

POPULAR MUSIC AND/IN DIGITAL CULTURE

Sean Albiez (1996)

(available at www.seanalbiez.com)

Unpublished MA Dissertation – Southampton Institute

Contents

1. Introduction
 2. Space Exploration: Mapping the Internet
 3. Technophilia and Technophobia
 4. Popular Music and/as Technology
 5. Popularity
 - a) DIY
 - b) Popular Music and Copyright
 - c) The Digital Village or Global Apartheid?
 - d) Techno-libertarianism
 6. Popular Music and the Internet
 - A) World Wide Web
 - i) Artist Web sites (Fan and artist originated)
 - ii) Record Company Web sites
 - iii) Music Media sites
 - iv) Music Netcasts: Internet Performance
 - v) Web browsing software
 - B) USENET, IRC and e-mail
 7. Popular Music's Democracy
 8. Conclusion
- Bibliography

'In the long run, its hard to exaggerate the importance of the internet ... It really is about opening communications to the masses'

Paul Moritz, Microsoft VP (1)

'The major labels' control of the music industry's distribution network & outlet procedures has had an adverse effect on the industry - it has created brick walls ... It's time to break them down and let the industry develop itself'

Ricky Adar, Cerberus (2)

'The popular mythos tells us that networks are powerful, global, fast & inexpensive ... Our networks can be frustrating, expensive, unreliable connections that get in the way of useful work. It is an over promoted, hollow world, devoid of warmth & human kindness'

Clifford Stoll (3)

'I think the Net will change things, like punk changed things, but it will only have an effect. Much of the technology is simply not there for a lot of people to do what they say they can do. They are running before they can walk'

Richard Bell, Mute Records (4)

1. INTRODUCTION

Popular music and its relationship with digital technology has an academic history reaching back over a decade. (See Goodwin (1988) & Durant (1990)). Past studies have predominantly examined the implications of new technology in music production (digital sampling, computer sequencing et al) and consumption (CD, DAT etc.) This body of work recognises that in 1996, the study of popular music must inevitably also examine digital dissemination (the Internet and other future developments of the information superhighway) while revisiting past interventions in these debates.

For the purposes of this study, 'Digital Culture' refers to the contemporary social, cultural and economic formations and practices that have been created, affected or propagated by digital technology. It encompasses cultural production, dissemination and consumption processes that have impacted on the present experience of popular music in all its variety.

I will first attempt to characterise the Internet as it is perceived from the Anglo-American perspective. It is also important to initially identify that popular music from this context is predominant in its profile on the Internet . The reasons for this are partly the continued international success and recognition of such music, and the as yet 'limited' reach of the Internet. Despite boosting rhetoric the Internet is still in many ways a distribution backwater. These issues will be explored in more depth later in the study.

2. SPACE EXPLORATION: Mapping the Internet

The Internet entered popular consciousness during 1995. The term became ubiquitous throughout the printed & electronic media and its traces could be found in the appearance of e-mail addresses and URLs (Web site addresses) on everything from science & technology programmes to day time talk shows. To the majority of the British population, the Internet was probably nothing more than a media buzzword and few had any real grasp of what it, or the information superhighway was. The Internet is quite simply a global network of large and small computers connected through phone lines, that enables the dissemination of information between individuals. This direct communication of information is usually cheap and fast (when the Internet is not overloaded). It was a space where concepts and ideas could be freely communicated and had been for over 20 years in the Internets ARPAnet military and NSFnet (National Science Foundation) research forms. In 1990, administration of the Internet was taken from the US military and given to the NSF who looked after the backbone of the Internet during its initial expansion . (1)

To begin with the Internet was used as a research and academic tool and the majority of information communicated was usually in text form. With the introduction of computers (nodes or servers) dedicated to the World Wide Web in 1993 the text based nature of the Internet was transformed. To access information on the Internet, the user no longer had to understand arcane text commands and have a knowledge of computer protocol. With the introduction of graphical interfaces (Mosaic and Netscape) in the form of point and click windows, and a minimal amount of typing,, the World Wide Web could be easily negotiated. [with the development of the Philips TV set top web browser,

controlled by a remote control, the interface is now entering the domestic spaces of everyday life which will further demystify the workings of the Internet (2)] However, where before the information communicated had been text based, the World Wide Web enabled any form of information (video, audio, graphic and text - in fact anything that could be digitised) to be sent freely through the Internet.

The type of documents and files that could be sent via the Web had been revolutionised. Using HTML (Hypertext Mark-up Language) (which was similar in operation to early word processing software where commands are inserted within the text to, for example, underline a word), text could have embedded hypertext links to graphics, audio or video files (or other locations on the Internet) to create multi-media or 'hypermedia' documents. Although such documents had been around in CD-ROM format since the late 80's, the ability to publish 'home pages' or create a 'Web site' which could be accessed globally by anybody with the correct equipment and Internet access was revolutionary.

Or was it? The problem here is that the technology itself was not revolutionary, but what could be was how the technology was employed. Technological hardware and its possibilities in and of themselves are not revolutionary. It is how the technologies are appropriated in specific cultural contexts and for particular purposes that is significant.

The implications of the Web for the transnational entertainment industries were potentially damaging. The music industry as a whole had to consider the opportunities and threats posed by the new technology. In the worst case scenario, they could be bypassed by organisations offering distribution systems that could deliver music directly to consumers, without research and development (A & R) manufacturing and high street retail costs to inflate prices. In the best of all possible worlds, the industry would be able to fully exploit the new medium, cutting costs to consumers without damaging their existing operations. Time Warner, Viacom and Sony among others are already researching how best to exploit the information superhighway while forging creative mergers to ensure they will be ready when the revolution comes knocking. (3) I will return to these issues later, and also examine the implications for intellectual property law and its global administration. It is first important to explore what sort of cultural space this new sphere of communication is.

Alongside the Internet, the associated term Cyberspace has entered media, if not popular, vernacular. It is used to define the pseudo-geographical/cognitive space the internet now operates in and has become a ubiquitous if nebulous term. 'Cyberspace' was originally invented by William Gibson as an 'exciting buzzword devoid of meaning' drawing from Norbert Wiener's term cybernetics, the science of control systems. (4) It was an attempt by Gibson to define the space of the global communications network, and the infinitesimally small space of the microchip at one and the same time. Gibson described Cyberspace as

'a drastic simplification of the human sensorium' and 'a consensual hallucination experienced daily by billions (of people) ... a graphic representation of data abstracted from the banks of every computer in the system' (5)

But Cyberspace should be a contested concept that is, or has become as meaningless in itself as the prefix 'cyber' has become over rich and drenched in its connotations. Over a decade old, the term cyber has been co-opted recently as a signifier in myriad contexts of the [contemporarily formulated] future and as a fashion term (Cyberpunk, Cybershine L'Oreal Beauty products etc.) (6) Cyberspace as a metaphor for the 'sphere of operation' or the virtual space of the internet may be useful analytically insofar that it gives us a cognitive map through which to understand what is out/in there. But it encourages a sense that the internet is somehow detached from, rather than embedded in other cultural, economic & social relations. It seems to suggest that these relations are somehow not reproduced within this 'space'; or at least that they can be escaped.

However, Cyberpunk fiction rather than the term Cyberspace actively engaged with very real changes occurring in the 1980's (and drew some of its iconography and attitude from early 80's 'post-punk' which had appropriated fully leather, studs and an apocalyptic filmic demeanour (Mad Max was influential) alongside the more 'authentic' products of the 'Sex' boutique). Kellner (1995) suggests, it was a valid critique of a media and technology saturated society which clearly needed urgent mapping, clarification and narrativisation. Sterling and Gibson among others seemed to recognise the deep ambivalence of technological change and provided

'a response to this situation, attempting to map contemporary technological, economic, social, political and cultural realities ... Thus postmodern theory and culture and Cyberpunk fiction are products of the same new high-tech environment and both serve to map and illuminate it' (7)

Despite the complexity of the Cyberpunk critique, the term Cyberspace has become corrupted. So, instead I intend to refer to Digital Culture as an agglomeration of products & practices, technological, social & political that occur spatially & temporally in, outside of and, most importantly at the interface between socially located individuals & information technology. This characterisation of Digital Culture will underpin this work. The term Cyberspace as a simple definition of location seems inadequate in attempting to identify the complexity of the lived reality of those involved in the Internet. If I had chosen 'Popular Music and/in Cyberspace' as a title for my work I would surely have limited the scope of the study in two ways. Firstly, because I would have to work within the inherent specificity of this term (the 'virtual space' of the internet and become involved in relatively unfruitful textual explorations of 'Neuromancer' and other Ur texts). Secondly related debates around digital technology and its application in popular music production which takes place in a context predominantly (though not always) disembodied from the reach of the Internet would be sidelined.

3. TECHNOPHILIA AND TECHNOPHOBIA

The Internet is a phenomena that has been greeted with a mix of technophilia, technophobia and indifference. The majority who are off-line are cajoled, often through inaccurate reporting about the reach of the internet, into believing they are somehow missing out on something; that the party is taking place elsewhere, that they are the information poor and will become increasingly impoverished the longer they are modemless. It is being argued, particularly in the work of those exhausted by the utopian unironic polemic found in the pages of Wired magazine, that the real impoverishment is suffered by those immersed in the internet. Stoll argues that those on-line are missing out and that

'real life and authentic experience mean much more than anything the modem can deliver... Computer networks like cars and televisions, confer a most seductive freedom, the "freedom to". As I step back from the insistent messages beckoning from across my computer, I'm beginning to wonder about a different kind of freedom - call it a "freedom from".(1)

What Stoll means by authentic experience, the sensual pleasures of nature and the real world are misplaced and romanticised notions about contemporary experience where technological devices thoroughly protect us from nature - whether central heating or Gore-tex clothing; and when contemporary experience is fully mediated through and by technology and the products of the mass media. Stoll also suggests the modem 'delivers' raw information. In effect, that the information is unprocessed, is not 'knowledge'. The difficulty with this is that the Internet allows discourse through newsgroups, bulletin boards and e-mail. The Internet overlaps into the 'real world' and draws from it - it is not an autonomous space. On a pragmatic level however, it is questionable how often the internet is really a short-cut to understanding, and analogue techniques (opening books in a library) still have a large part to play in enabling us to engage with information. In fact by far the most research I have undertaken has been through the printed text (whether books or printouts) in this study. But the concept of a "freedom from" is not fully explained. Is it a freedom from the pull of the Internet that Stoll dreams of, or a lament for the debilitating freedom from the everyday that the Internet inculcates. Either way, his cynicism is as seductive as the proselytising of the millenarian apostles of the information age is aberrant. In fact, Bill Gates, the Microsoft multi-millionaire positively encourages this sort of pseudo-messianism in statements such as,

'I can see things that people who think that software stays the same won't be able to see'. (2)

I will explore the question of technophilia and technophobia, and its relation to the politics of the internet in more detail later in this study. In particular I will attempt to show how it is fundamental to an understanding of the predominance of a form of 'Techno-libertarianism' in political discourse around the Internet.

4. POPULAR MUSIC AND / AS TECHNOLOGY : The Myth of Authenticity

'Forget the centre: the margins are where the signals are coming from. Everything is velocity and disappearance and mutation. And so, if here I set up oppositions of Marley versus Dub, *Concrete Jungle* versus *Jungle Plastique*, renewable technology versus ossified pop worship, it is not some infernal plan to do away with the Human (the spirit, the voice) and replace it with the Technological. It is rather to reclaim what is truly human (memory, lack, doubt, danger) through and in technology, when it otherwise threatens to evaporate in the *blurry oasis* of modern marketing' (1)

In the study of popular music, notions of the 'authentic', and its central importance to the pleasure of the audience has been widely discussed. From the 'roots' folk of the 60's and its 'corruption' by its perceived figurehead (when Bob Dylan 'went electric'), to debates around synthesisers and the lack of human warmth electronic technologies necessarily deny to human performance. There have been similar claims made in the popular media, suggesting the use of sequencers/computers dilutes the 'authentic' moment of musical performance (ironically New Order always perceived sequencers as more 'authentic' than using backing tapes in live performance as they demonstrated a direct link to the 'moment' of composition). In mapping this issue I will identify the moments in the cultural production of music, technology and meaning that are central to the question of authenticity.

Popular music is a catch all term that in its fundamental sense refers to the musical texts central to the activities of music production and consumption. The relationship of technology to these processes, or its place within them, is usually conceived of as the way in which instruments or tools have been employed in enunciating an authentic human artistic practice and pleasure. This conception places a fundamental opposition between body and technology that is complex, but central to an understanding of questions of authenticity. Complex because, after all, it could be argued that music created by the human voice is the only authentically authored musical 'text'. By notating and formalising music in any way transforms it. It models and constructs it, and therefore since the first use of musical instrumentation (drums, conch shells etc.) it has been an analogue derivation of a 'technique of the body'.

