation"), there are some Electro-acoustic composers who write pieces for dozens of large speakers in a large space and attempt to create a sensational effect for a large audience -- and they do" (Lansky in Perry, 2000)

However even in this case 'negotiation' problems still remain in that the large concert halls Lansky refers to were designed both acoustically and aesthetically to engage a classical audience with a symphonic performance. Aside from the acoustics - and there are plenty of complications here - clearly "dozens of large speakers" are never going to replace a symphony orchestra. As one of the Irish interviewees recalled "I was having a cup of tea and a scone sitting at the side of the stage. I pressed play on the machine completely oblivious to the audience. Everybody told me later that they were glued to watching me having me tea and me scone. a real theatrical performance. did I plan it this way?" (K)

As this example suggests Lansky's 'negotiations' are complicated by many factors, in particular by the simple fact that Electro-acoustic music is now being performed for people who, and in settings which, are not accustomed to the 'terms' it proposes. What for example are the proper 'terms of negotiation' for the following two pieces

just_more_idle_chatter, a CD in which "thousands of synthesized speech fragments (are) scatter(ed) against a sustained (and) plaintive choral background" (Perry, 2000),

Interface - a "free electronic improvisation" performance involving a "five-string bass, which detects changes in light, motion, touch and tilt", a six-string

'computer-extended' violin, "an interactive dancer who make(s) sounds as she moves with several different kinds of sensors attached to her body", and a "computer-generated interactive video display" (Shearer, 2000)

The problems posed by the first example are familiar to virtually all of the Irish Electro-acoustic interviewees. As one of them put it: "Usually the audience are going to see a show, a dance thing, the visual element is the focus, where they're actually going to see something, it's [the music's] not in the raw state like TV, video, is associated with it. If it's pure audio there's a problem, the ordinary punter is mystified by the whole thing. 'I can't get a latch on it' they'll say. 'I'll suffer it out for half an hour'. If you can give them a context - tell them this is about Dublin City in 1940, or this is a war story, this is a story, when you put a language with it, it helps an awful lot." (V)

Of course, performance requires a fair bit more than simply "giv(ing) them a context". It requires something closer to the *Interface* end of the scale. If your compositions - like many of Lansky's and all of the Irish interviewees - involve neither a 'live' nor a multimedia element, then why give a performance at all? Why not simply recognize that the appropriate 'terms' of performance for your Electro-acoustic music are, as in the case of Lansky's *just_more_idle_chatter* CD, "intimate settings (where) one can take them in with the same kind of attention and devotion one would use for a good book" (in Riddell, 2000). One important reason is that selling CDs over the Web can never address the composers' need for feedback on their work. Why else, for example, would the Irish composers continue to give performances of their latest Electro-acoustic compositions - performances which tend to be attended by "the committed half-dozen" (G)? Similarly, exchanging tapes or selling CDs can never provide the sort of shared emotive engagement audiences (and performers) find, for

example, in the Brahms Symphonies

The second example above, the “free electronic improvisation” of *Interface*, may seem to have solved all the ‘negotiation’ problems discussed so far. Clearly this is a performance, and clearly live emotive engagement and feedback are given. Unfortunately, it is not that simple. A quick reread of the description of *Interface* given above tells you this music is not really for performance on either the classical or the R&R stage. The same is true for the ‘music’ itself. “An ominous tone sounds. The noise grows, modulates and then diminishes, replaced by the resonance of metal bending under immense strain - a heavy pseudo-industrial wail. From this texture emerges a watery moan, almost organic, similar to whale song” (Shearer, 2000).

Within the Technology-R&R tradition - with its “deep-rooted demand for participation” and connection with the “passions, emotions and feelings (of) ordinary people” (Bourdieu 32) - the issues of audience engagement and feedback appear to be readily accommodated, be it in dance clubs, live concerts, or mp3.com interactive Web polls.

However, as with Electro-acoustic music, it is not that simple. Consider just two examples.

“Drum and bass is really important. It’s like when punk first came along. The first time you heard these records you had to completely relearn a way of listening to the music. There was so much energy and excitement, at first you couldn’t dance to it. You’d just jump up and down. When I listened to it I thought ‘Fucking hell, it’s so energising.’ The records totally squeezed your

adrenal glands, it was really challenging I thought 'I don't know how to absorb this' I remember going out to a drum and bass club for the first time, I couldn't dance to it at all but you would feel the massive energy in the club" (Mary Ann Hobbs, BBC Radio One presenter, in Robb 343-44)

"This list serves for the discussion of non-commercial house and techno-house music All forms of deep house, minimal house, tech-house and housey techno are welcome here Relevant labels include Abnormal, Boozo Ladomat 2000, Lask Strive, Subspace Wiggle, YoshiToshi, etc What is not relevant Any sort of more commercial house, funky breaks, hard techno, trance, jungle, trip hop " (Tech House, 2000)

In short, clearly uncertainties around the 'social organization' dimension (who plays what with whom, how and where, and how do you respond to it) are rife in both of the new musical traditions

With so many aspects of 'social organization' still emerging, and the 'technology' in continual rapid evolution - e g , "*The Machine Listening Group* is working towards bridging the gap between the current generation of audio technologies and those that will be needed for future interactive media applications" (Machine Listening Group, 2000) - it is not surprising that the 'form/structure' dimension (the question of what constitutes music and how is it to be discussed and evaluated) within the new traditions seems barely in its infancy As one of the Irish interviewees put it, "if you are working at the coal-face you see nothing else" (T), or in Paul Lansky's words, "With all the junk that occupies our workbench when we enter the 'digital domain', neural nets, FIR filters, quantization errors, and so on, why worry about social and conceptual issues as well" (Lansky, 2000)

There is of course much evidence accumulating which is indicative of what forms and structures work best. The Electronic Music Foundation's collection of CD-ROMs, for example, provides an extensive sampling of the 'classics' of Electro-acoustic music (CDeMUSIC 2000). Likewise organizations such as SEAMUS and the ICMA provide their own collections of more recent works. The SEAMUS Compact Disc Series, for instance, is composed of music annually "selected from the most recent National Conference by a vote of conference attendees" (SEAMUS Compact Disk Series 27, 2000).

Similarly much evidence is available indicating what sort of factors come into play in making the music 'work'. This ranges from the likes of individual composers' comments regarding their works, to historical accounts, as for example in the Electronic Music Foundation's collection of books on the likes of *Rock Hardware* and *The Art of Noise*. One of these books, Joel Chadabe's *Electric Sound*, is based on "more than 150 interviews with the musicians, engineers and entrepreneurs that developed the technology and created new approaches to music". Indicative of the state of development of thinking regarding the 'form/structure' of such music, it is also "the first book to deal comprehensively with the history of electronic music" (CDeMUSIC, Books, 2000).

This is not to say there hasn't been intensive and systematic thinking going on about these issues. Clearly such analytic work is ever in progress. Lansky, for example, has obviously spent a great deal of time both alone and in discussion with his colleagues - as no doubt have virtually all other Electro-acoustic (and ditto for Technology-R&R) composers - trying to come up with adequate concepts and ways of thinking about the variations in sound that the advent of digital technology makes possible. His interviews and commentaries which are available on the Web, Lansky

has short discussions of numerous aspects of 'form/structure', including "A Network Model of Music", "The Computer and Notation", "Loudspeakers Windows or Instruments?", "The Audience and Computer Music", and "Saying Things with a Computer" (Lansky in Perry, 2000). The point is, these are very short, initial forays into the issues of 'form/structure'. And even as these issues become more formally considered, as for example in *The Leonardo Music Journal* (Sound The Leonardo Music Journal, 2000) or the ICMA's "2000 International Computer Music Conference" session on "Aesthetics and History of Computer Music" (International Computer Music Conference 2000, 2000), the evidence from the Web cited here with reference to a fair number of researchers and research organisations clearly suggests that there are as yet no commonly agreed concepts or systems of concepts within either Electro-acoustic or Technology-R&R for thinking about or evaluating the music.

Given the similar states of uncertainty and flux with regard to 'social organisation' and 'technology' it is not surprising to find a sense of loss, isolation, and doubt reflected in the comments of many of the Irish interviewees:

"it's easy to work in isolation but whether that's very healthy ...!" (E)

"someone who is not necessarily an introverted person, once you put them in front of a computer, that's the way they start to go" (M)

"the musical content may not be as good as it could or should be, given such creative opportunities" (J)

Nor is it surprising to find many of them showing a fondness for their 'old' analog instruments, a desire to keep in touch with their older pre-digital roots. All of which

is surely reflective of the newness of the emergent digital traditions, a newness and uncertainty of direction which inevitably, as Nicholas Collins, *Leonardo Music Journal's* editor-in-chief, puts it "raises fundamental questions about the identity and responsibility of the composer" (Sound The Leonardo Music Journal 2000)

CHAPTER 6 DISCUSSION

The findings of this thesis, across all five case studies are clearly in line with the theoretical expectations outlined in Chapter 1. However, before summarising the results of this thesis and addressing some of the more intriguing aspects of these findings, it is worth reminding ourselves of the various weaknesses inherent in the methodologies employed in this thesis, and hence of the possibilities for inadequacies in the data.

1) METHODOLOGICAL ISSUES

The subject matter covered in this thesis was both extremely extensive and complex. Recall that the focus of the thesis was on change processes initially triggered at the societal level (e.g., U.S. Presidential election of 1876 and subsequent development of Jim Crow laws throughout the American South in case of jazz). The focus then, in each of the five case studies, 'zoomed in' to the personal, interpersonal, small group, social network level to study changes in the ways in which musicians played and thought about music. This focus covered not a year or even 10, but rather somewhere between about 15 (Technology-R&R) and 300 (classical) years in the case of 'intensive collisions' and of course even larger time spans in the less closely studied periods of 'gradually evolving collision' which preceded them. Finally, the focus shifted again, 'zoomed out' if you like, back to the cultural level to identify the characteristics of the new musical tradition which was, in each of the five case studies, the outcome of the overall process. While the latter part of this process, i.e. the essential role of organizational bases in the establishment and development of new artistic traditions (see Becker 300-350) was not included in this research (see below), the scope and complexity of the overall study is more than considerable to say the least.