In examining this concept of techniques of the body, the work of Marcel Mauss is central. His work identifies that

'bodily techniques are not spontaneous nor are they simply anatomical or physiological ... Bodily techniques are effectively like technology without an instrument. The framework of a technique allows one to explain the significance of the multitude of small actions carried out by each individual everyday of their lives' (2)

He therefore suggests that bodily techniques are learnt socially and culturally. They are not necessarily just employed in rarefied techniques such as music production, but also in fundamental ones like spitting. Therefore the body technologies of popular music are always learnt and culturally determined, and do not derive from a transcendental moment of original inspiration and creation. Dancing and listening are equally learnt techniques, only employed in the consumption of music.

This fundamental conception of music as bodily and instrumental technology has the implication that any discourse of music and authenticity is a mythic narrativisation. Any perceived 'authoring' of music is in effect a socially and culturally determined mediation of existing musical practices.

This understanding demonstrates a by now ubiquitous cultural misrecognition of music's origins 'outside' of technology. It also demonstrates, therefore, the need for musicians, the music industry, the media, consumers and fans to narrativise, locate and understand popular music through romanticised constructions such as authenticity. I will now examine how the myth of authenticity, of the opposition of body and technology and the cultural practices located in and around popular music can be identified in modern and postmodern eras. This in itself will necessitate selecting from a mass of unmappable material, but I hope to at least demonstrate how authenticity is central to an understanding of music technologies and practices in the present 'digital age'.

At the heart of the issues is the notion that by commodifying popular music, it is tainted by commercialism and as such loses its roots in human experience, pain, pleasure, passion and desire; that it necessarily loses its 'folk' origins and/or its ability to transcend the human condition. This sense of pessimism is based on the critiques of mass culture of theorists which have been fully discussed elsewhere. I will briefly however refer to the Frankfurt School who were the chief proponents of such cultural pessimism through specifically analysing Adorno's contribution to an understanding of this formulation.

Adorno argued that in the process of commodifying popular music, old ideas are continually repeated in an uncreative production loop, and that the music loses a sense of diversity, being reduced to a narrow spectrum of forms and ideas which change slowly and with a great deal of resistance. Such repetition trivialises meaning, and therefore popular music's sense of authenticity. He states along with Horkheimer that

'(Capitalist) culture consists of repetition. That its characteristic innovations are never anything more than improvements in mass production is not external to the

system. It is with good reason that the interest of the innumerable consumers is directed to technique, and not to the contents - which are stubbornly repeated, outworn, and by now discredited' (3)

Therefore new ideas are continually re absorbed into the system, becoming fully products of it. To speak, therefore, of authenticity of performance in this formulation is to misunderstand the operation of popular musical culture and its associated industries. As the repetition of certain forms is also predicated on their popularity (identified through sales), it is possible to argue that the audience determine the form of popular music they receive - authoring as the musician authors. It becomes impossible with this sort of systemic analysis to identify the moment of authentic, individual, and creative invention. Authenticity becomes, therefore a romantic ideal rather than an attainable goal.

Many of the opinions that are held in opposition to technologies role in music misunderstand the fundamental definitions of technology and its relationship to the actuality of the performance and production processes.

The popular conception of technology tends to refer to the hardware produced through sciences drive towards invention and innovation. However, except in the context of information technology, 'software' or the techniques utilised in the application of the technology to various functions and processes is often overlooked. This leaves the field clear for a crude form of technological determinism informing discussion of changes in musical practices where a particular invention is said to transform music making. Technology should be understood as the application of scientific discoveries to the challenges we face in our lived environment and the study of the techniques derived from such application. Technological hardware as material manifestations of scientific invention only take on significance in their place within social and cultural relations.

The history of music is often mapped through technological innovation and novelty, and as such popular familiarity with existing musical practices is continually usurped by newer technologies and their application. Up until the digital age there seemed to be a clear continuum within popular music whereby traditional instrumentation (technology) was being combined with amplification to cater to new modes of performance (in larger dance, musical and theatrical venues). But the musician still plucked or bowed a string or hit a drum in the presence of an audience, or in a recording studio. The process of amplification, however, complicated the notion of authentic performance; it transformed music in distorting its volume. The recording of music likewise removed it from the moment of enunciation.

But the pleasure of popular music in many of its forms, with its emphasis on vocal performance and the song did not in the past necessarily require the valorisation of authentic musical performance. At the most commercial end of popular music over the last 40 years it was the singer who has been the focus of audience attention and fascination (the voice itself was a learned technique, or 'technology without instruments' in Mauss's terminology) as an object of admiration, lust and messianic worship. Paradoxically, the audience often, then and now, prioritised the commodified form of music over the live performance of it. Bands were assessed on their ability to recreate their 'recorded' sound 'live', as if the multi-tracked moments of production in their integral form amounted to the authentic performance of the song. It is clear, however, that recorded music is always a technological mediation of a particular performance or set of performances. This as I will discuss later has been further complicated and is more extreme in its a misrecognition of the production process with the development of digital techniques.

Unlike Goodwin (1988) (4), I don't agree that live performance is today perceived as serving to authenticate musical competence. That is, competence that demonstrates musical virtuosity or proficiency in a traditional sense. Independent / alternative music after Punk did not valorise musicianship in itself and in music shops and classified band ads, the now legendary term 'no musos' demonstrated this. In Pop Music performance, Take That were never judged by the majority of their fans on the competence of their backing band, but quite clearly on other criteria. The fact that Take That on their final tour played several tracks (including 'Smells Like Teen Spirit') as a live band demonstrated more about the pretensions of the band (or Gary Barlow) themselves to appear to be 'maturing' away from the Pop audience than the tastes of the audience themselves. By redefining themselves as musicians and appropriating the defining anthem of early 90s 'slackerdom' they were attempting a clear shift from their teen dream roots.

More particularly, the 1970s popular cultural conflict that was often defined as 'Rock' v. 'Disco' (which was ironically counterpointed in 'The Great Rock 'n' Roll Swindle), gave way in the late 1980s to Indie dance crossover (Happy Mondays, Jesus Jones) and intensive hybridisation. Where the 'Keep Music Live' campaign had been mounted to stem the tide of 'discotheques' and recorded music's social usage (Laing (1990)(5), Indie dance disregarded such entrenched positioning recognising they were not anti-thetical formations (the claim 'we've always

had a dance element to our music' became widespread at the time.) Rap which had developed in this period demonstrated the activity of reinterpretation of recorded music through scratching and mixing. This practice was a subversive critique of Rock's often racist dismissal of such 'artificial' forms, and operated within a cultural 'street' space that middle class rock consistently attempted to symbolically position itself in (Paltisan (1990) (6)

In the most visible forms of popular music, image and spectacle has become increasingly prioritised over sonic content in a performance context. Miming is symptomatic of wider postmodern concerns around Baudrillardian simulation. The musical performance lacks substance and authenticity, with the audience condoning and colluding with this practice by literally applauding (whether they are aware of miming or not). The musical text can also become lost in the visual excessiveness of contemporary performance. In Pop, Madonna, the Pet Shop Boys and others have delighted in performance that has often prioritised the visual interpretation of songs over their aural reproduction. In dance culture, multi-media performance events such as Megadog and Megatripolis have effaced notions of authentic performance in multi-media display that embodies a multi-levelled expression of a dance 'counter-culture' (with music as a soundtrack). Musical performance becomes something to be aurally negotiated rather than actively sought out and engaged with in these events. Bands [or 'musical collectives' as the term band seems anachronistic] such as The Orb, Prodigy and Orbital efface themselves from the imperatives of musical performance by locating the music making technology in a space away from the foci of audience attention. The manipulation of recorded sound by DJs is valorised as authentic performance by 'audiences' as much as the 'backing tape and live vocals' performance of pop and dance acts.

In other forms of guitar oriented music, bands such as New Order (who progressively immersed themselves in cutting edge digital technology through the 80s) and the Jesus and Mary Chain never attempted to engage with the perceived need to master their instruments. Interestingly, even these bands can become caught up in the discourse that valorises musical competence in an attempt to prove themselves when put on the spot in the rock media, but by claiming 'incompetence' as superior to 'virtuosity'. Jim Reid demonstrated this in an NME interview in 1992 when he stated

'We were making records for a year before we realised what a guitar tuner was. I don't care about all that, I can do things with a guitar Eric Clapton probably hasn't even had a fucking nightmare about' (7)

Other 'alternative noise' bands such as Nine Inch Nails and Ministry merge the technologies of rock and dance in hybridised cacophonous soundscapes that utilise guitars and digital noise to produce music of indeterminate origin. This is music that is performed as much as it is pre-programmed, and differentiating between either element is futile and a misunderstanding of the notion of authenticity. Tricky is a black artist operating at the technology/body interface and between 'black' and 'white' musical forms. Technology allows him to probe the constricting boundaries of genre, race and stifling cultural convention. Punk and Reggae may have presaged the co-mingling of diverse traditions that are increasingly and irrevocably entwined, but Tricky has clearly immersed himself within differing traditions that once seemed antithetical rather than traversing from one to the other. The result is that

'Tricky (dis)solves such problems - the false oppositions set up between technology and humanity, punk and funk - precisely by ignoring them. What he (and others in Jungle, New Electronica etc.) do cannot be described as a 'retreat' into technology because his nation has never been anywhere else' (8)

The conception of 'black' music as somehow more authentic precisely because it is more body oriented denies the technological policing of the black body and its meanings in Western culture. Tricky explores technology to critique this essentialist notion, recognising implicitly the weakness of oppositional mapping in defining identity.

It is worth briefly discussing the status of the term audience in the popular music performance space. This term is often inadequate in describing the activities of participation and negotiation that take place there. Audience connotes passivity and as has been widely recognised in media and cultural studies, it denies the range of activities and interactions that take place in popular music consumption at a venue, in domestic space, on the 'street' and elsewhere. Though there is not space to explore this fully, it does have a bearing on how authenticity is conceived. It is a term in process, being continually constructed and re/deconstructed within the discourses generated between producers, mediators and consumers.

Musical competence does not appear to be one of the criteria used in many popular musical contexts in defining why audiences value live performance. However, I would go some way in agreeing with Goodwin that the 'aura' of the physical presence of the 'original' artist is often the appeal of the live gig. The use of the term 'aura' unfortunately is an

appropriation of Benjamin's mystification which I find difficult as a concept. An aura metaphysically emanates from a physical body. The aura in the context of popular musical performance is a cognitive formulation in the mind of a fan, and is really synonymous with physical presence. It is clear that by examining the discourse of 'fans' of particular artists this conception can be supported. A David Bowie fan characterised this experience of the 'aura' of Bowie by stating

'The clamor for tickets for the '83 concerts was so immense because you are sharing two hours of you life with him-two hours in the life of someone you know won't be there one day. It's quite a marvellous experience to be able to at least say: "I shared two hours with him."' (9)

The August 1996 Oasis gigs at Knebworth where 240, 000 fans attended over a two day period demonstrates that the romanticised sharing of physical space with a performer still holds a fascination for many pop fans.

Despite this example musical purists may be disappointed at the gradual loss of the primacy of live performance. However popular music in it's most successful form began to move from the fetishisation of the authentic moment of performance to a prioritisation of its associated pleasures in the rock era - of rebellion, sex, fantasy and the danger of marginality. Fans clearly had a range of values and uses predicated on pleasure that traditionalists found hard to square with the myth of authenticity. It is within these concrete pleasures that the aura mentioned above obviously resides. Billy Fury, The Monkees and Frankie Goes To Hollywood in different ways exemplified that artificially constructed artists can be central to such pleasures as much as those perceived as authentic.

It may be argued that the Sex Pistols could also be defined in this way until their recent attempts to rewrite their own histories by defining themselves as 'a great rock band' (and therefore proving themselves able to 'cut it live'). The Pistols importance has never been recognised as residing in their musical ability - it is much more in their uncontrollable energy, controversy, visual and aural play, and semiotic excess(iveness) at a particularly dour juncture of British history. They were a cultural and social phenomena as much as a popular music one. In the opinion of some, the music was the least important element of the Sex Pistols appeal. Jerry Dammers in 1984 characterised the situation by stating

'The Sex Pistols' lyrics may have been good but the music was more or less unlistenable. To actually sit down and listen to a Sex Pistols LP .. I mean who'd do that?' (10)

Alan McGee of Creation Records attempted to create a revisionist challenge of such views by making a public intervention in the NME after the Sex Pistols reunion concerts in Summer 1996. Taking out a full page white on black advertisement, he referred to the Shepherds Bush Empire gig stating

' I never saw the Sex Pistols in 1977 ... I went half expecting it to be part comedy part irrelevancy ... What I saw destroyed my preconceptions ... The Sex Pistols at Shepherds Bush Empire were simply stunning ... Literally the best Rock 'n' Roll band around ... Britpop? More like Shitpop. You're welcome to your mediocrity.' (11)

The Sex Pistols' musical competence valorised by this impromptu review does tend to suggest that in the Independent sector and associated subcultures, to 'cut it' live remains a criteria for value judgements about a bands worth. Or has increasingly become so. The statement seems to reflect on the 'professionalism' that underpins Creation's value systems that it necessarily had to increasingly develop with the mass success of Oasis. It had to engage with the notion that performance should give value for money to the audience, and not be a destructive, resistive, disengaged practice. This seems ironic from the label who fostered the Jesus and Mary Chain in 1985 (and their 20 minute feedback ridden gigs). But it does demonstrate how the Independent sector may have wisened up after the folly of Factory records demise, realising that to compete commercially, you must take on the baggage of 'professionalism' and mainstream industrial practice. While this does not necessarily suggest musical competence in relation to instrumental virtuosity has returned as performance criteria, it does suggest that a 'professional' attitude, accepting the exigencies of the commercial system is prevalent. Though Oasis can be 'anarchic' and confrontational in performance (in the form of Liam Gallagher) it is often a parody, or self-conscious play policed by Noel Gallagher, the representative of common-sense and professionalism. 'Authentic' rebellion, confrontation and revolt seems increasingly a fictional construct of popular music's past rather than a reality of the present.

Cultural and media theorists have characterised this situation through bemoaning the embedding of popular music in the capitalist mode of production. Hall and Whannel (1964) suggest that the alliance of popular music with commerce itself mitigates against 'authentic' popular cultural expression by arguing

'does the audience get what it likes (in which case, are those likes enough) and needs (in which case are the needs healthy ones), or is it getting to like what it is given (in which case, perhaps tastes can be extended?' (12)

This suggests that popular music produced in the commercial context is corrupted and corrupting (an argument that embodies distancing from the products of capitalist culture which create 'false consciousness' and inoculate against more 'authentic' forms of popular music) Buxton (1983) argues for a public sphere of popular music practice that protects it against the excesses of the free market.

'Such a public sphere would encourage the flourishing of forms of popular music that do not obey the logic of a market increasingly content to pack stadiums with bland supergroups ... What is desperately needed are forms of cultural intervention that allow pleasure, satisfaction, and aesthetic experience outside the dominant modes of commodity production' (13)

This sphere may have arrived for a brief time with the advent of the Internet. As I will demonstrate later, though commercial sites are proliferating on the Internet , there is a sense that such a flourishing of popular music at the grass-roots is taking place. But though individual empowerment is achieved, a challenge to the transnational corporations has yet to materialise. Though the sphere of the Internet is populated by individuals and bands expressing themselves, in what sense this expression is 'authentic' is debatable. The majority of music remains embedded in popular forms originating in the Anglo-American context and at the interface between industry and audience.

It also needs pointing out that the power relationship between industry and audience is often driven by the industries desire to gauge the tastes of the audience and deliver product that appeals to such tastes. It could be argued that the industry is therefore audience or consumer led. But the industry structure as such does enable Independent labels to identify and exploit niche markets that the Majors ignore. The formulations of Buxton, Hall and Whannel and other 'authenticists' is based on a flawed conception of societal and cultural relations and a utopian thrust that hopes for 'equality of opportunity' for commercial and 'authentic' forms. Where an enforced 'public sphere' of authentic folk and popular music has been developed, in the old Eastern bloc and fundamentalist Iran, the appeal of western commercial forms and their associated gratifications was evidenced in the thriving black markets. Resistance to totalitarian government was underpinned by the appropriation of counter-cultural icons such as Frank Zappa and western commercial icons such as Madonna and Michael Jackson.

It is true that a discourse privileging authenticity remains in some areas of the music media, and can be demonstrated through a growth of popularity in 'world music' in the late 1980's. The irony was that it was only through contemporary technologies of production and consumption that such musics could be disseminated to this new audience. Innovation has always been at the heart of musical practice and in the rock era the dividing line between the 'authentic' and the technological has been gradually erased to the point that it becomes meaningless. This has much to do with digital technology.

Quite simply, in the contemporary music industry, all instrumentation can be digitised, whether analogue or digital, sample or voice, and digital techniques have become an industry practice rather than a postmodern deconstructionary textual technique. Goodwin (1988) identifies four ways in which automated and human performance have been blurred in the digital age. Firstly through software that can be programmed to emulate human unpredictability in the performance process and that avoids the perfection afforded by computers. Secondly, by allowing musicians to play into a program which can then manipulate such a performance. Thirdly, by triggering digital sounds from an analogue instrument (a real snare drum triggering a digitised sound). Fourthly, by allowing the looping of a short sampled performance by a musician so that it can be repeated at will in a particular song. (14)

This situation in 1996 is further complicated as the recording process of a traditional four piece band will inevitably involve sampling of repeated phrases and various performances which are then reconstructed in a non-linear manner in the digital mixing process, much like the process utilised by dance oriented bands for over 10 years. However, the musician is no longer interacting with a program as such. The digital mixing and mastering process affords infinite manipulation of the performances of the musicians so that the authentic moment of performance recedes further away.

The work of the 'techno' musician Moby is exemplary of the conjunction of all of the digital techniques and technologies in the work of an individual producer / DJ / musician. Accused by hardcore-techno purists of 'selling out' because of his move into the more commercial sector, he replied by stating that

'Evolution is about breaking down purism. If there had been Blues and Country purists in 1955, rock and roll would never have happened, and the 50s, 60s, 70s and 80's stuff I remember isn't Stockhausen and Can, it's The Beatles and Abba. I'd rather be in that category than in one of obscure esoteric stuff that seven people know about' (15)

This evolution is evidenced in his appropriation of every dance and ambient style possible and hardcore thrash. Using a wide range of Yamaha, Roland and Akai sound modules, rhythm composers and samplers and Cubase Audio and Soundtools he has total control over his music. In a Godwinian form of extreme creative individualism he revels in his ability to take absolute control of every dimension of his music making (Paltisan (1990)). (On his forthcoming thrash album, he intends to use the same approach to what was originally 'band' music, though to claim absolute individualism in the creative process assumes collaboration and association can be ditched. Moby makes no such claims and demonstrates how the lone musician must always been inscribed within popular music's past and present.) He identifies one of the problems of claiming technical 'authenticity' in the contemporary music making process in the following way

'I'll have a sound coming out of one fader, I'll send that to a Compressor, send the compressed signal back to another channel then send that channel to one effects unit, send that back to two stereo channels then send those stereo channels to another effects unit and, maybe, to another compressor. So you have these really elaborate signal paths and, in the end, the original sound is lost' (16)

Also in Moby's incessant mixing and re-mixing of tracks, issuing a double CD of remixes of his album 'Everything is Wrong' and several alternative versions on each single release, he demonstrates the loss of the 'original recorded moment' that has been valorised as 'authentic' in the past in a situation where the 'song' is never finished. There is no original or definitive version.

This leads into a related issue, which is the question of naming in digital music. Moby occupies a 'dance' space that somehow encapsulates the whole of his output in its variety. The need to name, to pin down, and to understand is inherent in the process of identification (the subject needs to locate themselves by projecting into a distinct cultural formation). Digital music because of its cult of anonymity often leaves the music in a dance space when it clearly not dance music. New Electronica (The Aphex Twin, Main, Lull) is not of this space. The problem of naming was clearly mapped out in Wire magazines attempt to identify the music at the margins of digital composition which said

'Don't call it Ambient, because most of this stuff travels at hypervelocities and staggering gaits hardly explicable/believable in ballistic/osteopathic terms. Don't call it 'dance' music because anyone making music designed only for the dancefloor right now inevitably sounds closed off ... Don't call it Techno either, because much of the music ... replaces electronic presets ... with sampled instruments played in real time ... technology not used as an end in itself but as a window on fantasy combinations and dream coalitions of musicians ... And don't call it avant-garde because most of the younger artists in this orbit don't hear the difference...' (17)

Clearly, any sense of authenticity in this context, and of suppressing through naming (writing the music off as 'dance'), is mistaken and demonstrates how far the authentic is a discredited analytical construct.

This sense of the primacy of the 'authentic' recorded moment being subverted in incessant textual transformation has also infected popular music's past. The recent release of Parts 1 and 2 of the Beatles Anthology contained alternative takes of seminal songs such as 'Strawberry Fields Forever'. This leaves the 'original' awash in an array of possible alternative pasts - each one of these takes could have been used in the original, but with the release of some of the alternatives (with the considerable help of digital re-mastering techniques) the status of the 'original' becomes enmeshed in complex issues of 'the other'. Where does authenticity reside when there is no longer the 'one and only'. The aura of the reproduced 'original' has been replaced by the aura of the fragmentary, the many into one.

Equally, the release of 'Free As A Bird' and 'Real Love' which owe their existence to a mono tape cassette and digital sampling, mixing and mastering techniques confronts us with the artificiality of the recorded moment. There is no

pretence when a dead lead singer is resurrected to do it one more time. No matter what the rights and wrongs are, or whether John Lennon would have sanctioned it (an impossible question that assumes that such agreement would have made it a truly 'authentic' Beatles track), I feel that these issues need much more discussion, but with the space afforded in this study I feel that it is enough to acknowledge their existence.

This is not to say that traditional practices of performance and recording are dead and gone. The new REM album 'New Adventures in Hi Fi' will predominantly have been recorded at soundchecks and in front of live audiences (18) But it can be guaranteed that the 'live' instrumentation will be miked, processed and mixed before being mastered digitally. The authentic moment of performance in the electronic era of amplification and reproduction has always been mediated through other technologies, and in the digital era the 'authentic' in music production is a specious concept.

Goodwin (1988) identified that even musicians working in the electronic context were infected by this drive for authenticity. In the late 80's the Human League, and Acid House pioneers often referred to the inauthenticity of digital synthesisers (and sequencers in live performance) as opposed to analogue sounds. In the 1990's musical collectives of many forms can unironically discuss analogue synthesisers as more authentic than digital instruments (though they may actually use synthesiser modules that combine digital samples, analogue and digital tones - even the DX7 Piano sound can be viewed as 'classical' despite it being digital). I have discussed this in more detail elsewhere in the study, with the conclusion that authenticity is a misconception in the characterisation of contemporary popular music performance and production environments.

I briefly want to examine how a particular piece of music software mentioned in my project evaluation may provide an insight into the contemporary understanding of authenticity in the digital age of music production. The KOAN Pro software utilised by Brian Eno produces Generative music. Music that is generated through a computer soundcard, and 'composed' by the user altering a range of 150 variables. Eno says of this software

'This is the first thing of it's kind available, I love the economy of it; I can get the biggest effect for the smallest amount of input. It just carries on with a life of it's own' (19)

The interactive process means that the 'original' is nothing more than an organic set of sound textures that never repeats and can be infinitely manipulated. If popular music were released in the future in this form, songs could be infinitely remixed by the audience, though whether such interactivity is desired by the popular music audience is debatable. However, it does pose questions of authenticity, and possibly 'democratisation'. Does the ability to define and control a commodity the consumer has purchased empower them? Does it give them a 'voice' and ability to express themselves through music? What exactly is being expressed? I would argue that it does so only in highly circumscribed ways, if at all.

There is also a wider issue at stake within associated debates around authenticity. It is apparent that those opposing the commercial imperatives of popular music, often in the Independent music sector, invoke authenticity as the criteria by which relevance and contemporary importance may be judged. They identify the drive towards technological improvement and innovation as symptomatic of the music industries levelling of difference in the pursuit of the most marketable product. As such, some at the periphery greet new technologies with suspicion, while others have recognised the opportunity relatively cheap digital technologies provide for production. In both cases, the music industry is still viewed as not representing grass roots activity and 'authenticity'.

David Stubbs (1989) identified this discourse emanating from 'the grubby end of Indie culture' as a romanticised misconception. He states

'This notion that local noise deserves a fair hearing, mistakes pop for a council house waiting list, free milk, part of a socialist scheme.' (20)

when in fact it is first and foremost a transnational globalised business. I will leave these issues for the moment by referring to a statement by Elvis Costello that commented on such romanticism and it's inevitable tragic (in the literary sense) corruption in saying

'I think it is genuinely funny to watch someone go through that moment when they wanna be real, and the moment when they resist fame, and the moment when they give in to it. I know what it feels like.' (21)

5. POPULARITY

In studying contemporary popular music and the Internet, it has been necessary to grapple with the term 'popular' in this context, and feel that more often than not writing in the field of popular music tends to concern itself with either ethnographic studies of local scenes (micro studies) or the commercially successful and therefore highly visible (macro studies in a commercial context). However, in this work, one of my main concerns is to study the 'democratisation' so-called of popular music by new technologies. I have many reservations with the concept of democratisation that I will deal with later. However it is important to point out that in examining popular music on the Internet, I agree with Grossberg in that the reduction of popular music to its commercial face leaves much to be accounted for. To examine only the obvious and 'visible'

'ignores the density of musical practices in daily life. It ignores all the music made outside the vector of commodity production (for example, local bands and parties). It ignores all the music consumed in contexts other than commodity purchases, concerts, radio and music videos. And it ignores all of the activities associated with musical life'. (1)

I intend to examine current musical practice on the Internet in its diversity and as such hope to then extend my findings into a broader discussion of how music is or can be democratised, if at all. Again, the concern with democratising is synonymous with the freeing up of established industry practices, allowing access, control and diversity - in its most extreme form, absolute equality. However, I remain deeply sceptical about such a freeing up if, as seems to be the case, musicians do not create freely for the public domain, but are still very protective of their intellectual property. Many still predominantly view popular music romantically - through ideas of 'making it' and career, through notions of transcending the everyday, and ultimately success (which unfortunately means recognising themselves as commodity producers, despite the incongruity with the discourses of rebellion that many act out in their public profiles across musical genres). Without jealously protecting their rights, they will receive neither 'recognition' nor 'remuneration'. So they remain within existing industry structures, or create their own 'independent' structures that imitate established industry practices (but guarantee neither visibility or marketability).