The reason for the data collection of the thesis covering so much ground in terms of both time periods and social (i.e. cultural to personal) space is simple that is what the theory called for. Recall that the theoretical analysis of how and why cultural collisions result in the development of new musical traditions (see Dorris, 1990, and Ch. 1 here) directed the research to specific features of the cultural, personal/interpersonal, and musical change processes.

Given the identification of the characteristics of a musical tradition (see point 1, Ch. 1), it was possible to identify fairly clearly the points (time spans actually) at which each of the five new traditions became clearly distinguishable from those which preceded them. Looking backward from each such point, it was not very difficult to locate with some precision the anticipated trigger(s) of this change at the societal level (see point 3, Ch. 1). Examples of this would include the 1876 presidential election cited above with reference to jazz or the mid-1970s' "transformation in the political economy of late twentieth-century capitalism" from the "rigidities of Fordism" to "flexible accumulation" (Harvey 121, 147) with reference to Electro-acoustic or Technology-R&R music).

Given this information it was possible to look for evidence of the anticipated musical change process as outlined in Chapter 1. This included a specific developmental sequence ('forming', 'storming' and 'norming') during which the characteristics of the new musical tradition would emerge, evidence of new ways of playing and thinking about music, the pivotal role of the emerging generation of young, still low power, musicians in determining the 'form' and 'spirit' of the new music, and the rejection of the new music by older established leaders within the existing traditions.

The adequacy of the evidence which was gathered inevitably varied across the five

traditions which were studied. In addition to the obvious resource constraints of an MA thesis, this variation can be traced to several sources. These include

1 The further back in time the tradition goes, the less access there is to music samples reflecting the characteristics of the music and, even more so, the process of change within the music. This is especially true of classical, and to a lesser extent of jazz,

2 The further back in time, the less access there is to information from the people directly involved in playing/thinking about/performing the music, i.e. musicians, composers, producers, managers, etc. Again this is especially true of classical, and to a lesser extent of jazz,

3 The longer the period of time involved and the more expansive the distance between participants, the less adequate sample there is of the whole range of experience. Thus in the case of classical, and to a lesser extent of R&R, it was not feasible to get anything even approaching adequate data on the actual process by which the new music was developed through the cumulative activities of countless musical groupings over a number of years, across a huge geographic spread, i.e. the actual realities of the sequence of 'forming', 'storming', and 'norming'. All that could be done was simply to get 'key indicators' of the change process - typically documentation of those activities and performers and music which the experts in each area of music have found worthy of study.

A brief comparison of classical, jazz, and the recent digital traditions (Electro-acoustic and Technology-R&R) will serve to illustrate the sorts of variations in the

adequacy of the information which was available across the five different traditions

With regard to the emergence of classical, the period of 'intensive collision' covered over 10 generations of musicians, across much of Western Europe. Moreover the communication processes involved in the gradual transformation of the music were virtually all face to face, leaving historians with very partial accounts (even, though to a lesser extent, with regard to the musical scores) of the actual process of change. Given the resource constraints of an MA thesis, access to information about this period was even further reduced by the need to rely almost exclusively on the works of musical historians such as Harman & Mellers and Grout & Palisca.

The consequences of this reliance on such inevitably incomplete sources are obvious. At the societal level, for instance, the thesis takes barely two pages (Chapter 3) to overview many decades of major societal change driven by monarchs, popes, and merchant bankers which resulted in highly skilled polyphonic contrapuntal Franco-Flemish church composers fleeing war torn France for the wealthy humanist courts of renaissance Italy where harmony and chordal writing were the order of the day.

Similarly, any information regarding the actual experience of these church composers being suddenly immersed in the "intense carnal quality of chromatic harmonies" (Grout and Palisca, 3rd ed, 264) pulsating through, e.g., the courts of the Medici's is totally lacking. One can only imagine a classically trained Creole musician pulling out his clarinet for the first time in Storyville.

The same lack of information is equally true regarding many of the major musicians and composers who would have contributed to the transformation of the music. For

instance, while the musical compositions of Palestrina, the "Prince of Music" who "supervised the revision" of church music to purge it of "everything 'impure or lascivious'" as dictated by the Council of Trent, was "consciously preserved", there is virtually no record of the "works of other great Catholic church composers of the fifteenth and sixteenth centuries" (Grout and Palisca, 3rd ed., 260, 262-63, 270).

In the case of jazz the available information is much more extensive. This is not surprising in that the period of 'intensive collision' occurred in a relatively recent and short space of time, i.e., in the decades just before and after 1900. Moreover it occurred in an extremely small geographic location, and many of its key participants were later interviewed about their experiences.

Still, the information available is far from perfect. For example, there are no recordings of the music as it was actually played in Storyville, the nearest thing being the later 1920s' recordings of Louis Armstrong and others. Similarly, the interviews with those involved are scarcely what one would want for a thesis whose primary focus was on the personal and interpersonal aspects of developing a new way of playing and thinking about music (e.g., as in H. S. Bennett's (1980) dissertation on the process of becoming a R&R musician). Still for the present thesis there is sufficient information to document the types of changes which occurred in the way the New Orleans's musicians played and thought about their music.

Finally, regarding the actual interpersonal, organisation, and social network dynamics that resulted not only in the emergence of a new music, but also in new ways of presenting and promoting this music, the information available is far from adequate. There is little systematic information about such key activities as the

formation of and change within bands, or the role of audiences, promoters, entrepreneurs, etc in changing the style and presentation of the music. Here the information is available only in the form of anecdotal accounts and other 'key indicators' of change - for example, photos of jazz bands taken before and after Storyville (cf Becker 334-35) or short descriptions of such bands in jazz histories.

In contrast to all the earlier traditions, the information available regarding both of the recent (and still ongoing) digital traditions is virtually overwhelming. The thesis was able to draw on information from not only books, research journals and other print sources, but also on a huge range of web-sites and recorded music samples. Moreover, it was possible to interview musicians actively involved in the emergence of both digital traditions.

As a result information about personal and interpersonal aspects of musical change was plentiful - e.g., information relevant to the experience of playing and thinking about the music in new ways, or about rejecting (or embracing) such changes in the music. Likewise evidence of changes in the 'form' and 'spirit' of the music were equally abundant. For instance, the analysis of the 'gradually evolving collisions' in both of the digital traditions was developed far beyond the scope of such analyses for the earlier traditions.

In fact, as the emergence of both new digital traditions is still in process (see social organisation & form/structure of music), it was not actually possible to study the proposed sequence of development, i.e. the stages of 'forming', 'storming', and 'norming'. For instance, at this point there appears to be only one "comprehensive history of electronic music" published, i.e. Joel Chadabe's *Electric Sound: The past and promise of electronic music* (CDeMUSIC Search, 2000). Still it is easy

enough to see where the necessary information could be obtained should someone be interested in doing so in the future. With regard to emergence of Electro-acoustic music, for example, starting with the web-sites for major university music departments and computer music laboratories, as well as those for professional organizations such as SEAMUS or the ICMA, would quickly lead any researcher to the key people who were/are involved.

In summary, it can be seen that the adequacy of the evidence available clearly varies across the five traditions studied in this thesis. In weakest case, that of classical, it might perhaps be argued that the process and adequacy of data collection paralleled that of, e.g., using a fishing rod to study the dynamics of fish populations in the Shannon Estuary. In the other four case studies, especially the most recent ones involving the emergence of digital music traditions, the sources of information are arguably more than adequate for the purposes of this thesis. Perhaps most importantly it should be noted that nowhere did the research uncover patterns of evidence contrary to the theoretical expectations of the thesis (Dorris, 1990, and Ch. 1 here). In short, the onus of challenging the findings of the thesis appears to be left squarely on shoulders (and fishing rods) of the critics.

2) SUMMARY OF FINDINGS

As this thesis has covered an immense amount of material - five case studies of cultural collision, each involving between 15 and 300 years with regard to the 'intensive collision' alone - no attempt will be made to summarise all of the findings relevant to each theoretical point. Instead the section will simply summarise the major theoretical arguments which the thesis has consistently supported. These

follow directly from the theoretical points presented initially in Chapter 1. Here they will be summarised to form a shorter, more concise, and integrated, theoretical position. Three major aspects of this theoretical summary will then be considered in far greater detail in the sections to follow.

The findings of this thesis, with reference to all five case studies, have consistently supported the following set of conclusions:

1. A musical tradition is a particular approach to defining, learning, creating, and performing music; it is a form of cultural expression and as such is embedded in a culture and is reflective of its core values and practices, i.e., its "way of life." This way of life is reflected in several dimensions of the music, i.e., ideology, form/structure, technology, and social organisation.

2. The emergence of a new musical tradition is driven by cultural collision (an intensive and sustained contact between two different cultures). This collision is initially triggered by socio/political/economic forces within the dominant, i.e., more powerful, culture, and in the process brings musicians from both cultures into intensive and sustained contact with new instruments and types of music.

3. A cultural collision results in musicians' trying to make sense of the new instruments and types of music in terms of their existing perspectives, and, through the process of playing/thinking about the new music and instruments, gradually making changes in their own ways of playing and thinking about music.

This process (i.e., of emergence of a new musical tradition) involves many different combinations of musicians, both simultaneously and sequentially, coming together,

intensively experimenting, comparing, modifying, and re-modifying their approach to using the new musical forms/instruments, and eventually settling on an agreed/workable approach. This process occurs over a period of many years, and when viewed very partially and often from a great distance (e.g. classical), can be seen to parallel the developmental stages common to small groups, i.e. 'forming', 'storming', and 'norming'.

4. Pivotal to the emergence of the new musical tradition is the role of young, emerging (still low power) generation of musicians who, due to the cultural collision (and the socio/political/economic forces behind it) find themselves in a different world from that of the older generations. They see music as a vehicle for expressing these intergenerational differences (e.g., rejecting the values of the older generation) and of affirming their own competence, identity and values as creators of a new music.

5. The characteristics of the new musical tradition reflect the "spirit" (i.e., the backgrounds, values, aspirations, and conflicts) of the young emerging (still low power) generation of musicians who develop it (i.e. the spirit of the subordinate, i.e., 'low power', cultural tradition), and the "form" (i.e. music technology, both production and communication technology, and meaning structures) of the dominant culture whose institutions and audiences will be essential to its growth and survival.

6. The existence of a new musical tradition is evidenced by wide-spread rejection of its productions, and the values inherent in them, by established opinion leaders of the existing musical (and hence cultural) traditions from which it derives.

3) QUESTIONS RAISED BY THE FINDINGS

Three aspects of the above findings - those which still seem puzzling or perhaps problematic - will be discussed in greater depth in this section. These include the role of digital technology in the emergence of the two most recent musical traditions, some further questions about 'form' and 'spirit', and an important, but neglected, consideration with regard to the formation of new musical traditions, i.e. the question of what else is necessary besides the initial cultural collision in order for a new musical tradition to emerge.

Digital Technology as the 'Cause' of Electro-acoustic and Technology-R&R

As the two most recent musical traditions (i.e. Electro-acoustic and Technology-R&R) are so clearly linked with the development of digital technology, it may seem confusing, or even misleading, to claim that cultural forces are crucial to their emergence. Why include all the extra baggage about postmodernism colliding with the classical and the R&R traditions? Surely the following argument is simpler and at least equally consistent with the facts.

Because digital technology (MIDI etc.) has become pervasive throughout the world of music in the past 20 years, all cultural forms are going to be of a 'cut & paste' variety. Collage, pastiche, surface/simplicity, time/space compression, for instance, are all 'cut & paste' productions. In short, postmodern cultural forms are merely a reflection of the predominance of digital technology. It is this pervasive technology which has 'collided' with the existing musical traditions (i.e., classical and R&R) to produce the new music, not some vague cultural force called 'postmodernism'.

A short , but focussed, reconsideration of several issues already discussed in this thesis will suffice to handle this objection. In brief the above argument is perhaps best summarised as being of a 'surface' variety - not in the postmodern sense of a 'horizontal' vs a 'vertical' meaning structure, but rather in the more traditional sense of being 'without depth', i.e. intellectually shallow.

There are three levels at which the argument that digital technology is the cause of 'Electro-acoustic' and Technology-R&R ' music can be shown to be misleading.

1. Technological development does not have a 'life of its own'. Such development never operates independently of societal and institutional forces. In fact technological development is hugely dependent upon these social, political, and economic forces not only in determining the extent and direction of its development, but also in determining whether such development occurs at all. Within electronic music, for instance, the Hammond organ, first marketed in 1935, was based on virtually identical technology (valve oscillation) to that of the long since disappeared Telharmonium of 1902. Moreover its "phenomenal success", as a "new voice" in music, didn't occur until twenty-five years later in the early 1960s (Mackay 11, 20-21). Similarly, the magnetic tape recorder, which eventually transformed the recording and production of music from the late 1940s on, was based on a technological breakthrough which occurred in 1929, almost 20 years earlier - the development of magnetic tape coating (Mackay 23-24, 34).

More crucially in terms of the current thesis, the 'cut and paste' cultural forms central to both Electro-acoustic and Technology-R&R music are not the simple result of the development of 'silicon chip' technology, and with it some inevitable 'digitalisation' of culture. The technology behind the 'silicon chip' (the 'planar'

process) was in fact developed in the late 1950s (Henderson 28-29) The forces that brought this piece of technology to centre stage in today's postmodern world were not technological, but rather the more familiar social/political/economic ones that operate through powerful institutions, in this case transnational corporations It wasn't the existence of semi-conductors that somehow inevitably triggered a "period of (global) economic restructuring" in the mid-1970s What triggered this 'global' solution to the crisis of "stagflation" (Harvey 145) was the fact that for the first time in the face of such a crisis the usual response "at the level of the firm" (i.e., "the initiation of major processes of organisational and technical restructuring predicated on the search for new bases for capital accumulation"), could now be done not just regionally, or nationally, but globally The economic/political factors that made this new "global option" possible for the first time were two fold, i.e., "the growing dominance of the transnational corporation" worldwide, and with this, the "increasing integration of the various units of the world economy" (Henderson 1, 3)

The semiconductor was not the 'driving force' behind this 'global solution' It was rather an essential piece of technology which had been available for some 20 years prior to the mid-1970s) What the semiconductor (eventually integrated circuit, i.e. 'silicon chip') permitted was the possibility of rapidly and efficiently (electronically) communicating, storing, and manipulating virtually any kind or amount of information anywhere in the world This allowed for a 'global option' in addressing the 'crisis of stagflation' because it allowed the transnational corporations to "disperse particular labour processes, or sometimes entire production facilities across the globe, while allowing managerial control to remain centralised in the 'world cities' of the core societies" (Henderson 3)

One result of this, fully evident in emergence of both Electro-acoustic and

Technology-R&R as new musical traditions, has been the worldwide proliferation of digital technology and with it the 'cut and paste' cultural forms of postmodernism. To simply attribute these global cultural changes to the technology of the 'silicon chip', independent of the larger societal and institutional forces that so powerfully influenced its development and use, is obviously intellectually naive, or perhaps as one of the Irish musicians might have put it, a clear sign of spending too much time "at the coal face"

2 Within various fields of music, the development of particular technologies is driven not by some logical consideration of the various potentials of the technology, but rather by the specific benefits which various (often competing) high-powered sponsors of such development hope to achieve for themselves. In the case of music videos, for example, the massive impact on record sales of using "'high tech' visual effects" in promotional videos for the likes of Queen's *Bohemian Rhapsody* and The Cars' *You Might Think*, convinced the major labels that "innovative special effects work could produce a greater impact (on sales) than (reliance on) standardised music video conventions" (Hayward 129, 133). The result was an escalation in the development of "image processing and effects technologies, particularly various types of animation, graphics, video editing and matting" (Hayward 132). In short, the "successive innovations in effects technologies" in the late 1980s were not driven by some technological imperative, but simply by the fact that the "producers of the music video" realized the potential of "visual spectacularity" to "stimulate and retain audiences" for their products (Hayward 128).

The case of the development of "the MIDI interface", which is at the heart of developments in Technology-R&R, is even more striking. As Durant points out, the "most significant technical development" with regard to MIDI was "not in fact a

technical development at all, but a commercial one" (Durant 181-82) This was the agreement "between the company Sequential Circuits, manufacturers of Prophet synthesizers, and the companies Oberheim and Roland, on the question of a 'system standard' that would specify digital music technology protocols (i.e. MIDI)" At the heart of this agreement (and subsequent industry wide protocols) were two key commercial constraints on the development of digital music technology Firstly, the language used in MIDI was "deemed by its designers (to be) sufficiently under-specified to facilitate software innovation rather than simpl(e reliance upon) existing software" Secondly, a "pricing constraint" was included in the agreement that "impose(d) design restrictions on the technical specifications of the interface" (Durant 182) "What followed this standardisation of the music-digital interface" (undoubtedly "foreseen from the outset") was of course a boom in the "design and production of a wide range of relatively cheap, digitally-based musical instruments" (Durant 182)

Meanwhile, in numerous university computer music labs around the world the likes of, for example, Dan Trueman and Perry Cook, continue to develop the likes of the "R-Bow" - a "violin bow with four different kinds of computerised sensors (each of which) can be programmed to control a different sound property", (so that) Dan "can play the flute and the electric guitar, just about anything, simultaneously (and "in real time") with (his violin) bow" Whether this or any other idiosyncratic attempt at developing innovative music technology will end up - like the electric guitar, synthesizer, or MIDI - influencing the future of music depends ultimately, not on the particular innovations in software and hardware, but on whether or not some sponsor with enough commercial clout decides to take it on board and is able to market it As Dan Trueman points out, "computerised violin bows (have been around since) the 1980s, but aside from a few eccentric performers the concept

hasn't really caught on" (Shearer, 2000)

In short, within the field itself, it is not the specifics of the technology - R-Bow, or MIDI, or visual effect technologies - but the commercial ends to which they can be put that eventually determine the extent of their influence. These commercial ends are inevitably linked to both powerful institutional sponsors and the cultural groupings of which these institutions are a part.

3 Finally, to summarise this argument, it is worth reminding ourselves that technology does not define its own use. Obviously innovations in musical technology will inevitably trigger innovations in both playing and thinking about music. This point is inherent in every tradition studied in this thesis. One need only think of Buddy Bolden, the "blowingest man since Gabriel", "calling his children home" (in Stearns 70), or Franz Liszt, "pull(ing) faces (and) writh(ing) like a python" on the "new (music) machine" of the 1830s (in Negus 30). The nature and development of such innovations within the music is not determined (although it is both stimulated and constrained) by the technology of the instrument. It is determined by the musicians and the social context, i.e. groups, interpersonal networks, and cultural traditions, within which they are performing. Bolden was not playing the classical European cornet the way a Creole musician would have. He was "socking it out", "mean and dirty", i.e. the way his tradition dictated (Stearns 69). Likewise with Liszt, he may have looked like a pale version of Little Richard, but he was still playing "'orchestral' music composed and arranged for the piano" (Negus 30).

The same point can be made about any innovation in musical technology. Any instrument - piano, cornet, synthesizer - is going to vary hugely in how it is played

depending upon the musical tradition in which this happens. One need only recall the fate of the “most exciting new instrument of the (20th) century, the electric guitar” (Mackay 41). In the R & R tradition it gave us the likes of Clapton, Springsteen, and Hendrix. In the classical tradition it was used to add “tone colour” (Mackay 64).

In short, while technology is obviously essential to the emergence of both Electro-acoustic and Technology-R&R as new musical traditions, its own development, use, and influence at all levels from societal (as in global production and use of semiconductors) to personal (as in use of electric guitar by R&R vs. classical musicians) is hugely conditional on the cultural traditions within which the technology is operating.