As I will attempt to demonstrate, the presence of popular music on the Internet does suggest there is a certain freeing up of this formulation. The sharing of musical information of many sorts (Midi files, samples, Chord diagrams for songs, lyrics etc.) is taking place, but this may only be duplicating practices taking place elsewhere. Before conducting a detailed analysis of Internet practice, I wish to discuss some generalised issues that have a wider and particular relevance to the concerns of this study. These will be discussed under the headings DIY, Popular Music and Copyright, The Digital Village or Global Apartheid? and 'Techno-Libertarianism'.

a) DIY

Although it is wise to be wary of generalisations and meta-constructions which attempt to characterise a totalised history of music-making, I have found the work of Jacques Attali opening up a key debate that I felt had remained undiscussed, but an obvious conclusion. Robert Burnett identifies Attali's possible importance. (2) Attali discusses the 'socio-musical totality' and how music's commodification in different eras reflects on wider societal structures. He characterises the contemporary moment as a time of '*repetition*' (similar to Benjamin's Age of Mechanical Reproduction) where

'music as a commodity is endlessly reproduced, with live performance reduced in importance and the creation of demand primary ... people must work to produce the means to purchase recordings, the result being that 'people buy more records than they can listen to. They stockpile what they want to find the time to hear' (3)

Unlike Benjamin, he does not seem to consider aura and authenticity useful in understanding the commodification of music. He is much more pragmatic (materialistic) in his theories. He suggests an epoch determines the musical forms that develop, and those that do suit the time. However, what is more important in relation to this study is his discussion of the next utopian epoch. Again, though I feel such utopianism has objective difficulties, there may be some accuracy in his discussion of the next stage of music making that he defines as *composition*. In a possible future, Attali suggests that

'people will make their own music, for themselves, in a free and decentralised society. [He] foresees a 'new way of doing music ... Doing music for the sake

of doing.' (4)

In 1985, this utopian society may have been fuelled by the discourse of societal progress that signally seems to have been discouraged by historiographers, political and cultural theorists before and since. However, what is clear is that with an increase in leisure time and disposable income, it may well be the case that many musicians working today, particularly individuals working on home systems, do so for their own gratification. And maybe the Internet encourages such music-making in its seeming freedom, decentralisation and support networks for musicians. It also, however, does enable altruistic individual musicians to share their work with a wider audience, and despite questions of quality, maybe this in itself is a radical change.

Whether we shall see a revolutionary turn in music-making practice is unlikely on a commercial level, but maybe structural changes are taking place at a micro level that will enable and empower people to create music for themselves. In the past the DIY ethic of punk seemed to enervate a stagnating industry, but in what sense did it change access? In what sense is doing it yourself a 'democratisation' of music industry power relations? This question will be returned to in the specific context of the Internet.

b) Popular Music and Copyright

Without spending too much time reviewing past debates of the 'Copyright is Theft' vs. 'Intellectual Plunder' variety, it is worth briefly identifying the problems the music industry has encountered in ensuring that intellectual property (recorded music in this case) is not appropriated without recognition of the original artists creative input. Digital sampling in the 1980's, and the well documented case of Stock/Aitken/Waterman Vs. M/A/R/R/S became an area of fierce debate at about the same time new copyright legislation was being discussed. M/A/R/R/S sampling of a section of SAW's 'Roadblock' was uncredited on the release of 'Pump Up the Volume' in 1987 led to SAW suing for part of the proceeds of the number one single. The question was posited in the music media as one where corporatism was inhibiting the real creativity of Hip Hop and dance artists who created something integral and new from fragments of the history of recorded sound (in fact more often than not by using 'analogue' turntable mixing techniques rather than digital sampling as it was often misunderstood in works such as 'Will Pop Eat Itself' by Jeremy J. Beadle.) (5)

The Copyright, Designs and Patents Act of 1988 clearly protected all intellectual property including music, covering its manifestation in sound recordings, films, broadcasts, cable and software programmes. Therefore, there are clear implications for the appropriation of music, text and images by any means including sampling and multi-media programs. As such, with the exponential proliferation of Web sites which include audio, video, images and text, it is safe to assume that a great deal of unsanctioned material is being integrated into these sites. This worries the music industry as it is yet another form of piracy that surfs on the creative and economic efforts of artists and companies, without paying any form of dues. These concerns need a little further explanation.

Record companies collect mechanical and performance royalties (as they are usually also publishers) on behalf of musical artists for each time a recording is sold or performed. Artists receive royalties from the sale of sheet music, live performance, broadcast and the recording of their work. This income generation is administered internationally, and with the developments of new formats and modes of dissemination, the situation is becoming so complex that it has been claimed that

'the copyright system could collapse in a matter of years.' (6)

The Internet with its users ideological support for free expression and libertarianism would not seem to be a fertile ground for the extension of copyright law. However, when the problems of compressing and speedily downloading high quality versions of songs are fully cracked, the Web will become another sphere ripe for the operation of piracy. In traditional fields of operation, the US government has managed to at least partially stem the mass piracy of American cultural software in China. The question remains how they would be able to enforce the protection of intellectual property on the Web. It is impossible to pull the plug on a self-healing, de-centralised system.

This situation seems to suggest that at present the Web is a sphere where free communication, subversive activity and widespread plundering of 'information' could take place. That it is potentially a space of symbolic, if not actual anarchy in its purest and most democratic sense. However, discussions have begun to take place recently that suggest Internet nodes and service providers will become responsible for illegal and copyright evading material held in their computers (7). As such a form of self-censorship may develop where all Internet postings to nodes will be screened. The fact that a single piece of digitised information may pass through seven or eight nodes on its way from a sender to a receiver via Internet Relay Chat (IRC is the real time communication between users) causes problems. Will all the

node owners be culpable? Will the pathways taken by such messages be traceable? HTML pages however are more vulnerable as they are held on a single server. What happens, however, if the server is in Finland, and the copyright owner in the USA? How can transnational litigation take place without international agreements, or a standard international procedure or code?

All of these questions demonstrate that though the Internet is still a space where forms of resistance and subversion take place, it will not be long before commercial imperatives overtake the interests of seasoned users. The music industry has a vested interest in ensuring laws and administrative codes of copyright are in place that will allow them to exploit the new means of entertainment delivery when they come on line. They will also need to develop encryption and decoding techniques as well as safe modes of credit card transaction to ensure the safety of digital commercial operation. The democratic nature of Internet operation and expression will inevitably diminish if the space becomes increasingly colonised by transnational media corporations vying for the necessarily limited attention span of Net users.

c) The Digital Village or Global Apartheid?

It is easy from the Anglo-American and European context to be convinced by the arguments for the seeming globalisation of the world economy, and marvel at technologies role in over-riding boundaries, in creating similarity where once there was difference. If not cultural homogeneity which is viewed as anathema by most cultural commentators (see Laing (1986) for a detailed discussion of the issues involved in theories of Cultural Imperialism and local resistance (8)) there now appears to be a homogenous global economy. This in liberal democratic terms is to be celebrated, as the rise of global capitalism means that the world is at last caught up in the tide, moving in the same direction. At the same time, local resistance and reformulation of cultural forms ensures diversity, and therefore plurality.

The Internet would seem to be another contributing factor in developing this capitalist utopia. With the introduction of the World Wide Web in 1993 and it's exponential growth the Internet was opened up to those previously distanced from the technology because of a perceived need for high level computing skills.

But opened up to who exactly? The growth of the Internet is clearly leaving many behind. It would be misguided to say the least to assume that with the growth of the Internet, a growth in access would necessarily follow that is not related to existing economic and cultural power structures on a world wide basis.

To give some indication of the problem, it is useful to examine the findings of a recent report produced by the Panos Institute (9) In late 1995 there were over 6.8 million documents available on the WWW, but 70 % of host computers were in the USA, with fewer than 10 African countries with access to the Internet. Even here, it was a few universities, companies, governments and research institutions who have the ability to utilise the Internet. The report (The Internet and the South: Superhighway or Dirt track?) detailed not only lack of access, but also obstacles that third world countries and peoples face. For example, Internet access in Indonesia is twelve times more expensive than in the USA; a modem in India costs four times more expensive as in the USA; some governments such as Singapore, Vietnam and China (probably recognising the threat of capitalist ideologies 'sweeping' into the country unchecked) are already attempting to censor the free flow of information. Surprisingly, the reports author seems to be concerned with an 'information gap' developing which could jeopardise development. Is this development of free speech, or development of the global economy to it's widest expanse?

It is clear that to claim we have yet entered the era of the 'digital village' is specious and Eurocentric at least. It also leaves us ignorant of the inequality of access at home. Stoll characterises the situation as a misrecognition of the reality when

'For all it's egalitarian promise, whole groups of people hardly show up on the networks. Women, blacks, elderly, and the poor are all underrepresented.' (10)

I intend to examine how this disparity of opportunity may also be prevalent in popular music on the net, and as such undercut claims for democratisation.

d) Techno-libertarianism

In examining the question of democratisation and technology, it is necessary to examine how discourses around technology have engaged with the concepts of popular empowerment as well as broadening discussion into wider cultural and political issues.

Freedom is a subject close to the heart of the once dichotomous techno-libertarian discourses of a radical conservative and anarchistic derivation. Freedom of expression is a central tenet of political discourse on the Net. Arch-conservatives such as Newt Gingrich welcome the growth of free expression and participation and hope that the Internet presages a backlash against 'big government' and state intervention, and therefore a healthy free market. Anarchists hope for similar freedoms in the hope of destroying the reach of global capitalism and the 'state'.

Before examining libertarian oppositional practices and their efficacy, I will first examine the mainstream debates taking place that posit anarchy (in its pejorative sense) and liberty as binary opposites in the fundamental changes taking place partly as a result of the Internet while recognising their inherent similarity.

In the first British issue of Wired magazine, the American publication that encouraged and drew from political discourse in the field of 'Techno-libertarianism' (freedom through information technology), the contemporary technological field is defined in the following way.

'The medium, or process, of our time - electric technology - is reshaping and restructuring patterns of social inter-dependence and every aspect of our personal life. It is forcing us to reconsider and re-evaluate practically every thought, every action and every institution formerly taken for granted' (11)

This reductionist and essentialist notion that technology has determined this change cannot go unchallenged. The suggestion that technology itself re-structures the economic, political, cultural and social conditions of existence rather than is inscribed within them refers to a discredited sense of technology as progress - through technology we will achieve a utopian future. Wired magazine co-opts Thomas Paine and his vision of (the late 18th century) media providing the conditions for free speech, for a democratic engagement by the masses in the democratic process. As the John Katz, author of the article identifies, Paine

'could not have foreseen how fragile and easily overwhelmed these values and forms of expression would be when they collided with free-economics' (12)

There are several problems with Wired invoking Paine as the 'illegitimate father of the Internet'. The freedom of expression advocated for the Internet does not provide for universal, global access that in the purest sense of the term democracy must do. This points to the difficulty of defining democracy after 300 years of political action and debate, and the use and abuse of the term by differing political systems in invoking their democratic superiority over other systems. (Representative liberal democracy as opposed to People's democracy) To draw on Paine who wrote in a pre-industrial environment is also 'difficult' in its teleological decontextualisation. To maintain

'The Net offers what Paine and his revolutionary colleagues hoped for in their own new media - a vast diverse, passionate, global means of transmitting ideas and opening minds' (13)

is to misappropriate in a perhaps disingenuous manner democratic libertarian ideals in an ecstasy of technophilia. Wired itself has been criticised for its libertarian pretensions when in fact its audience is drawn from those possessing the economic and cultural capital to exploit the Internet.

'For all its hip packaging and cultural posturing, the reality is that Wired's core audience seems to be corporate suits and executive wannabes doing their MBAs ... the American editions readership is rooted economically ... the profile is managerial professionals with a median household income exceeding £50,000' (14)

Equally, Charles Handy identifies techhnophobically the difficulties with such a technological utopian vision by stating

'The world of information technology is a world made for a very fortunate few, maybe 20% of the population; the people who are called these days the 'symbolic analysts' who can work with numbers and ideas, and who live in a leafy isolated suburb surrounded by high spiked gates and guards ... they don't venture downtown' (15)

The underclass (presumably 80% of the population) will remain the information and therefore actual impoverished sections of society. Another flaw in the technological utopian argument is that 'information' in and of itself will liberate us all. Jim McLellan of the Guardian suggests that what the masses lack is

'power and relevant information ... information they can act on ... and that's been almost completely ignored by people writing about computers, by people who think information, as such, is useful' (16)

Also it must be noted that in a space of total freedom, problematical postings (bulletin boards for child pornography and other 'anti-social' and morally difficult subject matter) would need to be tolerated alongside more easily sanctioned self-help groupings. Humanity will not become altruistic and egalitarian overnight, so undoubtedly race hate material will be posted on the Internet. Old cultural and historical conflicts will be discussed and fuelled as much as laid to rest. In a relativistic space, all permutations of perspective and positioning will inevitably thrive.