Questions about ‘Form’ and ‘Spirit’

The evidence of this thesis, across all five case studies of the emergence of new musical traditions, is consistent. In all cases it was found that the ‘form’ (music technology and meaning structure) of the new musical tradition came from the dominant culture involved in the collision. Similarly it was found that the ‘spirit’ (reflections of background, values, aspirations, and conflicts) of the new traditions consistently came from the subordinate (less powerful) culture involved in the collision. Why this should be so is not necessarily immediately evident.

Why does the ‘form’ (technology and meaning structures) of any new musical tradition come from the dominant culture involved in the collision? The answer comes down to simple survival. If the new tradition is to survive and expand beyond its local/regional roots (as discussed below, new traditions are typically rooted in several localities), it has to reach and appeal a much wider audience. That takes

money and powerful organisational backing (also discussed below) In short, the new musical tradition has to appeal to a mass audience from the dominant culture, or more to the point, from the younger emerging generation of that culture (also discussed below)

This is true even at the local level, when the new music is first 'taking off' Jelly Roll Morton, for instance, wasn't earning fifteen dollars a night (in Lulu White's "thirty thousand dollar mirror parlour") for ragging revival hymns or field hollers He (and all the other jazz musicians in the "dozen or so bands working every night" in Storyville) was giving the paying customers exactly what they wanted He was giving them up-tempo variations on the tunes and instruments they'd grown up with, i.e. "European melodies and march beats transformed by improvisation syncopation (and) an endless variety of rhythmic suspensions, unusual accents, and between-the-beat effects" (Stearns 72-3, 143, Ogren 58) They were paying for up-tempo variations of the music and instruments they were familiar with, i.e. those of the dominant culture

As for the 'spirit' of any new musical tradition, why does it always come from the subordinate cultural tradition?

First of all, it is important to note that the 'spirit' of the new tradition (i.e., the background, values, aspirations, and conflicts reflected in the music) is not the spirit (i.e., thrill, buzz, excitement) of creating it This latter experience of excitement is of course inherent in the process of creating any new music Moreover, it is much the same regardless of which new musical tradition is being considered Buddy Bolden "socking it out" on his cornet, crossing rhythms "three times at once" while the "dancing got rough" and the "Tin Type (Hall) roared full blast" (Stearns 69, 71) is not

all that different from the current masters of “scratchy House”, the Deep Dish DJ duo, spinning “eight solid hours at New York’s Twilo” - Sharam “throwing on some Drum n’ Bass” while Dubfire’s “putting out the flames” and the Twilo crowd’s “stompin’ to the vibe” (In-Site Magazine, 2000). That is not the ‘spirit’ of the new music, it is simply the spirit/excitement of creating it.

The ‘spirit’ in question here is best addressed by separating the five case studies of cultural collisions studied in this thesis into two groups, those that involved ‘mergers’ (jazz, classical, and R & R) and those that involved ‘takeovers’ (Electro-acoustic and Technology-R&R). (See point 3 in Chapter 1)

With regard to ‘mergers’ (jazz, etc.) the question immediately comes to mind: Why would young musicians from a dominant culture grouping be interested in creating music which reflected the background, values, aspirations, and conflicts of a subordinate cultural group? As spelled out in the introductory chapter (see points 6 and, especially, 7), both these young musicians and the subordinate culture share - obviously for quite different reasons - the experience of being in a ‘low power’ position. As Bourdieu has pointed out, the music which reflects the backgrounds, values, etc. of low power cultural groupings will intensely express the “passions, emotions and feelings (of) ordinary people ...” (Bourdieu 32). As such this music will be compellingly attractive to the younger generation of musicians (who are frustratingly still ‘powerless’ within) in the dominant culture. Not only will it serve (as discussed in Chapter 1 under point 7) to reject, subvert, differentiate themselves from the older, adult generation who are ‘keeping them powerless’; but it will also express the full intensity of their own emerging sense of potential, capacity, and unique individuality. Of course the instruments and the musical language will be those they are familiar with (i.e., those of the dominant culture), but the ‘spirit’ of the

music will come from the likes of, for example, improvised cross-rhythms, or amplified back-beats, or the “peculiarly intense, personal, carnal quality of the massive chordal harmonies of Venetian organ music” (Grout and Palisca, 3rd ed , 264, 288)

With regard to the cultural collisions involving ‘takeovers’ by Postmodernism and its digital technology (Electro-acoustic, Technology-R&R), the new potentials for musical expression made possible by digital technology itself provide the ideal vehicle for subverting, rejecting, differentiating oneself from the older generation. At the same time of course this new technology permits the younger generation of musicians to rapidly establish their own capacity, power and musical identity by going beyond the musical achievements of the older generations within their own cultural tradition. In this case the ‘spirit’ of the new music comes from their own cultural tradition, i.e. the one they grew up in, not from some other ‘subordinate’ cultural tradition (as in the case of the ‘mergers’). Thus, for example, Dan Trueman, a PhD candidate in music at Princeton, has this to say about playing his “six-string, ‘computer-extended’ violin” (along with Curtis Bahn’s similarly ‘extended’ upright bass) “I grew up playing chamber music and jazz and fiddle but never this way

We get up, we have no score, we have no notes what we have are fairly involved software and hardware instruments that we’ve built in a kind of improvisational sensibility (and) fairly often now, I’m just knocked by where we go musically it’s exciting to be making music you couldn’t have imagined making, even a couple years ago ” (in Shearer, 2000)

In terms of theory the interesting point here is that while the ‘spirit’ of Dan Trueman’s music (just like, for instance, the ‘spirit’ of the music of the current masters of ‘scratchy House’ music, Deep Dish) comes from the musical tradition he grew up in,

that tradition (and hence the background, values etc inherent within it) has become a subordinate tradition in the process of Postmodernism emerging as the dominant culture. However there is more to it than this. Aside from the fact that one's own tradition is by definition the subordinate one in a 'takeover' (i.e. all existing traditions are taken over by postmodernism), there are at least two reasons why the 'spirit' of the new tradition comes from one's own cultural tradition in the case of a 'takeover'.

The first reason has to do with the actual process of the 'takeover'. During the years in which musicians of all existing traditions were encountering and learning to use the new technologies of postmodernism - i.e. beginning in the early 1980s - this was happening within their own cultural traditions. Thus within each tradition the ways in which musicians learned to use the new technology, to describe it, to think and communicate about it, would have reflected the 'spirit' of their existing tradition. Thus for example, as noted in the introduction to this thesis, the backgrounds and values inherent in each existing tradition were reflected in the very terminology used to describe any given technological process. In describing, for example, the process of replaying a recording in the studio, R&R musicians would refer to the 'PA' or 'monitors', while classical musicians would refer to the 'sound diffusion system'. Similarly, a R&R musician might say he was 'adding effects to a track' while the classical musician would refer to the same technical procedure as 'processing the signal'.

There is a second reason why the 'spirit' of the new music in the case of a 'takeover' comes from the tradition which is 'taken over'. This reason is perhaps less obvious than the first. The very process of being 'taken over' has by definition the implication of a loss of power, of control over such key matters as deciding one's own direction. In regard to the cultural collision processes involved in corporate

takeovers, for instance, the core conflict between the “property rights” of the acquiring firm and the “human rights” of the target firm typically centres around the conflict over “self-determination versus organizational direction” Those that have been ‘taken over’ typically struggle to “defend” their control, their sense of being “leaders or originators” Within the confines of a corporate takeover, the room for waging such a defence of one’s position is obviously seriously limited This is no doubt reflected in the fact that “ almost immediately after a takeover announcement, the most talented and self-directed often leave a target organization ” (Walter 303, 309-11) In the much larger (i e , societal) cultural collisions being studied in this thesis, we can expect the same struggles for control to occur, but the resolution need not involve leaving the field More likely in the current case the “most talented and self-directed” will simply struggle to create positions of power for themselves within the imperatives of the newly dominant culture, i e , postmodernism Not surprisingly this is precisely what appears to be happening within both the Electro-acoustic and the Technology-R&R musical traditions Perhaps the easiest way of observing this process is to look at various web-sites within each of these traditions for evidence of claims (implicit or explicit) of control over the direction of the new music, and in particular, claims to be taking the music in a direction which is reflective of the previously existing values and backgrounds (i e ‘spirit’) of those who are making the claims (i e those who have been ‘taken over’ by postmodernism)

With regard to Electro-acoustic music, for instance, Volume 9 of the Leonardo Music Journal focuses on the topic of *Power and Responsibility Politics, Identity and Technology in Music* The “Leonardo on-line” web-page provides abstracts for three additional texts which are relevant to this topic In each of them it is obvious that the relevant aspect of Electro-acoustic music is being analysed with reference

to it being a reflection of the background and values inherent in the classical music tradition from which Electro-acoustic music emerged. In one piece, for instance, the author argues that "John Cage's *Europerras*", rather than signifying the "symbolic death of opera as a medium and practice", actually "form a movement towards an increased empathy with the found materials of opera as a genre". In another the author "examines (the ways in which) roles played by individuals involved in the creation and performance of (classical) music correspond to parallel roles in the creation and implementation of information systems" (in Leonardo on-line, 2000).

In Technology-R&R we can see the same concerns with control, concerns with keeping control of the music in the hands of its originators, the exact same concerns that have ever driven the continual pursuit of 'the new' in the older R&R tradition from which Technology-R&R emerged. In short the 'spirit' of R&R tradition - what John Robb refers to as "kicking arse" to keep the music from "becoming slothful", or "pompous", or going "dinosaur" (Robb 4-5) - has become the 'spirit' of the new tradition.

Thus we find, for instance, In-Site Magazine promoting itself as a "watchdog over the development of the music we all love", the "underground 'electronic music' (of the) clubs, warehouses, fields, basements etc.", the music which is now threatened by "large labels and companies that have little regard for the integrity of the music, artists, and true audience". In-Site, by way of insuring that control is in the proper hands, "does not employ anyone who does not have a background in the scene" (In-Site Magazine, 2000).

Finally, an interesting, and perhaps even more compelling, demonstration of the subordinate cultural tradition providing the 'spirit' of the new music in the case of a

'takeover' is evidenced in the music of the Cuban composer, Juan Blanco. Blanco was born in Cuba and grew up surrounded by Afro-American rhythms and songs. He studied at the University of Havana and qualified as a lawyer. He also trained as a classical musician, studying with Jose Ardevol, one of Cuba's most influential composers. By the early 1950s when the Cuban dictator, Batista, was terrified of losing power and the campaign to free Fidel Castro and his fellow revolutionaries from prison was being actively supported by the lawyers in the Cuban Bar Association (Huberman and Sweezy 48), Blanco (along with many other upper middle class Cubans) was imprisoned several times. During these years his identification with the Cuban poor and their ethnic music intensified. When Castro took power at the end of the 1950s, Blanco turned full-time to music (Leonard III 12).

Years later when Blanco began producing postmodern compositions, e.g. using a Roland Jupiter 8 synthesizer, the 'form' of this music was, not surprisingly, clearly postmodern (e.g., "time/space compression" and "pastiche" can be seen in the final movement of 'Suite Erotica' in which fragments of "archival speeches of Adolph Hitler" are set against sensuous voices of a couple, voices which gradually become so processed that they melt into the accompanying electronic sounds) (Leonard III 16-18).

The 'spirit' of Blanco's postmodern compositions, also not surprisingly in terms of the present thesis's arguments, reflects the background, values, etc. not only of his classical upper middle class upbringing, but also of his intense immersion in and identification with the music of the ethnic Cuban poor. In regard to the former, for instance, his compositions (carefully thought out and highly refined) are built around movements, with titles such as 'Cirkus-Toccata' and 'Suite Erotica' clearly indicative of their cultural roots. In regard to the latter, his compositions are, for instance, richly

laced with Afro-Cuban voices and dance rhythms played on congas and timbale (Leonard III 16-17)

In summary, it can be seen that both types of cultural collision ('merger' and 'takeover') produce the same result with regard to 'spirit'. Although the process is different for 'mergers' and 'takeovers', the result is identical - the 'spirit' of the new musical tradition comes from the subordinate cultural grouping.

When do Cultural Collisions Produce New Musical Traditions?

This thesis has focussed on the questions of how and why cultural collisions result in the emergence of new musical traditions. The further question of when such collisions result in the development of a new musical tradition has not been addressed here. There is work directly relevant to this question - i.e. the question of what additional conditions have to be fulfilled for a new musical tradition to emerge from a cultural collision (cf. Becker, 1984, Dorris, 1990). The question was not addressed in the present research due to the obvious resource constraints of an MA thesis. However a brief discussion of the issues involved seems in order at this point.

First, it is plausible to argue that any cultural collision - at least any in which musicians are actively involved - will inevitably result in changes in the existing music. One need only think of the numerous changes in African musical practices which occurred due to the enforced contact with European musical practices over the many decades of slavery in the American South. The 'work song', for example, which was sung throughout the American South by generations of slaves, was closely related to the "almost universal" work song tradition of West Africa. The

"importance of the rhythm and the continuous play of the call-and-response pattern" remained virtually unchanged by the imposition of slavery. What changed was the incorporation of European religious tunes and the addition of "extemporaneous satire" as a "morale-building vehicle of not-so-passive resistance" on the part of the slaves (Stearns 90-91). However, unlike jazz, the work song remained within the subordinate cultural tradition, virtually unnoticed by the larger American culture. As Stearns put it, "because of the lowly and isolated role played by the work song in American life, it survived relatively untouched in the nooks and crannies of the rural Negro South, especially where men work together" (Stearns 98). Clearly, cultural collision changed the music, but it did not result in the emergence of a new musical tradition.

Probably the surest early sign that a cultural collision is triggering the emergence of a new musical tradition is that several regional varieties of the 'new music' will emerge more or less simultaneously in different parts of the same society. In the case of jazz, for example, as Thomas Hennessey points out, New Orleans was only one of "several parts of the country" where "independent popular musical styles, all linked by the common bonds of a mixed Euro- and Afro-American musical parentage" emerged. Others included the Southwest, the Midwest, the Southeast, Chicago, and New York. There was even a "very weak musical style" that developed in the Northwest and West Coast, this 'weakness' reflecting the "lack of any strong input from black folk tradition" in these areas (in Becker 319).

Similarly, in the early years of R&R, there was not one, but five different regional styles. As Charlie Gillett noted, "In the years 1954 to 1956, there were five distinctive styles, developed almost completely independently of one another, that collectively became known as rock 'n' roll: northern band rock 'n' roll whose most

popular exemplar was Bill Haley, the New Orleans dance blues (e g , Fats Domino, Little Richard), Memphis country rock (e g , Elvis), Chicago rhythm and blues (e g Chuck Berry), and vocal group rock 'n' roll " (e g the Platters) (Gillett 22, 26-7, 30, 33)

The independent and virtually simultaneous emergence of several regional variations of a 'new music' within a society will have many varied influences depending upon the locality. In early jazz, for example, as Hennessey points out, "in the Southwest, the blues and piano ragtime had a strong influence on the style ", while "in the Midwest and Southeast, the brass band tradition of the circus and tent show " was important, and "in Chicago and New York, established black communities sought legitimacy with a style heavily-weighted with Euro-American elements" (in Becker 319). However, what all of these regional variations have in common is what is critical to the emergence of a new musical tradition, and that commonality is cultural. That is, they all reflect cultural change - rapid, and intensely felt, intergenerational change in core values and aspirations, especially within the dominant culture (cf Dorris, 1990). As argued elsewhere in the present thesis, such change is inevitably tied to major political, economic, and sociological changes within the society. The result of such changes is that the young emerging generation finds itself living in a world which is suddenly sizably different from that with which older generations are accustomed. Needless to say, such massive societal changes can be expected to result in equally sizeable, and bitterly contested, fights over 'the meaning of life'. It is within this chaotic process of rapid and intense societal change that the new music serves the crucial function of reflecting the 'spirit' (i e values, aspirations, conflicts) of the young emerging generation, especially of that within the dominant culture.

With regard to jazz, for instance, Kathy J Ogren has written an entire book (*The Jazz Revolution Twenties America and the Meaning of Jazz*) which is relevant to the points argued above. As she notes with regard to the 1920s when jazz emerged as a major new musical tradition in America: "Dualistic descriptive schemes seem to characterise best the major economic and social changes of the post-war era, and histories of the decade typically characterise it as a battle of opposites. On one hand it was a 'return to normalcy' after World War I, and on the other hand, youthful, exuberant, and 'roaring'" (Ogren 3). Among the major post-war societal changes which contributed to the emergence of jazz as an ideal expression of the 'spirit' of the emerging, increasingly wealthy, young, white, urban generation were the following:

the "Great Migration of 500,000 blacks out of the South to the rapidly growing northern cities like New York and Chicago before and after World War I" (4),

the "unprecedented prosperity" of the mid-1920s when "the gross national product rose 40%" and the sale of "consumer products" (including radios and phonographs) skyrocketed (5),

the advent of Prohibition with the passage of "the Volstead Act in 1919 which banned the manufacture and sale of alcoholic beverages", and in the process insured the era of bootlegging and with it a boom in those "enclaves of vice and entertainment, danger and mystery", i.e., the jazz clubs of the 'roaring twenties' (5, 57).

As for the central role which the young emerging generation of the dominant culture

played in the transformation of jazz from a number of, as Hennessey puts it, "independent popular musical styles" (in Becker 319) to a new musical tradition, consider the following observations from taken from Ogren's book

"Clubs like Chicago's Alabam or Harlem's famed Cotton Club flourished when sophisticated urbanites consumed good music, food and drink and danced to the latest musical fad" (5),

"White literary artists were not alone in their fascination with black culture White musicians such as Eddie Condon, Bix Beiderbecke, Benny Goodman, Wingy Malone, Vic and Ralph Berton, and Milton 'Mezz' Mezzrow were ecstatic upon discovering jazz " (151),

"(F Scott) Fitzgerald's strength as a jazz age scribe rested more in his ability to capture the affection of young white college students for jazz than in his accuracy about musical performance" (150),

the "urban night-life was embraced by American youth in revolt against what they saw as stuffy prewar society for them the newest musical sensation - jazz - became the specific symbol of rebellion and of what was new about the decade" (6),

"Americans on all sides of the jazz debate found the music symbolic of fundamental -and provocative - changes they were experiencing the music represented the end of an earlier era and the transition to a modern one" (7)

The final crucial factor in determining whether or not the new music triggered by a

cultural collision eventually results in a new musical traditions is organisational Howard Becker spells out many aspects of the organisational dynamics involved in his book *Art Worlds* (1984) As Becker points out in his chapter entitled, "Change in Art Worlds", innovations (e g jazz) have to "find an organizational base" to survive (Becker 301) He elaborates this a few pages later "Revolutionary changes succeed when their originators mobilise some or all of the members of the relevant art world to cooperate in the new activities their vision of the medium requires" (Becker 308) In the case of jazz of course the 'relevant art world' was separated from the originators of the music not only by Bourdieu's class and educational barriers, but even more powerfully in America, by race In short, the art world was 'white' and jazz was 'black' The following collage of quotes (all in Berger, 1947) from various critics of jazz in the 1920's gives a fair sense of the racial (also class and educational) chasm separating the innovators of jazz from the dominant white, urban, middle/upper middle class establishment of the day

" jazz, at its worst, is an unforgivable orgy of noise, a riot of discord, usually perpetuated by players of scant musical training (it) is often associated with vile surroundings, filthy words, unmentionable dances " (474)

"it (is) barbaric and has a demoralising effect upon the human brain " (464)

"jazz is retrogression It is going to the African jungle for our music" (463)

"(jazz is an) agency of the devil (and) should be stamped out" (463)

Fortunately for jazz and its black innovators the same massive societal disruptions -

all linked to World War I - which propelled the young white urban generation toward jazz and all it symbolised (as discussed above) also attracted the attention of some of the older generation. In particular, in Becker's words, it "mobilise(d) some members of the (musical) art world to cooperate in the new activities" (Becker 308), though not without considerable modification, or more to the point, 'watering down' of the new music (or in Stearns's words, "dilut(ing it) past recognition" (Stearns, 165)

Prime among these was Paul Whiteman, who "by 1922 controlled twenty-eight bands on the East Coast and grossed over a million dollars annually" (Stearns 165). Whiteman, in Ogren's words, "saw his role as that of dignifying and legitimating jazz" (Ogren 159), or as he put it himself "(jazz) is not a substitute for Beethoven. But it can help lead one to Beethoven!" (in Berger 478)

The key event in Whiteman's campaign to 'dignify jazz' was the jazz concert he staged in mid February of 1924 at New York's Aeolian Hall, "the stronghold of academic music". His "aim was to get the approval of the 'recognized authorities', and he succeeded". The Aeolian Hall concert was the "first jazz concert that captured the imagination of an influential part of the American public" (Stearns 166). Afterwards Whiteman soon became the newly crowned "King of Jazz", and his "popular music became so closely identified with jazz that many Americans had no knowledge of its Afro-American origins" (Ogren 159).