Here lies the dichotomy of techno-utopianism and libertarianism. It must provide a space for absolute tolerance that will mitigate against the coming together of peoples as much as encouraging co-operation and support.

However, allied to this conception of a universal discursive space is the question of 'information clutter'. When or if universal access is achieved, how will the individual search out and engage with those debates they are individually concerned with without either becoming lost in an information glut, or missing that essential and relevant piece of information? Although software is available to aid this search (search engines such as Yahoo) when will the individual know which of the sites identified will hold relevant information, and which are useless? With information clutter, the individual taste cartographies of individuals will lead them to debate that which they acknowledge, and enable them to ignore everything else. So where will the free discussions take place if the majority remain ensconced within existing belief and political systems and avoid dissonant or irrelevant information.

Why is democracy, libertarianism, anarchism, and the Internet in such close alliance while being anti-thetical in previous political conceptions around state and government? Perhaps it is the perceived post cold-war hegemony of representative liberal democracy being challenged from within - from a space previous political formulations of left and right have vacated. A space opened up when there was nothing left 'outside' of liberal democracy to define itself against. A space that allows challenges to centralised and top heavy government. John Gray identified the dichotomy of 'Techno-libertarianism' by characterising it as

'a very strange but characteristically mid to late 90's fusion of initially incompatible and opposed ideological currents ... on the one hand the perspective of 19th and mid 20th century technological utopianism and on the other libertarian anarchism which is decentralist, globalist and anti-governmental' (17)

Outside of this perceived unity of vision, Anarchist groupings whether in the tradition of nineteenth century direct action or anarcho-syndicalism are still using the net for the subversion of state and government, through hacking and disruption, or disseminating information about weapon making - and 'organising'. But such anti-capitalist activity can only transpire due to the existence and legacy of Microsoft, Apple and IBM; underwriters of global capitalism.

Anarchist subversion and direct action through the Internet is problematic. Power has been dispersed through the transnational network of global capitalism (which is analogous to the Internets dispersed structure). Through the growth of TNCs like Time Warner it is assumed power is centralising, when it is in fact decentralising. State governments retain power but are not self-sufficient and closed power structures. Where should a subversive grouping or individual 'direct' Direct Action?. If a defined target for subversive action is identified, what will be the result of such action? To challenge head on is to simply reproduce the conditions by which power (no matter how dispersed) gains an upper hand - to allow subjugation, to empower by subversion. And if an incremental gain is made in a revolutionist act, globalised capitalism will be able to heal itself (much as the Internet can bypass disruption by re-routing information); it is entrenched enough to absorb the marginal and avant-garde and insert them into the mainstream through commodification (and forgive the patriarchal metaphor, castrate them).

If the threat is not absorbed immediately moral panics that develop around the anarchists use of the internet are instrumental in upholding a consensus against perceived chaos (the chaos of material deficit rather than semiotic excess) , and entrench a pejorative sense of anarchy as anti-democratic, and representative democracy as a compromise, but the best option to ward off chaos.

Paul Oldfield argued in 1989 that post-structuralism which contributed to the undoing of utopianist notions of progress and the 'revolution of everyday life' identified a cultural terrain where

'The prevailing order sanctions its negative: no doubt neither can exist without the other. Situationism is always a play area within order' (18)

To challenge that which is decentralised risks absorption. Like the Internet, culture is self-healing -it absorbs and sanctions the activity at the 'margins' to retain a life force in the dispersed micro-centres. In fact, despite the constant reassertion on the part of bands, and other popular music formations that they stand opposed to 'the system' (economic, political or whatever) they are simply firing blanks in a padded cell.

Oldfield states that the only possible way to subvert, to challenge power is to withdraw from the sanctioned space and deny the ability to act.

'The subversion that pop culture has often imagined, the subversion of activity, infiltration, revolution, eruption of repressed desires, can be forgotten. All that's possible today is the renunciation of *agency*, varieties of refusal to recreate power, to be yourself: simply *disappearance* from or discrediting of the places where power and resistance keep propagating each other' (19)

In the few years since 1989, the Internet may at one point have been an alternative 'unsanctioned' cultural space that would have enabled such withdrawal, but it has since become commercially colonised within the reach of transnational corporations and global capitalism. The cultural, social, economic and political relations of the contemporary age have become reproduced on the Internet since its growth from an academic research network into an extension of everyday life. In Baudrillard's formulation, the *simulation* of a reality of social and economic issues to be engaged with in conflictual and dialectical discourse, that has been constructed to take the place of absence (20) is reproduced on the Internet and the discourses surrounding it. This allows

'Power and resistance to co-exist in a mutual support that has not yet had to acknowledge the irretrievable loss of meaning' (21)

Also there are arguments that suggest the growth of 'New Age Technoculture' (22), and withdrawal from meta-narratives and traditional meaning matrices, is a form of empowerment and a form of resistance. The rise of technoculture is a product of a postmodern environment that opens up such spaces by retreating from ideological stricture into a realm of ideological relativism. The culture is often discussed within notions of 'personal growth and development', therefore being individualistic rather than collective in nature. This dispersion of what may be viewed as 'oppositional practices' into individualism mitigates against engaged subversive activity. Or maybe the withdrawal of individuals into this space is a recognition that power has dispersed and needs identifying before it can be engaged with; this is an impossible task.

6. POPULAR MUSIC AND THE INTERNET

In exploring popular music's presence on the Internet, it is necessary to analyse the different it's constituent parts separately to understand its structure. It will be easier to examine each element in the context of how it has been utilised so far by musicians, fans and the industry, and the significance of such usage.

A). World Wide Web

All World Wide Web sites are accessed through URLs (Uniform Resource Locators) or addresses that start with the **http://** prefix followed by the location on the Web server, the directory path, directory and filename. As previously discussed, the Web is the most popular way of accessing Internet information because of its relative ease of use once on-line. Because of its ability to carry and access hypermedia documents, it has become the focus of commercial exploitation of the net, and the presence of 'popular music' in its myriad formulations.

I would first like to examine how the Internet Underground Music Archive (IUMA) pioneered the use of the Internet by alternative artists and to what effect. The IUMA was founded in late 1993 by Rob Lord and Jeff Patterson, two computer science graduates from Santa Cruz

'with the specific objective of challenging the hierarchy of the music business...
[Lords] anarchic vision involved a process of "disintermediation" in which the
creators of music reach their audience directly' (1)

The IUMA attempted to create a 'level playing field' for all artists, augmenting digitised songs with text and images in return for 'a few dollars' to cover the costs of operation. They delivered for the artists a potentially massive audience, with around 85,000 hits on the IUMA site daily in late 1994. (2)

It is debatable what impact IUMA have had. The artists on the site may have gained a certain profile or recognition in the space of the Internet, but to what effect? If the motivation of artists is (really) at the level whereby commercial success is unimportant, and they see the IUMA as a means of expression rather than as the road to stardom, then the IUMA has had an egalitarian and empowering effect at a micro-level. It has encouraged and fostered a truly 'popular' music service. What is clear is that the IUMA put their head above the parapet to pave the way for operations such as Cerberus in Britain.

Their desire for 'disintermediation' however is based on a romanticised premise that the margins deserve 'recognition' and empowerment, while ghettoising them in an alternative democratic space that can only lead to disillusion and broken dreams. It is doubtful those who visit the site really spend time downloading music, because of the still expensive nature of doing so. And when they do, though they can play tracks through a soundcard into a hi-fi system, will they really spend time doing this when they can more conveniently access a CD or cassette of better quality.

Despite my reservations about the present situation it is apparent that the music industry does take seriously the short term threat of music on the Web. The Recording Industry Association of America lobbied the US Congress in 1995 to change copyright law that gave royalties to rebroadcasts (the Internet has the status of a broadcast system) of old recordings only to songwriters and publishers - and not record companies. How this re broadcasting can be monitored and accounted for is another matter. The live broadcast of concerts which has been undertaken experimentally by The Rolling Stones and the Cocteau Twins among others is also not covered by existing copyright law, and will be a future bone of contention.

An interesting issue is to consider exactly who the 'disintermediation' of the music industry would affect in the short or long term. To do this it is necessary to examine the structure of the music industry as it stands at present in the Anglo-American context. In the 1990s, the record industry has been identified as having

'developed a two tier system. Independent labels handle specialised styles and new performers - they have almost taken over scouting for talent and test marketing it - while majors grab proven contenders' (3)

The independent labels operate in a space between commercialism and innovation, where they attempt to mix their commercial motives with ideological or aesthetic concerns. It may be the case that they will be hardest hit by the operation of IUMA, Cerberus and other similar organisations. They will be competing for the same raw material (unsigned, up and coming bands), while the majors stand back waiting to 'grab the proven contenders' who have created enough of a 'buzz' and can be further 'developed' and therefore exploited by the company. 'Disintermediation' is likely to affect the Independent labels much more harshly than the target of such 'subversive activity', the Major labels.

The recent debacle over the courting of the band 'Bis' by Major labels (after their unique appearance as the only unsigned band to appear on Top of the Pops in March 1996) provides another interesting perspective on this debate. Sting recently lamented the diffused nature of consumption and the increasingly individual nature of contemporary cultural experience (4) This is a trend that can only be further enhanced by the dispersal of the audience that the Internet inculcates. The 'Bis' story also provides a blinding example of how the 'old' mass electronic media (Television) can deliver a single national audience and promote a feeding frenzy by Major, intermediate and Independent labels. The Web as yet cannot deliver such a unified audience because of technical difficulty. Television as a 'common' cultural experience provides a sense of community, perspective, and immediacy that the Internet is unable to replicate. (5)

However, the Internet is clearly being used as a forum by popular musicians of all kinds to exchange information and to co-operate in productive ways. Sound files and Midi files are routinely available via the Internet, as are numerous sound and media player programs that enable the recording and playing of sound files. These are often produced as 'shareware' or totally free. These can be downloaded from Web sites such as Cam's Utility Depot at Audio Online

(<http://www.audio-online.com/audio-online/camtils/utility.html>) (6) Music Resources on the Internet is a site that catalogues and provides links to such sources. This is a level of collectivity that encourages optimism in that it enables the free flow of creativity between dispersed musicians. This 'grass roots' activity is another example of the Internet having a micro-effect, while posing no immediate threat to Major labels. Robert Burnett (1996) is simply optimistic about this situation. He argues

'It should be obvious to all that developing technology that helps a lot of people create music is a good thing. People stand to gain a lot through demystification of personal artistic expression ... why shouldn't the creation of music be possible for everyone who is interested?' (7)

Since the inception of the IUMA, record companies, bands, individuals and the music media have recognised the relative simplicity of creating their own Web sites or Home Pages. Many have decided to do it themselves as musicians in the 1980s decided to utilise available digital technologies in home recording. It would be impossible to analyse all of the material available, but I will attempt to identify the differing functions the Web is being put to at present. Before doing so I would like to briefly revisit a debate covered earlier in the study.

A surprising development in a medium that has connotations of cutting edge technoculture is the use of the Internet by Folk musicians. Folk still has connotations of the popular tradition of music making taking place away from the exigencies of fashion and commercialism. It also has connotations of the misguided preciousness of the 60s revival of 'authentic' performance and historical excavation of the tradition. It has recently been suggested that in

'a centralised, over-mediated, technocratic society, folk music stands for spontaneity and subversion ... folk is now in the possession ... a culture of exhibitionism ... expressed in [their] nose-rings, dreadlocks and civil disobediences.' (8)

It makes perfect sense therefore that folk should have a presence in the libertarian space of the Web. Dar Williams an American folk musician has a Web site, and quashes the seeming contradiction by saying that

'Folk allows you to feel social but anonymous - like reading a book instead of watching television. Folk music and the Net explore inner spaces and build the same sense of informal round-the-kitchen-table solidarity'(9)

If Folk engages with contemporary society by providing a critique of it, then it seems to have recognised the folly of striving for an unattainable authenticity of experience embedded in the past. The relationship of Folk to New Age Technoculture is therefore a close one, where tradition is clearly engaged within a contemporary context.

The World Wide Web is at present a mix of commercial and fan / user constructed sites that exist either to promote or celebrate the work of particular artists. The commercial sites after initial bewilderment and 'amateurism' have co-opted seasoned HTML and Hypermedia designers to create accomplished and innovative sites, while many of equal if not higher quality have been designed by people who are ostensibly 'fans'. This phenomena demonstrates how the World Wide Web initially levelled the popular music 'publishing' playing field. This was also partly enabled by the application of relatively cheap (or pirated) graphic design software such as Adobe Photoshop. Animation, and video and sound capturing hardware and software which was often industry standard, could also be used in a domestic space. The software was used to produce often stunning digitised still and moving images and sound files that could be incorporated through HTML into Web sites. (this clearly demonstrates how fan's *textual productivity* as discussed by Fiske (see Fiske (1992)) has been affected by new technologies. Fan texts on the Internet do not 'lack the technical smoothness of professionally-produced ones' (10) but often exceed them in quality). Does this mark the democratisation of the publishing process? Again, the answer must be mainly at a micro-level of operation, but the hypermedia documents, or Web sites, of fans are often indistinguishable from those of Major labels at present. Maybe only the expense of posting information rich Web sites (because the bigger the file, the larger the memory space and the more expensive the monthly rental of such space is) on file servers mitigates against the level playing field between companies and fans.