Indicative of critical importance of innovators having 'cooperators' (no matter how 'diluted') within the 'art world establishment' is fact that on the same night as Whiteman's massively publicised concert, "a few blocks away at the Roseland Ballroom" in "his thick-soled shoes (and) box-back jacket" - virtually unknown

outside of New York's "Negro jazz circles" - was the first 'genius' of jazz, Louis Armstrong, " probably playing close to his all-time best " (Stearns 170)

Thanks to Whiteman the rest of us eventually got to hear Louis Armstrong and the rest of the jazz innovators After the Aeolian concert jazz, in Stearns terms, "became as respectable as high-powered publicity from coast to coast could make it" (Stearns 165) Whiteman had "advanced the cause of jazz immeasurably (and) after the concert, jazzbands - good and bad - had an easier time finding jobs, and the evolution within the music was speeded up" (Stearns 167)

Given that the potential "new audience" (Becker 312-13) for jazz was already massive by the mid-1920s (for the reasons discussed above), after Whiteman's Aeolian concert opened the door of the 'respectable' (white) music world to jazz, the rest of Becker's 'organizational prerogatives' not surprisingly fell into place These include the likes of 'production', 'distribution', 'communications', 'interchangeable personnel', and 'institutions' This development is sketched out in relation to jazz (using information from Thomas Hennessey's (1973) doctoral dissertation) on pages 322 to 347 of Becker's book

Given Becker's analysis, and the additional dynamics that are inevitable (as seen above) whenever the innovators have to cross racial (or class or educational, and no doubt gender, etc) lines to gain access to the 'relevant art world', that completes this brief answer to the question of when it is that cultural collisions result in the emergence of new musical traditions

4) EPILOGUE

In closing it is perhaps appropriate to 'zoom out' again and see if this thesis has anything to suggest regarding future developments within music, or more specifically, within Electro-acoustic and Technology-R&R. Given what is known about the evolution of earlier musical traditions, and what the present thesis suggests about the role of cultural influences, a few speculations may be in order.

Comparing two of the traditions studied in this thesis, the "classical music critic Henry Pleasants (once) argued that the evolution of jazz paralleled that of western classical music in an accelerated manner" (Lewis 46). Beyond this by the mid-1960s jazz had become so intermingled with both R&R and classical music that "the boundaries of jazz themselves seemed to disappear" (Lewis 45). Diffused almost beyond recognition by the continual "experiment(ing)" across traditions, jazz was now characterised by "stylistic fragmentation", a fragmentation which "was intensified by the efficacy of electronic mass media which communicated changes in musical fashion . . . at an ever-increasing pace" (Lewis 45, 48). Not surprisingly the evolution and diffusion of R&R - being itself a product of the post World War II era of electronic mass media - has been even more rapid and extensive than that of jazz. A recent history of R&R, for instance, has chapter headings for 50 different (i.e., clearly innovative) artists (e.g., Elvis, Rolling Stones, Madonna) and over 30 different styles (e.g., rockabilly, soul, disco) between the mid-1950s and the early 1990s (DeCurtis and Henke v-vi).

With the proliferation of digital technology at the heart of both new music traditions, the first speculation is hardly a speculation at all, i.e., the evolution and diffusion of both these traditions will accelerate at a speed and range far beyond that of any

previous tradition, including R&R. Consider even the single web-site, 'mp3 com', with its continually updated electronic top 40 charts for 16 categories (e.g., classical, jazz, electronic, country) and within each of these another 10 to 18 subcategories of music (e.g., electronic includes ambient, drum 'n' bass, house, techno, etc.). Additional features of this one web-site alone - e.g. its handy "free Beam-it software (which) puts your CDs online in minutes" - indicate that a virtually 'infinitaneous mix' of music will be ever available to music makers of the future (mp3 com, 2000). Given this virtually unlimited supply of stimuli, the rate of turnover in creation, of both new artists and variations in style, will no doubt accelerate rapidly. In short we can expect a literal 'kaleidoscope of sound' within both new traditions.

It is worth noting that this kaleidoscope will be driven not only by the technology and hence virtually unlimited accessibility of new stimuli, but also by the ever present personal, social, and cultural selectors - e.g. Bourdieu's class and educational 'capital'. This is of course in line with the central role these factors play in directing the selection not only of individual musicians, but also of larger audiences who find commonality of expression, of identity, in particular artists' work or styles which serve to resonate the collective self of the cultural grouping involved.

This accelerated process of 'musical mix' then can be expected to occur largely within socio cultural groupings, albeit often separated by thousands of miles - e.g. In-Site "clubbers and ravers" e-mailing in their views on "the scene" from Germany, London, NYC, Toronto, Detroit, LA, etc. (In-Site, 2000). This inevitable social aspect of the turnover in the music mix will put some limits on the speed of evolution and diffusion in both musical traditions. It isn't just that x or y musician happens to hear some 'amazing new vibe' over the Web and then decide to bring it alive in their own music. This new 'vibe' has to be developed not only musically, but also socially to fit

with a much wider peer group that constitutes other musicians, promoters and eventually audiences. What is necessary for a new music mix, however many and rapid the potential for these to occur has become via the likes of 'mp3 com', is that the new mix, extension, variation must somehow link to the core values, identity, i.e., 'spirit', of the audience involved. Only then will the new style, variations, i.e., 'crossover', take off. By way of example, one need only recall "The Prodigy's crossover from being a rave act to a metal act" given "their full-on energy and up-for-it rush of techno, the energy freaks of The Prodigy were bound to find themselves fascinated by the Rock! scene. The fringes of both forms were wearing the same baggy clothes, digging the same sort of adrenalin sports, watching the same films and reading the same comics. Culturally they were already there. Musically both techno and Rock! were both digging the full-on energising rush of their respective forms: adrenalin music. The crossover was bound to happen." (Robb 229)

Given that cultural limitation, the possibilities for variations in musical styles appear to be almost limitless. Add to this the potential of the Web for niche marketing at the most micro level and one can anticipate a huge acceleration in variety of styles emerging. This is equally true for both Electro-acoustic and Technology-R&R. In fact already this is happening as such a rate that there has been no time for the development of concepts or even jargon to describe these variations. Frances White, an Electro-acoustic composer, for instance, gives the following (edited) description of her music:

"My music is about sound and the transforming experience of sound. I am particularly fond of sustained sounds that change over time in very subtle ways. My sounds are sometimes dark, lack attack and clear definition, and

often have no vibrato My music is generally static and simple, and silence is very important at the same time, my music is expressive - sometimes even romantic, I think - but in a condensed way Sometimes a melody will consist of just two notes, for example " (Frances White, 2000)

Similarly in Technology-R&R we find, for example, the editors of the 'Tech House' web-site trying to describe exactly what sort of music they are discussing

"The usual definition of tech-house a more stripped-down take on house, using more synthetic-techno style sounds as opposed to sampled disco and vocals of regular house Some individuals also call hard techno with somewhat housey percussion (clap/hi-hat patterns etc , like a lot of material on Sweden's Loop records) tech-house, but that's generally a bit rougher than what is discussed here The tech-y favourites on this list are the sounds of the UK scene (labels like Wiggly, Surreal,) and some of the more abstract German stuff That being said, the list was designed to include a somewhat broader scope - lots of deep house is discussed here (San Francisco factoring in pretty heavily), and the odd techno or electro record too " (Tech House, 2000)

In short, it appears that the rate of creation of new musical variations in both traditions is already accelerating far ahead of the development of any commonly agreed concepts to describe it Quite simply, 'the music is "morph(ing) faster than the critics can describe (it)" (in Illbient Underground, 2000)

It is probably fair to say that the influences which will drive this 'infinitaneous mix' of music in the future are in fact no different than they were in earlier musical traditions

What is different is the range and speed of access made possible by the current proliferation of digital technology. Likewise, as in the past, the ever-changing music mix will be stimulated by what we may term 'chance encounters', 'explorations', and 'forced encounters'. We will look at these three types of 'encounters' in order, as the earlier ('chance') is by far most frequent, and the latter ('forced') is by far most consequential.

With the current proliferation of digital technology, the potential for 'chance encounters' with stimuli (auditory or otherwise) which trigger an additional mix in the music is hugely amplified. First of all, as Paul Lansky points out, there is no longer the simple triangle of "composer-performer-listener". There is now the vast resource of "sound-giver(s)" to which virtually anyone can (and often does) contribute, as in Lansky's example of giving a cassette to a friend (Lansky, 2000).

Secondly, with the Web and the numerous software packages widely available, it is possible to access virtually any sound anywhere, often with relative ease, and, with greater difficulty, to incorporate them into your own musical creations. In Electro-acoustic music, for example, Frances White's "most recent piece, *While listening to the waves*, was written for The Chinese Virtuosi, a group based in Beijing that performs contemporary music written for traditional Chinese instruments (such as the) erhu, dizi, pipa, and zheng " (Frances White, 2000). *Contraption*, by Alicyn Warren, on the other hand, " reflects disparate influences, including twelve-tone techniques, science fiction film scores, late Romantic symphonic music, and especially rock and jazz " (Inner Voices, 2000).