However, it must be noted that both are promoting the positive engagement with popular music in it's commercial sense that is hardly antagonistic to the operation of commercialism. In fact it demonstrates the co-dependent relationship the music industry has with consumers. In fans independently creating Web sites for their objects of worship, fascination, admiration and lust, they may utilise 'official' copyrighted material (photographs, video and

taped interviews and performance etc.) but create a public / private space that enables other fans to engage more fully, become more obsessive, knowledge hungry and to share a single-minded fascination that will be manifested in the consumption of the commercial products of the music industry. Paradoxically, it also enables the unsanctioned circulation of illicit and illegal materials (unreleased albums etc.) via traditional 'snail mail' that would be too expensive to circulate via the Internet.

The Web does not replace traditional fan activity that was often focused on official and unofficial fan clubs, events and conventions in the past. It augments it, enabling the dissemination of materials across geographical boundaries and spheres of copyright operation that could be viewed as a lost opportunity for commercial exploitation rather than a threat to the music industry. I will now examine the various type of popular music Web site available.

i) Artist Web sites (fan and artist originated)

It is often difficult to differentiate between sites that have official or unofficial sanctioning by artists, and it is unusual for record companies to dedicate a Web site to a particular artist because as generalised music providers, they usually wish to tie in the breadth of their operations into a Home page.

The Cocteau Twins Web site created with the involvement of the band (<http://www.cocteauwins.com>) is a 1996 revamp of an older site (<http://grether.haas.berkeley.edu:8080/home.html>) that is characterised as 'Jack Huyn's 'Web Shrine' by .net magazine(11). The band have been the subject of music media coverage that has labelled them with an other-worldly, transcendent pseudo-spiritual profile that the band possibly disingenuously discourage.

'please don't write that we eat, we don't like the fans to think that we eat' (12)

They have never been a 'mainstream' band as such but have been highly influential in the 'alternative' guitar oriented Indie environment. This un rock 'n' roll image has been partly encouraged by a combination of Vaughan Olivers graphics during their time on 4AD (which like those of New Order and Factory in the 1980s mystified industry and audiences by effacing the band and often their name from the records), Liz Fraser's impenetrable onomatopoeic invented language and musical textures that are so drenched in effects and processing that it was difficult to believe that somewhere in there was a three-piece guitar based 'combo'. The band seemed to be sonically distancing themselves from their contemporaries, and visually from their audience.

With this sort of profile, an active collaboration between a fan and the band would seem unlikely, but the Cocteau's site was 'discovered' on the Internet by Robin Guthrie (Cocteau Twins Guitarist) in 1994 and relatively soon, Guthrie and Jack Huyn were collaborating on it's development. The site was a mixture of relatively exclusive news, lyrics where available and images / artwork. In the past two years, artist Web sites like this have become more ubiquitous, and Guthrie explains how initial fan based site development may be lost, and at what cost.

'Today, a lot of sites have got really, really good because bands now have site developers - people throwing money around to make the page look good. I think what Jack does is far closer to the spirit of the Net - that is, a lot of other people contribute. It's very much by the fans and very much for the fans' (13)

Guthrie has maintained the fan feedback element on the new Cocteau Twins site by incorporating an interactive bulletin board for fans to communicate with each other and with the band. Guthrie identifies his motivation for encouraging such an information flow by saying

'All I want to do is get the information out there - so the fans KNOW about our records. Yes, I want to be able to offer them something new - sound samples of songs we haven't put out yet - but I want to talk to people, find out exactly what they've got to say and then give them ... Historical facts rather than conjecture. With our band more than a lot of others, there's an awful lot of myths and half-truths bandied about. People don't really know anything about us' (14)

The Cocteau Twins Web site demonstrates the 'disintermediation' that some bands who have been involved with the music industry (4AD, Fontana and Capitol Records in the USA in the Cocteau Twins case) wish to encourage. To have an (almost) direct communication route to fans that is not mediated by the music press or industry is important for some artists. In particular the Cocteau Twins wish to lay to rest their public narrativisation, to demolish the myth. But this demolition may undercut the appeal of the band and, again, the question of 'authenticity' arises. Where does

'authenticity' arise? In the narrativisation and meaning construction of fans, or in the minds and music of the band? Do Cocteau Twins fans care for 'Historical fact' when they have the appeal of such a seductive myth?

This collaboration on Web sites is unusual but does provide an interesting case study to examine how the appeal of a band can survive or be communicated at all via the Internet. It also points to changes that may occur if, in a future situation, an established band withdrew from industry structures to the space of the Internet. How would this more 'authentic' primary authoring process, where the musician would be composer, producer, publisher and retailer / broadcaster, affect the meanings of popular music?

This concept, which was central to my Flickr Conspiracy project, will become more of an issue if or when successful bands experiment with 'direct' dissemination. The actual and symbolic distancing of artists from the audience that is in place at present due to the mediation practices of the music industry and press may be lost through the 'demystification' technology affords. Demystification challenges romanticised and glamorised notions of the artistic process. This may occur as a result of wider knowledge of music technology, and the process of commodification and dissemination. The demystification process will begin to dismantle specious, but often commercially necessary, notions that help narrativise and 'brand' a band. This is a narrativisation that is embodied in marketing processes and music media exposure. To define 'difference' a artist needs to be located, explained and positioned - that is branded. When an artist directly interacts with the audience, this distancing and explaining will be reformulated. It may even be lost, but it is difficult to confidently posit this as an argument if the Internet remains only one of the constituent media by which popular music meaning is generated, and not the primary one.

On the Blur Web site (<http://www.parlophone.co.uk/blur>) direct band involvement does allow for a more direct form of contact with fans. But as yet, this is only an extension of the traditional promotional process and the main commercial focus of the band is firmly located in the existing industry structures. When sites are constructed by fans relatively autonomously, or as official sites, it is difficult to define exactly what difference they really make in the appreciation and market profile of Orbital, Tori Amos, Bjork, Brian Wilson et al. However, the fact of such fan activity does reinforce the notion that making meaning in popular music is an active process, and the Internet opens up a space whereby this meaning can be discussed and continually reformulated. I will discuss this further when discussing USENET.

As has been stated previously, artist Web sites can be created by commercially successful and obscure grass-roots bands. This has provided a means of expression, as evidenced in the work undertaken in my own project. But while Blur, Oasis and other artists sites are visited and accessed by regularly because of their profile in the wider media, those with simply an Internet presence can be easily ignored. Even when registered with 'search engines' (software enabling a user to find relevant information by keyword searches) such as Yahoo, or with a more dedicated Internet index such as 'The Ultimate Band List' (<http://american.recordings.com/wwwofmusic/ubl/ubl.shtml>), or indeed with a service such as IUMA or Cerberus, it is difficult to ensure that any visit to a site is other than a cursory glance. It is often only by briefly viewing a site that you can ascertain it's relevance to your needs. Unfortunately, it is usually only through the liberal use of erotica that the attention of such a user can be gained.

So to have a Web site on the Internet does not necessarily mean an artist has made any sort of mark in the wider context of popular music. Because of the highly redundant nature (and sheer volume) of most e-mail received by editorial teams at Internet magazines such as Wired, music press such as the NME (who have attempted to head this off with interactive elements on their Web site), or in fact record companies themselves, it is likely that the artist will make even less of an impact than sending a demo tape to the organisations. E-mail cannot guarantee a Web site attention. In fact nothing short of the efforts that are currently necessary to gain access to an A & R persons consciousness in the 'real' world will provide an obscure site with significance to anyone in the music industry. However, as previously argued, this may not be the point if an artist feels empowered by producing music for themselves. If nothing else producing the site will educate the designer in the techniques of hypermedia design, and demystify the technological processes of the industry. This may deprive an individual of a certain naiveté that is at the heart of many of the pleasures of popular music, but it may also enable a more critical engagement with popular music. In this sense, it may be a positive activity that should not be perceived as failure.

The Internet printed media that have arisen since late 1994 have produced not only magazines, but associated guides and Internet directories. Future Publishing with .net Magazine as the focus of such publishing activity has focused on issues around the Internet in a less polemical way than Wired magazine. Interestingly, where Wired celebrates the Internet ethos of freedom of expression, .net magazine produces Web site reviews that can be 'unkind' to say the least. A recent issue of the .net directory (15) an article entitled 'Queasy Listening' by David Stubbs was highly critical of

grass roots popular music activity on the Internet. It used mainstream and commercial criteria in dismissing the efforts of artists as

'The sort of talentless toss who've always been out there, like flies around a cow's arse... gone are the days of passing fliers into the hands of passers-by ... Now they can relentlessly throw themselves in the faces of major record companies and Joe Public via the Internet ... they come in all hues, united in being woefully way, way off the agenda" (16)

This sort of vitriolic invective is engaging and entertaining, but misses the point that these artists will probably not appear in the conscious mind or computer screens of many record companies or Internet users. It is difficult, however, to deny that often the 'subversion' of popular music by artists at the Internet periphery (wherever that is) misrecognise or unironically reproduce sloganeering from rocks past. Jam Jar Jail,

'The band everyone loves to hate - and guess what? They love to hate you.' (17)

may have something to learn in commercial marketing terms, but it could be that the arrogance of knowledge and perspective that academic and popular media discourse often embodies should be questioned. This may be a humbling experience, but it will remind academics that they too are inscribed in discourses that need questioning. Questions of quality, of relevance, of importance - that is a whole range of value judgements, should be examined for what they are, manifestations of cultural power relations that may obfuscate the goal of understanding. In the study of popular music, this is difficult as most people tend to have specific musical tastes and deeply held opinions, and these opinions are often combative and highly partial. Stubbs may be writing for a specific Internet audience, but his mode of expression leads one to question whether the ethos of free expression on the Internet interpellates the average user at all. Maybe the libertarian tendency continually identified by articles in the media around the Internet are in fact the views of a vocal minority of established, academic users. Users just don't have the time to treat all Internet information with equanimity. They have to explore relevance and categorise / stereotype as we all do in our waking lives to ensure we can negotiate the information glut of contemporary society.

ii) Record Company Web sites

With the obvious problems with music delivery software and hardware (encryption, payment, length of download time) at the moment, it is difficult to ascertain what sort of direct commercial advantage an Internet presence has at present for Major, intermediate and Independent record labels. For example, Sony Music Online (<http://www.music.sony.com/Music/MusicIndex.html>) has an impressive site which has coherently organised information about new releases, articles and images on featured artists and 'archive' material. It also enables users by FTP (File Transfer Protocol) to download a range of artists screen saver software. This feature or gimmick is an example whereby traditional notions of what constitutes record company 'product' may need to be altered when companies figure out ways of producing programs and software in support of record releases. At present the mode of presenting information on such sites is often derived from forms in other music media (CD and printed media), though the point and click interface of the Sony site means interfacing with such information is gradually developing in hypermedia Web sites

Companies can also provide specific 'tie-in' sites to a particular album release as a promotional tool, including audio clips, more substantial information than the CD format will allow. This has been an add on to the creative synergies of film releases in the recent past with Batman Forever, Tank Girl and Judge Dredd all having an Internet presence with video clips, graphics and text. However, in each of these cases, the information was almost identical to press packs distributed as a matter of course to the world media. There was no 'value added' to the experience of interacting with this information, and it seemed to assume it's audience would be media contributors rather than prospective audiences.

A recent example of how companies have as yet to fully appreciate the capabilities of hypermedia and the Internet was in the material supporting the release of the David Bowie album 'Outside' in September 1995 (18). 'Outside' was an album exemplary of the forms developing in the employment of digital technologies by artists. The flawed but sincere ideal informing Bowie and Eno's work on the album was an attempt to critique popular music by evading the 'popular'.

'it was really a question of negating all of the things that we found to be the common currency of popular music... it left us only with the options of the periphery'. (19)

The album attempted to locate itself in the terrain of 'cyber-art' invoking flesh / metal fetishism where artists have metallic implants in healthy arms and legs in an exploration of the sexual and aesthetic pleasures that occur by effacing the external body/technology interface. Performance artists such as Stelarc have explored similar concerns with performances where they hook themselves up to computers via electrodes. The electrodes control muscle contractions that are programmed via software into a 'dance' that is controlled by the external technology. This exploration of the body as technology echoes the work of Mauss by extending his metaphor of 'techniques of the body', and exploring the space where the binary opposition of body/technology becomes erased.

Bowie constructed a short story of a non-linear structure (A non-linear Gothic Drama Hyper-cycle) that has no apparent 'authored' cause and effect imperative. The story explores an 'art crime' investigated by a private detective, Nathan Adler. The crime was the murder and mutilation of Baby Grace, a 14 year old girl who has 'small, highly sophisticated binary-code translators' implanted into her carefully removed limbs. (20) The non-linear, postmodern form of the narrative of this story has parallels in the explorations of narrative of my own Web site and identified in the research of Bob Cotton (21).

This fertile ground for the exploration of the use of the Internet and hypermedia design was the basis of a Web site for the 'Outside' album. The Web site (22) contained a reproduction of 'The Diary of Nathan Adler' which remained in the same form as in the album artwork. There are digitised portraits of the characters in the story (Algeria Touchshriek, R A Stone, Leon Blank etc.) which were constructed from digitally manipulated images of Bowie (a virtual allusion to Bowie's multiple personas over the years) and can be downloaded. There are also audio extracts of album tracks. In essence, however, there is no additional information other than that which is available on the album sleeve. The only difference is that it is contained in files connected by hypertext links rather than printed on paper. There is little sense of interaction, and is an example of how artists intellectually engaged with the Internet and digital culture have yet to fully exploit the possibilities of hypermedia on the Internet.

It is worth noting that in CD and CD ROM format, artists such as Peter Gabriel, Primal Scream and Sugar among others have experimented with 'Music Plus' (interactive products primarily based on audio music tracks, but with the inclusion of graphics, text or video as an additional information or entertainment feature (23)). Though technologically exciting, there are questions as to whether consumers at present wish to interact with music in such an engaged manner. Does a fan want to remix an artists track, or re-edit a video? Educationally, this experience may give a sense of media's constructed nature, of particular aesthetic and production practices and therefore be viewed as empowering. But will fans or consumers want to use music as an educational aid? Will they wish to use music in their everyday lives as they do at present, as a soundtrack to various routine activities and pleasures? Will they want to spend £40 - £50 on a CD ROM when they can buy the album for around £12? All of these questions may become irrelevant if the Internet can deliver cheaper access to the same hypermedia software. But for the foreseeable future, interactive media remains out of the reach of those unable to afford the necessary equipment.

iii) Music Media sites

These sites fall into two categories

- i) Sites constructed by traditional publications (NME, Mixmag) and
- ii) Dedicated Web publications (Alternaverse, Addicted to Noise, Pop-i, Ultra WWW Magazine)

I will briefly discuss a site in each of these categories.

a) The NME (<http://www.nme.com>) The NME Web site went on-line in June 1996. The site was developed from within the editorial offices of the publication. The NME explained the elements of the sites construction stating

'nme.com functions in parallel with the normal weekly issue .. This offer huge benefits to the NME's global audience ... the site offers multiple opportunities for user interactivity, audio, e-mail, public polls ... a specially tailored NME Gigsearch data base ... and plans are afoot for a number of exclusive Netcasts from major bands and online interviews' (24)

The NME (as part of the IPC Magazines group) has taken on a new role in it's transformed incarnation. Behind the rhetoric of the promotional article is an evidence of an important organisational shift that has been happening elsewhere on the macro-level of the transnational corporations. The NME has pretensions of becoming more than a weekly news publication - on the Internet the NME has become a hybridised publisher - broadcaster, licensing or enabling broadcasts of performances, providing music review sound samples and a space called the Demo Dungeon that allows unsigned bands to have songs posted for downloading by users. Whether the NME achieves all it sets out

to do will be seen, but it has clearly recognised the major shifts media organisations will have to make to exploit the new multi-media environment. The increasingly hybridised and diversifying nature of Time Warner and Sony provide evidence for how this change has been taking place to enable global synergies across what were relatively autonomous media (film, music, television).

The implications for popular music in a worst case scenario would be a global homogenisation of it's current heterogeneity. However, with increasing generalisation on the part of the operations of trans national corporations, it has been identified that spaces open up at a local level to cater for a diversity of specialist tastes that the TNCs cannot really afford to cater for. This theory is based on an 'ecological' model of media markets. According to this model,

'concentration of the generalist market segment leaves more room for specialist operations' (25)

The NME as a generalist publication and despite its semi-marginal profile, will remain within the larger music industry structure where the once 'underground' Independent scene has become increasingly 'mainstream'. This loss of a sense of a marginal space has been commented on in the letters pages of the NME. Criticisms of the paper following the Britpop herd (or being instrumental in manufacturing it) demonstrate that there are still popular music spaces in the terrain left behind the NME's apparent shift in emphasis.

At this point it seems worthwhile briefly considering the mediation of youth culture by the mainstream media. The NME as a generalised paper has had to become relativised in it's acceptance of a wide variety of popular music forms into it's fold. In the early 1980s it had a Independent guitar rock agenda that all but avoided dance and black cultural forms. By the end of the 1980s it had also taken on board the dance revolution, rap, world music and mainstream pop. This reflects the changes in the audiences tastes that have become less partial and more eclectic. However, an 'underground' dance scene for example, while it remains 'outside' of the mainstream fold

'imagines itself as an outlaw culture, as forbidden just because it's unauthorised, and as illicit even though it's not illegal. But it's main antagonists are not the police who *imprison*, but the media who continually threaten to *release* their cultural knowledge to other social groups' (26)

As such, the incorporation of such a scene, while being craved by those who criticise the NME's 'shift' away from it's roots, would be viewed as anathema by this scene. Ironically, by the use of fliers and underground publications, and now the Internet, such scenes are created through mediation and the exchange of ideas and information that threatens it's very existence.

b) Dedicated Web Publications

The NME's generalised operation in it's original form and on the Internet has left plenty of scope for specialist news based pages. In the last decade, there has also been a proliferation of specialist music media in the wider publishing world. The Internet would, however, seem to be an ideal medium to attract a large readership for fan based and scene publications where in the past shoddy fanzines and a great deal of footwork had been.

It is difficult to characterise Web publications in a homogenous manner as they come in many forms with differing functions. The underground elements of the dance scene had used the Internet quite freely until Summer 1995 when the police used the Net to crack down on a planned event called the Mother rave. (27) There are still Web sites that serve the function of news and information points, such as the House of God (<http://sun1.bham.ac.uk:80/taylomsj/hog>) which give a tangible form to the dance scenes grapevine. This collective activity that the Internet enables within scenes is an example of a way in which the consumption of music may be becoming more active and organised, with the Internet enabling and democratising such action. In some senses, these sites serve the same functions as USENET (the part of the Internet containing bulletin boards, news and discussion groups). However, I would like to examine one site that may exemplify how a specific form of Web publication is being developed that serves wider functions than these sites.

'Addicted to Noise' (<http://www.addict.com/ATN>) is to all intents and purposes based on the model of traditional music publications. It has much in common with the on-line NME (which may demonstrate more about what the NME has learned from publications such as Addicted to Noise rather than vice versa) However, unlike a fanzine, it has sponsorship and access to artists and writers such as Greil Marcus, Dave Marsh and other established American music journalists. It utilises some multi-media elements, but has been celebrated as successful because it relies on good

quality writing (28). This may suggest that the Internet as a music news medium, with its possibilities for hypermedia play, has a central fault. Web and hypermedia publications often ignore the perception that complex designs and graphics obfuscate the central message (news information) rather than enhance it. The medium may destroy the message.

iv) Music Netcasts: Internet Performance

A feature of the World Wide Web that has implications for popular music performance is the growing trend for bands to broadcast live over the Internet. The Rolling Stones, Orbital, Supergrass and the Cocteau Twins have all undertaken experimental 'netcasting'.

In November 1995, The Rolling Stones Netcast using the Mbone system (used for video conferencing by those with access a £20,000 workstation and an ISDN link (ISDN is the common global standard for transmitting video, data, audio and images in industrial contexts). The images were of low quality and resolution, and appeared at six to ten frames a second. (29) The audio was of telephone speaker quality.

In March 1995, Orbital Netcast via ISDN in real time to Radio 1 during the stations 'Interactive Night' exploring the implications of the Internet. As the BBC possessed the required technology, they were able to route the audio through their normal broadcast technology to the listening nation. As the ISDN was carrying only audio information, the sound was of high quality.

In early 1996, Supergrass broadcast images and sound through the Vladivar Vodka good Clean Fun Web site. Despite using improved hardware and software, the images were still jerky and of low quality. The Cocteau Twins followed this in April 1996 by broadcasting from September Sound (their studio) via an ISDN link that produced a postage stamp image and tinny sound. (30)

From this evidence it is clear that terrestrial, satellite and cable TV are still by far the easiest and least expensive way of broadcasting audio and images. However, few artists achieve the level of success where live or recorded concerts are broadcast globally, nationally or even locally at present. With improved access via cable TV more artists are gaining at least modest exposure, if only locally. Again, it is at a micro-level of cultural production that cable TV is encouraging such activity. But on the Internet, live Netcasting for the majority of artists is a vague dream. While the technology is so poor that it delivers images of inferior quality to those the Lumiere brothers were producing a century ago, it has no real bearing on contemporary popular music. However, when the hardware and software is of sufficient standard, more accessible and cheaper, Netcasting may provide real access to grass-roots musicians.

But to what effect? Again, Attali's utopian dream of mass participation in music making is a possible outcome, but not by any means a level playing field in the commercial context. This is particularly true if mass tastes remain rooted in the looped replication of forms suggested by Adorno and Horkheimer. However, the accelerated absorption of formal experimentation within the popular music context (as evidenced in the success of Tricky / Portishead / Massive Attack) would seem to suggest this looping is not a closed system, but one that absorbs and develops organically with popular music tastes.

It is worth extending this discussion to take into account the question of selection. At present, the music industry selects what it perceives the most marketable and relevant material from the mass of hopeful musical artists who attempt to communicate to a wider audience. Hirsch characterised this situation as common to all industries by stating

'More goods are produced or available than actually reach the consumer. Subsequent to their production, these are processed by a selection system which filters the available products, ensuring that only a sample of the available universe is ever brought to the attention of the general public.' (31)

On the Internet with the increased access of artists, how can a Web user hope to negotiate the 'available universe'? They too will have to undertake selection, partly because of time constraints. To help in selection, indexing and gate keeping Internet software is now being introduced. I will now discuss how such software is altering the information balance of power.

v) Web Browsing software

Although Mosaic and Netscape as Web browsing software, and Yahoo as a search engine are useful Internet tools, they are also potentially a new source of information power. At some stage, there will be too many Web sites hoping

to be registered in indexes such as the Ultimate Band List. There will simply be too much information to be comprehensively listed. Some form of selection from available material will begin to take place, and the operators of such lists may be forced to organise the information differently, or introduce criteria for inclusion. The question is, who will decide what criteria will be used. The same could happen with altruistic on-line services such as IUMA and Cerberus. These browsers, indexes and services will become powerful gatekeepers who will leave some artists in the information abyss. They may be out/in there somewhere, but who knows or cares.

This gate keeping role becomes more powerful in interactive browsers that do the decision-making for the user. The Similarities Engine (<http://www.ari.net/se/>) is a piece of software that enables the user to key in information on their favourite albums of all time and other key information, and then provides a list of possible artists and bands. The result is the user can then browse the suggested list for information of interest. The programmers and compilers of this software have information power in defining which material will be included in the lists to be browsed and presented to the user. Though it is wrong to suggest payola, conspiracy and intrigue are the inevitable results of such a situation, it does suggest how power structures, taste and partiality can be embedded within seemingly innocent software. Information may be innocent until applied or acted upon, but any gate keeping activity that is placed between the user and information will inevitably distort the information made available. Instead of a level playing field, certain players will be prevented from even entering the stadium.

B.) USENET, IRC and e-mail

Apart from the World Wide Web, there are other areas on the Internet where interactive communication takes place. This global communication takes place on 'bulletin boards' between members of special interest Newsgroups (USENET), in real time text 'chat' (IRC - Internet Relay Chat) and electronic mail that can be downloaded from an Internet server (e-mail). These are ideal forums for the sharing of popular music interests and obsessions. They are a forum where esoteric and apocryphal knowledge about artists can be shared alongside exclusive news about gig dates, record releases and upcoming events. They are an extension of subcultural grapevines into digital space.

Newsgroups are the focus of information activity that not only allows individuals to be involved in a multi-participant discourse, but also enables accumulated knowledge to be posted as FAQ (Frequently Asked Questions) files. Popular music newsgroups can be found under groups prefixed 'alt.' (alternative topics) or 'rec.' (recreational topics). Examples are alt.music.pearl_jam and alt.music.blur. The postings to groups such as this usually refer to the quality of bootlegs (and where to get them), discussion of artists biographical details, and textual analyses of lyrics and interviews. They are, therefore, the widespread manifestation of fan discrimination and distinction, productivity and participation and capital accumulation. (Fiske (1992)(32)

However, it must also be noted that the artists themselves sometimes participate in the Newsgroups. Courtney Love and Michael Stipe have been 'reported' as taking part in on-line discussions via bulletin boards (almost weekly in the NME). The difficulty with this situation is that it is actually unclear if the people posting as Love or Stipe are actually the real thing. Anybody could pose as the artists on-line. The postings of Courtney Love since the death of her husband Kurt Cobain have risen to a 'mythic' status. They have also become so prolific that a New York CD ROM magazine has been moved to develop software called the 'Courtney Filter' that examines postings to ascertain the authenticity of the text. The tongue-in-cheek filter uses criteria such as "Brattishness", "Obscenity Misspellings" and the "Gibberish Index" to evaluate their authorship. (33)

The IRC allows real time discussion between individuals on specific topics that may or may not be related to Newsgroup activities, and e-mail enables Internet members to send out individualised communication (or material designed for wider consumption). This can be sent to other Newsgroup members or, increasingly, media organisations and other companies.