Thirdly, and related to the above examples, it is now possible for the creator (usually with a little help from friends) to manipulate virtually any conceivable dimension of

sound in the production process (and often even in live performance) Moreover it is also relatively easy to indicate the techniques used and provide sample materials over the Web On his 'Things She Carried' web-site, for instance, Paul Lansky, provides all of the text (five pages), technical information regarding the production, and a comparison with viewing "Vermeer's painting, *The Letter* ", by way of suggesting an approach to appreciating "a musical portrait of a woman, drawn in a series of eight movements" (Things She Carried, 2000)

Finally, the potential for 'chance encounters' which stimulate the development of further variations in both traditions is accelerated by a fourth factor This is the simple fact that there is now a vast influx of new types of creators into the 'musical game' These contributors come from outside the prior worlds of music making where the ability to play an analogue instrument was virtually a requirement for entry Such people come from both of Lansky's new categories, i.e. "sound-giver(s)" and "instrument-builder(s)" (Lansky, 2000) Perhaps the most striking illustration of this comes from John Robb's brief chapter on "DJs as rock stars" where he notes that " the rock musician so long central to pop culture was now superseded by 'a bloke who plays records'" (1999, p332)

This brings us to the second category of encounters which are escalating the elaboration of musical variations in both new traditions, i.e. 'explorations' Prime among these is the seemingly ever accelerating rate of emergence of new "instrument-makers" (Lansky, 2000) These include not only musicians who have learned to elaborate software packages, but a whole gamut of physicists, engineers, computer scientists, etc who are now intensely involved in the creation of new hardware and software For example, the "R-bow" which Dan Trueman uses to play his "six string 'computer-extended' violin" is built on a "state-of -the-art 'physical

modelling synthesis' program" developed in collaboration with "Princeton University computer science professor Perry Cook " (Shearer, 2000)

As Paul Lansky notes with relation to the early MIDI software, each of these new hardware or software packages has its own potentials and limitations

"While MIDI is tremendously useful for many things, and has revolutionised the music industry, its conceptual limitations are severe It is a protocol based on a view of music in which the notated score is at the top of the hierarchy, rather than somewhere off to the side where it belongs I find it extremely limiting to work with, particularly because of the ways in which it detaches pitch from timbre, from rhythm, from expression " (in Perry, 2000)

These hardware and software developments, each with their own in-built 'conceptual limitations', are part of the accelerated 'explorations' of whole new aspects of music, Mara Helmuth, for instance, created a "five-layered system of graphical representation for the analysis of electronic compositions (because such compositions) often contain spectral changes and other timbral aspects that make traditional music notation inadequate " (Helmuth, 2000) Similarly, in the area of multimedia we have everything from the likes of Tomie Hahn, performing "an interactive dance/electronic music composition (during which) a small micro-controller/sensor system allows her to 'compose' the form of the music along with her dance, controlling all aspects of the sound dynamically with her gestures" (Bahn, 2000), to the "Viennese media art group Granular Synthesis utilising scanned and sampled movements and images with computer sequencing to create new, real time minimalist cinema where sound, picture, and light are mixed together as an overwhelming maximal organism " (Granular Synthesis, 2000)

Such accelerated 'explorations' of the 'limitless' audio/multimedia potentials are of course being pursued at numerous computer music laboratories. Virtually every major university in the States, for instance, has at least one such laboratory researching the likes of " real-time algorithms, sinusoidal modelling, user interface hardware/software for music performance, airflow, and music notation " (CERL Sound Group, 2000), or " 3D spatialization, virtual acoustics and computational analysis of complex real-world auditory scenes " (Machine Listening Group, 2000). The implications in terms of accelerating elaborations of electronic music in every tradition are obvious.

Finally beyond 'chance encounters' and the 'explorations' of those who are trying to create new sounds, we need to consider 'forced encounters' with new sounds and ways of creating them. As often noted in this thesis, these are brought about by changes in the larger society in which musicians and audiences live. First of all, it must be said that the proliferation of digital technology worldwide has already forever changed this larger world - in much the same way (although perhaps at this point not quite as totally) as, for example, being transported on slave ship from West Africa to the Carolinas would. Further changes in the development of digital technology - e.g. the rapid acceleration of advances in real-time integration of audio with other sensory experiences, as in the case of Tomie Hahn's 'interactive dancing' noted above - raises one clear possibility for societal change 'forcing' change upon a musical tradition. In this case we are considering the possibility of advances in digital technology allowing for 'home based' creation of multimedia - even real time, live multimedia - productions in much the same way that audio CDs can be produced today.

One need only recall the emergence of bebop within the jazz tradition in the 1940s

As Lewis notes, "the outbreak of the Second World War provided blacks with a coercive lever (in their struggle for economic and social change) since the US government needed to mobilise all of its internal strength to combat the Axis powers. Black non-cooperation with the war effort was threatening enough to coerce white compliance with some black demands" for the first time in decades. Not surprisingly, "the bop musicians' novel and aggressive assertions of their artistic status, and their uncompromising pursuit of a complex style of jazz, mirrored (this) new level of black assertiveness in the war and post-war period" (Lewis 36, 39). Associated with this change in musical style was a change in the "self-image of the jazz musician" - a change which was expressed not only in the way the music was played, but in such things as "modif(ying) the chord changes of popular tune(s so as to make them) unrecognisable to the casual listener", and changing the titles of the tunes to "invest (them) with cultic significance, *double entendres*, puns and in-jokes known only to the initiated" (Lewis 39, 47-8).

Many of these same signs of in-group identification and "thumbing their noses at their elders falling off the other side" (Collier in Lewis, 39) can be seen in similar markers being used today by those most actively engaged in the creation of the next generation of multimedia theatre. Just as the first generation of Technology-R&R used the likes of 'phonetic collages' to replace traditional spellings (e.g. 'executioners', 'abstrakt wave', 'invisibl skratz piklz') and references 'known only to the initiated' ('mp3' in mp3.com, for example, refers to a digital audio compression format), so too do we find the next generation of multimedia theatre now using similar types of in-group jargon to distinguish themselves from the older (as in 'dinosaur') generation that came before them. 'Granular Synthesis', for example, clearly takes their name from "audiovisual resynthesis", a new approach to multimedia theatre, whose "visual envelopment experience" is "far beyond the

passive light show mentalities of video toaster abstract art styles or film & video collage pieces" (Granular Synthesis, 2000)

Needless to say other societal changes - not necessarily related to technological innovation (e.g. bop related to changes which World War II brought about in American society) - will no doubt trigger further evolutions within the new musical traditions

Finally, there remains the question of the next new musical tradition. With the emergence of postmodernism as a dominant worldwide culture, one might think that all future musical development will occur within the confines of that dominant tradition. That is, one might think that there will be no new musical traditions within the future other than those parallels to Electro-acoustic and Technology-R&R that are even now emerging as postmodernism collides with other subcultural traditions alongside those of R&R and classical. In short, all the future can be expected to provide - extensive as it no doubt will be - is further elaborations of the sounds (and other sensory information) already available worldwide or potentially so within the coming elaborations of digital technology.

A few additional brief considerations will perhaps put this digital pipedream to rest. First of all, most of the audio developments that have occurred in recorded history clearly will never be assessable for digital manipulation. For instance, the musical explosion of Storyville, scarcely a century ago, is nowhere to be found on record, cylinder or tape. Secondly, little matters such as the profusion of nuclear weapons, the melting of the polar ice cap, etc. - all clearly traceable to societal forces operating within dominant cultural traditions - continue to be ever present. Thirdly, as we all know, there once was a time when, for instance, the Roman Empire

extended almost to Ireland, the 'sun never set' on the British empire, and the Soviet Union was well ahead of the Americans in the 'race for space'

Having said that, it is worth recalling the types of societal changes that accompanied the cultural collisions associated with the emergence of previous musical traditions. For jazz we have the US Presidential election of 1876 triggering the re-establishment of 'white supremacy' throughout the South. For classical we have, among other things, decades of religious war decimating France as a result of the Reformation. For R&R we have World War II. For Electro-acoustic and Technology-R&R we have Western transnational corporations exporting the likes of Coca-Cola and sweatshops to much of the 'third world'.

In short, while it can be anticipated that the next new musical tradition will eventually emerge from some sort of cultural collision in the future, one can only speculate as to what that tradition might be.

APPENDIX 1 ILLUSTRATIONS

Ant
1
S Al-ve, * Re-gi-na, máter mi-se-ricórdi-ae

Ví-ta, dulcé-do, et spes nóstra, sál-ve Ad te

clamá-mus, éxsu-les, fi-li-i Hévae Ad te suspi-rá-

mus, geméntes et flén-tes in hac iacrimá-rum valle

E-ia ergo, Advocá-ta nóstra, illos tú-os mi-se-ri-

córdes ócu-los ad nos conver-te Et Jésum, benedí-

ctum frúctum véntris tú-i, nó-bis post hoc exsílí-um

os-ténde. O clé-mens · O pí-a · O dúlcis

* Vírgo Ma-rí-a

Illustration I 'Salve Regina', Early Christian Gregorian Chant

(Grout and Palisca, 5th Edition, 39)

Lix descendit in profundum uentrem in huc.

mundum. lix illustrat. ho. minem.

liu lucere
cani stellat
lignale
intra cella
matre fecit
lignu.

huc matrem uicta fraude lau

Innotat
uicissim
reputat
nouare
plurim
cedo
gano.

Et prem dignum. laude chor' choro. tui'

pano. Omnis. curret. homo.

purre carcer. Sa. oplet. modo dicta

aphi. ca. Et uerbu erro

(Sella mal' uirgo pacti ple

factu. uirga tulit floie. Incorrupta nouam.

PLATE XXII London, British Museum Add 36 881, fol 2 and 2v 12th Century

Illustration II 12th Century, two-part writing

(Parrish 781)

EXAMPLE 6.9 Josquin des Prez Motet Ave Maria virgo serena

A - ve Ma - ri - a gra - ti - a

ple - na Do -

gra - ti - a ple - na

a gra - ti - a ple -

mi-nus te - cum [te - cum]

Do - mi-nus te - cum vir - go se -

na, Do - mi-nus te -

vir - go se - re - na [se - re - na]

re - na [se - re - na]

Vir - go se - re - na

cum vir - go se - re - na

Hail Mary, full of grace the Lord be with you serene maiden

Illustration III 'Ave Maria', motet c 1476, Josquin des Prez

(Grout and Palisca, 5th Edition, 179)

APPENDIX 2 INTERVIEWS

INTERVIEWS

All interviews took place between May, 1996, and September, 1996. The twenty-two musicians who were interviewed, as well as the location of each interview, are listed below.

The code letters given to the interviewees (A, B, etc.) are used to identify the source of each quotation which appears in the text of the thesis.

The Technology-R&R interviewees were, on the whole, involved in writing and playing their own music and tended to use technology extensively and owned their own home recording equipment. Some were involved in the study of music technology. The older R&R group, who had grown up with early developments in recording studio technology, tended to view technology, its role and function, differently to the younger group. This older group tended to have an over-view of the R&R tradition and reflected on their own place in the tradition and its evolution. They tended to have older, more basic equipment than the younger group, and were involved in live performance, free-lance record production or in one of the associated R&R businesses.

The older classical group were also over-seers of the development of the Electro-acoustic tradition. They grew up during a time when experimentation with early technology was taking place, and every composer tried his hand at composing using it. They were intellectually engaged in the debate as to the future of music technology and its evolution. They tended to have state-of-the-art computer-based home-studios. The younger group in the classical field also had their own home-studios and were actively engaged in the production of music. They tended to be

well-versed in the use of the computer, having grown up with it Some were engaged in formal study of music technology

Interviewees

Code	Interviewee	Location
A	Maura McDonnell	Belfast
B	Gerry Hendrick	Dublin
C	Paul Kerrane	Dublin
D	Alan Neill	Belfast
E	James Wilson	Dublin
F	Rhona Clarke	Dublin
G	Donncha Dennehy	Belfast
H	Andy O'Callaghan	Dublin
I	Robert Murtagh	Dublin
J	Simon Trezise	Dublin
K	Roger Doyle	Dublin
L	Ronan Guilfoyle	Dublin
M	Dave McLoughlin	Dublin
N	Matt Kelleghan	Dublin
O	Jim Rogers	Dublin
P	Larry Dunne	Dublin
Q	Dave Murphy	Dublin
R	Marie Moore	Belfast
S	Jonty Harrison	Belfast
T	David Downes	Dublin

U	Seamus O'Brien	Belfast
V	Donal Hurley	Belfast

Several of the interviewees submitted tapes of their own recent compositions. These are coded here (C1, R3, etc) so that sources can be identified in the thesis text. All of these tapes were supplied between May, 1996, and September, 1996. The tapes were used only as support material and were not considered an essential element of this research.

Tapes

Code	Music Tradition
C1, , C4	tapes submitted by Electro-acoustic composers
R1, , R4	tapes submitted by Technology-R&R composers

APPENDIX 3 FOOTNOTES

FOOTNOTES

Chapter 1

fn. 1 Following the recommendation of Dublin City University reference library, it was decided to use the "MLA style" for citation and referencing in this thesis (Byrne 3). This style, which is "simpler and more economical" than the "Harvard System" (the "Name and Date System"), was deemed appropriate for the present thesis in that, with only three exceptions (Collier, Grout and Palisca, and Jameson), no author has more than one citation in the bibliography (Byrne 3, 6).

With regard to citations, the "MLA style" differs from the "Harvard System" in that no date is given in the text. Thus for example, at the top of page five of the present thesis the "Harvard System" would cite the quotations of T.S. Eliot that appear in Dick Hebdige's book as "in Hebdige, 1986, p7". Using the "MLA style" this citation is simplified to "in Hebdige 7" (even the comma is omitted) (Byrne 5,6).

As a result of using this "more economical" citation style there are only two occasions when publication dates are cited in the text of this thesis. One of these is to distinguish between different works of the same author(s), (i.e. Collier, Grout and Palisca, and Jameson). Thus on page three of the thesis, for example, there are two citations which refer to James Collier's 1984 book on the history of jazz. In both citations the date is included to distinguish them from two other works by Collier which are also cited in the thesis.

The second occasion when dates are used in text citations in this thesis involves citations of works which provide major analytic contributions to the thesis. Dates are

provided in these instances for the reader's information. The first such example is Dorris (1990) which occurs on page two of the thesis. Others include Harvey (1990) on page seven, Tuckman (1965) on page ten, Bourdieu (1986) on page one hundred and eight, and Mackay (1981) on page one hundred and thirty one.

With regard to references listed in the bibliography there are two major differences between the "MLA style" and the "Harvard System". First, using the "MLA style" the date of publication is listed at the end of the reference, rather than near the beginning as it is in the "Harvard System" (Byrne 7, 10). Second, when referencing "a contribution in a book" the word "By" is used in the "MLA style", whereas the word "In" is used in the "Harvard System" (Byrne 8, 11).

Chapter 2

fn. 1 The terms black, Negro, Afro-American refer to those who are descendants of African slaves. These terms are inter-changeable throughout many texts. For the purposes of this thesis the term 'black' will be used to distinguish this group from Creole who were not descendants of slaves.

fn. 2 Jim Crow laws were a wide range of laws passed throughout the Southern States in the late 1870's. These followed several years of riots and armed uprisings by whites (e.g. in New Orleans in 1874) aimed at overthrowing the "radical reconstruction" governments (composed of black and white legislators) imposed on former slave states after 1865. The historical-political compromise in the US Congress to resolve the Presidential election of 1876 finally marked the end of 'radical reconstruction' and restored whites to power throughout the south. These laws served the function of returning blacks to second-class citizenship and

economic penury not unlike that they had experienced under slavery. (cf. Camejo 175-185)

fn. 3 Congo Square was an empty waste area in New Orleans where blacks were permitted to perform their West African native dances and music. These performances were attended by large black crowds who swayed to the rhythmic beat and chanted.

fn. 4 "Battles of music once known as 'carving contests' have occurred - and still occur - frequently throughout the history of jazz. In early New Orleans days they say it was Armstrong versus Kid Rena or King Oliver versus Freddie Keppard ... in a free-wheeling music such as jazz, a musician is judged by his capacity for sustained and swinging improvisation." (Stearns 67)

Chapter 3

fn. 1 Antiphonal singing: Alternating singing between choirs, or between cantor and choir. "The practice believed to imitate Ancient Syrian models, was adopted early in the history of the Christian Churches". (Grout, Palisca 45)

fn. 2 Flagellation songs were devotional, penitential songs where the performer inflicted injury to his body. The practice was banned by the Catholic church, but the form continued in Germany within secular society leading to the 16th century oratorio.

fn. 3 Knights of the Temple, founded during the crusades, were "fighting monks who shunned women and wealth, accepted only the pope as their overlord. In spite

of their vows, these French knights amassed vast treasures and acted as bankers and moneylenders. From 1307-12 King Philip IV of France and his puppet Pope Clement V, framed the knights on charges of heresy and vice resulting in the suppression of the order" (O'Neill 80-81)

fn. 4 Humanism The Renaissance was a period of rebirth of the human spirit, of a desire for man to look to himself to shape the world. It was an intellectual movement based on the principles of humanism. Beginning in Italy, it spread throughout Europe. Humanism was the shifting of the political and social power-base towards the new well-to-do middle classes. The feudal lords had been displaced and a new secular body had taken their place, which balanced the still significant power of the church.

fn. 5 Imitative counterpoint "a device of repeating a motive or melody announced in one part, in a second or more parts, often at a different pitch level and not always accurately" (Grout, Palisca 813)

fn. 6 Homophony "Music in which the harmony is chordal and not made up of distinctive lines" (Grout, Palisca 812)

fn. 7 Movable type can be traced, starting with its invention by Johann Gutenberg and his first printing of the Bible in 1456, through Josquin's book of Masses in 1501 and onto Monteverdi's first book of madrigals in 1587.

Chapter 4

fn. 1 Baby boom In the late 40's America "wallowed in an orgy" (Hewlett 184) of

domesticity, the birth rate doubled “The birth rate rose steadily so that by the end of the 1950's the rate of population growth in the United States was twice that of Europe and close on the heels of Africa and India” (Hewlett 188)

fn. 2 The Depression The Depression was a worldwide economic crisis brought about primarily by the Wall Street Stock market crash in 1929 which was itself caused by “an insufficient recognition of how enormously the War had dislocated the workings of the world economy” (Grenville 161-179) The Depression spread out from the United States causing worldwide hardship and suffering “When the US reduced the flow of capital abroad and in 1930 created a prohibitive tariff which prevented the European powers from selling their goods in the US, the rest of the world could no longer cope ” (Hewlett 188)

fn. 3 Teenagers ‘rebelled’ against their parents’ lifestyles only in the sense that they sought a different spirit in their own lives They still operated within the safe confines of the society of their parents, never seriously challenging its political or economic structures So their ‘rebellion’ may be said to be a psychological one

fn. 4 ‘Cool Pose’ refers to the behaviour blacks, hopelessly out of control of their own lives, adopted “ as a way of surviving in a restrictive (white) society being male and black has meant being psychologically castrated - rendered impotent in the economic, political, and social arenas that whites had historically dominated” (Majors, Billson, Mancini 1-10) On the other hand the adopted behaviour of the “Cool Pose epitomised control, strength and pride not excited, calm and controlled which counters the low sense of inner control, lack of inner strength, absence of stability, damaged pride, shattered confidence and fragile social competence that comes from living on the edge of society” (Majors, Billson, Mancini

1-10)

fn. 5 The 'Dust Bowls' in America resulted from the over farming of land in the Mid-West (e g Kansas), South and South West (e g Oklahoma) As a consequence the land lost its minerals and turned to dust leaving it barren and useless for agricultural purposes This meant that farmers lost their livelihoods, thus contributing further to the economical depression in America during the mid 30's and early 40's, and resulting in massive migrations of farmers, along with their music, to urban centres in the North, and especially in California

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