This development of virtual communities around areas of interest is important for users who wish to engage in purposeful communication when in their lived environment they may lack the outlets to do so. The Internet therefore provides an opportunity for fan activity which allows co-operative action outside the space of the Internet (e.g. when an American fan of, say, Husker Du buys material to send to a British fan who reciprocates). The operation of the Newsgroups is, as stated elsewhere in this study, fully caught up in the social and cultural relations of everyday life. They impact on individual and group activity in a very real way outside of the Internet. The Internet should not and can not be understood as an autonomous space, in the same way popular music cannot be understood simply through the aural space or text of music.

7. POPULAR MUSIC'S DEMOCRACY

In the examination of the 'effects' of new technologies on popular music, considerations are formulated within a positive/negative framework. Either new technology empowers popular music makers or it deprives them of authentic expression. It challenges musical elitism or consolidates industry hierarchies. It demystifies music production or complicates access to it. In short, it democratises or produces elites. The problem with positing the debates through binary oppositions is that it necessitates choice - either/or. The philosophical discussions around the inadequacy of this model do not need addressing here. But two points must be made.

Firstly, it is not technology alone that determines these societal and cultural effects, but human agency. The appropriation and application of technology and its associated techniques are that which promote change. These changes are not linear. That is, they aren't able to be modelled on notions of cause and effect. The study of the contemporary moment, like the study of history, is based on a narrativisation that will inevitably 'imagine' causal connections to make meaning of the unmappable terrain of contemporary culture. As such, to argue for or against notions of 'democratisation' necessitates taking up a partial position that can often romanticise technology's liberating potential, or identify it as anathema to authenticity, to 'real experiences' and humanism.

Secondly, in a progressively 'relativist era' (another narrativisation, but one which seems workable) it does not make real sense to choose between empowerment and disempowerment. To answer 'what has technology and its application done in the popular music industry, I would have to answer 'all of the above, and more', as each of them are tenable positions based upon experience, study and evidential extrapolations.

Fundamentally speaking, to ask 'has popular music been democratised by new technologies?' is to ask a meaningless question. Democracy in itself is a complex term drenched in diverse meanings that originally had a sense approximating to the idea that all people have the right to

'decide what are matters of general concern.' (1)

and presumably contribute to the 'resolution' of such matters. Popular music although it may have been a matter for general concern at certain points in its history, is not a state institution and operates in the free market which underpins this system. In what sense could all people 'have a say'? 'Have a say' in what exactly - in which tracks are to go on the new Oasis album and whether Liam Gallagher and Patsi Kensit should have a long engagement or not?

If democratising popular music means access to the means of production, then most people can buy a harmonica at least. If it means access to dissemination, then playing the harmonica on a street corner offers an audience of sorts. Does democratising art mean everybody has the right to exhibit in a Cork Street gallery? This would be a logistical challenge at least!

It has often been argued that the employment of a sound mixer, record decks and a drum machine by Afrika Bambaata revolutionised popular music in the 1980's. It opened the way for 'black' musical forms to enter the mainstream music industry after years of appropriation by white rock artists. (This argument is complicated by the fact that Bambaata drew direct inspiration from a teutonic electronic art band, Kraftwerk). This mixing of available and new technology is therefore argued to have democratised black popular music. But in a recent TV series it was demonstrated that very few black artists broke through the rock dominated industry, and that American MTV refused to play black music for most of the 80s (except for Michael Jackson) (2) Even then, thousands of black artists still failed to make any great mark in the mainstream industry while employing better and cheaper technology than Bambaata. Is this a democratisation of music? The term is used unthinkingly, and as such I would like to explore similar issues, but from a slightly different perspective focusing on the term 'popular music' itself.

I identified at the beginning of this study that I wished to discuss 'popular music' as a very broad term that recognised the macro commercial and micro grass roots levels of music making. Instead of discussing 'has popular music been democratised by technology?' I prefer to study the situation by asking 'has popular music become more 'popular' by the active engagement of a wider and more diverse range of people in its technological production and consumption?. Is it becoming increasingly music of the people, for the people and by the people? If so, to what effect?' There are still problems with this formulation but the inadequacies of it will become apparent as I discuss 'Popular music and/in Digital Culture' in concluding this study.

8. CONCLUSION

There is a great deal of evidence that suggests the practices of popular music production and consumption increasingly involve more active and 'independent' engagement on the part of artists and fans. That is, activity unsanctioned and independent of the powerful players in the transnational music industry is manifesting itself in a 'Transglobal Underground'. It is an extension of the activities that have always taken place in popular music which are

‘always and everywhere a power of cultural production which is in the hands of the people. Capital can master and exploit music ... but it can never seize hold of and monopolise it’s means of production...’ (1)

The 'location of this 'underground' is the private/public sphere of the Internet, and it is here that the anti-commercial, eclectic, anarchic and ‘amateur’ (though increasingly ‘professional’) thrust which was at the heart of Punk is reproduced.

The activity is empowering and enabling in a number of ways. It involves the global co-operation of music makers through shared software and information. This communication is underpinned by a libertarian ideology of free exchange and 'disintermediation' that allows artists and fans to bypass the selective and advocative processes of the music industry. Fans can communicate with other fans, artists communicate with artists, and increasingly artists communicate about their work to fans (if not as yet communicating the musical works themselves on a wide scale).

The fan/artist distinction collapses with the increasing availability of cheaper music technology, and with fans and artists co-operating in creating meaning through direct communication (the Cocteau Twins are a clear example). Fans, by creating music and Web sites, educate themselves in the operations of the wider industry and the technology underpinning it, while creating material that in many ways is indistinguishable or of higher quality than industry products. The distinction between professional and amateur is blurred. Newsgroups enable and extend fan activity beyond geographical boundaries, allowing a more critical engagement with artists and musical texts.

Central to all of these activities is a notion that the commercial imperatives of the music industry can be subverted by artists and fans freely communicating their works in the act of *composition* in Attali's sense of the word. This will lead to a utopian future where a 'Techno-Folk' of 'authentic' and global communication not predicated on the exigencies of commodification will develop. Popular music, therefore, is becoming increasingly 'popular' - a music of, for and by the 'people'. Digital technology and its application has empowered the musically untrained, economically disadvantaged, disabled and isolated musician to create music and meaning and disseminate it to a global audience. 'Digital Culture' is truly 'Cyber-Punk'.

Except it must be noted that this 'popularisation' of popular music is predominantly taking place at the micro-level level rather than within the macro-structures of the popular music industry. Certainly as Richard Bell argues at the beginning of this study, digital technology and the Internet has and will 'change things, like punk ...'. But Bell's note of equivocation in conceding 'but it will only have an effect.' suggests that the changes will not be radical or revolutionary, but changes that are necessary for the music industry to evolve. This evolution is a natural and fundamental development for any industry that must provide product for a market at the volatile whim of fashion and cultural change. Ricky Adar of Cerberus is therefore operating with a different agenda than IUMA's 'disintermediation'. His agenda is to pre-empt commercial changes that will underpin this evolutionary process. In creating 'popular' access Cerberus are providing the music industry with an on-line research and development model that could enable commercial exploitation of such popular access in the future. Meanwhile, both Cerberus and the IUMA seem more likely to threaten the existence of Independent labels that provide a modicum of popular access at present, rather than Major labels who are firmly embedded in the workings of diversified TNCs

Equally, it must be restated that the Internet and digital music technology is not available universally as their acquisition both require economic and/or cultural capital, and necessitate a certain amount of creative acumen to be fully exploited. As the Internet's global reach is also as yet limited outside of the northern countries of the world, to insist on the Internet as global communication is also a utopian dream rather than actuality (it also underplays the technically problematic nature of such communication identified by writers such as Clifford Stoll). The adoption of English as the majority language of the Internet also impedes non-English speaking users (though English as the international language of the popular music industry has always embodied this power imbalance). It is clear Digital Culture can 'leave behind' the information poor while developing an information elite, and without equality of opportunity and access which is at the heart of libertarian formulations, this divide will extend.

Paradoxically, the expanding activities of popular music consumption and the mediation of its associated pleasures on the Internet, while providing a sense of autonomy to fans, contributes to the continuing prominence and importance of popular music in youth culture. This is at a time when the attention of youth is also attracted by other leisure activities, often provided by computer technologies. Such activity helps to keep the lucrative youth market for the music industry's products buoyant. However, with a decreasing number of 10-14 year olds (1.2 m fewer than 10 years ago), a diminishing Top of the Pops audience (1960s = 17m, 1996 = 2.6 m) and signs that the pop media are losing popularity (Smash Hits losing 10,000 readers monthly) (2) there is an accelerating downward trend in sales to the youth market. Though the existing structures and products of the music industry are supported by Internet activity, there will be a continued realignment of operations necessitated by the demographic changes in record buying.

Though the TNCs are increasingly generalising their operations to cater for such changes and leave spaces for independent specialist activity, this ensures that fewer artists are brought through to mass market attention. So at the macro level of operation, opportunity and access would seem to be decreasing. The already popular remain so. The 'un'-popular are condemned to relative obscurity as they are not recognised by the industry and lose access to the kudos and possible future success afforded by a record deal. Fewer and fewer make it. This argument is persuasive, but does not take account of the proliferation of media broadcast channels and the necessary need to find suitable product to service the needs of the perceived audiences. However, maybe we will only get more of the same.

The assessment of the effects of the coming together of popular music and digital technology is hamstrung by the temptation to locate the debates around 'popularisation' within the music industry context. This provides evidence for positive and negative perspectives. However, it damagingly perpetuates the notion that popular music worthy of academic study resides only within the music industry context or its periphery. That is, the notion that popular music is commodified music. As Grossberg identified, this provides an amount of bias to such study, and I have found it seriously prejudices the conclusions that can be drawn about it. By inscribing myself in such a fabrication, I could only conclude that as far as the music industry is concerned, 'the more things change, the more they remain the same'.

However, if it is conceded that popular music encompasses all the cultural practices of music production and consumption, I can only view 'Popular Music and/in Digital Culture' with a sense of optimism; whereby activity at the micro, local or grass roots level of music production (at least in the Anglo-American context) is 'popularising' popular music in a way that has cultural, educational and empowering benefits. For example, in the education context, because of new technologies, studying music is no longer the domain of the traditionally gifted. In a time where the peripatetic teaching of conventional and culturally valorised music and other physical resources are being cut back, the growth in the enthusiasm for information technology's application in the classroom has a positive effect on music education. With the apparent loss of support of 'elitist' forms of musical expression (and its necessary commercialisation through seeking sponsorship and grant support), popular music may be 'popularised' by the application of music technology in mainstream education. Additionally, this technology can also be utilised in traditional modes of classical composition which may lead to a further blurring of high/popular cultural boundaries of what epitomises fan and popular cultural capital.

This clearly contradicts Bourdieu's notions that

'The knowledge and discrimination that comprise official cultural capital are institutionalised in the educational system ... In Bourdieu's map of the social space, ... (i)t is the exclusion of popular or fan cultural capital from the educational system that excludes it from the official and disconnects it from the economic.' (3)

The growth of Popular Music courses at degree level, and Media Studies throughout the curriculum demonstrates that popular cultural forms are being increasingly co-opted into the system. While official cultural capital is being 'denied' to the people in the educational context, new technologies and educational emphases have resulted in the valorisation of fan and popular cultural capital, which marks a significant shift. There has also been another shift in contemporary culture towards an infantilisation of tastes that underscores the ability of different groupings in society to ironically or sincerely undercut and subvert taste systems. This supports the claim that popular music in its popularisation is a significant gain for those involved.

But if the reach of this 'popularisation' is still embedded in the power imbalances in the wider society and culture (lack of access for women as a prime example), it is a 'popularisation' needing intervention to 'level the playing field'. Paradoxically, the libertarian ideals of digital culture may have to be achieved by government intervention in arts, recreational and educational funding initiatives. The danger is that this returns us to Buxton (1985) and Laing's (1990) calls for a 'public sphere' of popular music. As Laing argues, such support often focuses on production and

performance (e.g. community studios and venues) which will be undoubtedly resisted by some marginal groupings. While providing little more than access to production and performance without the supporting network of distribution and dissemination, such intervention cannot provide commercial access. If, however, the aim is to enable expression, demystification and the popularisation of cultural knowledge in the context of popular music, such moves must be positive.

An extension of Attali's conception of *composition* is to argue that in the next 'era' of music production, music will be produced for music's sake as a private/individual cultural practice. That micro-empowerment is synonymous with the private. It is essential to recognise

'the aesthetic effect, even the sort of non-semantic effect produced by the organisation of sound (in music) ... always implies a kind of social Imaginary' a way of being with and/or others.' (4)

As such this 'social Imaginary' locates the individual within a cultural space at the moment of composition or pre-performance. The Internet, being the location where the 'social Imaginary' is now being extended through a metaphoric space, enables the expansion of such practices into the wider culture. Music will remain social and cultural in its trajectory and as such any form of popular empowerment will have implications in wider popular music practices inside and outside of the commercial domain.

REFERENCES

1. INTRODUCTION

1. Levy, S., (1996) 'The Year of the Internet', Newsweek, 1/1/96 p.23
2. Harrison, E. (1995) 'Sound Finance', *mute DIGITALARTCRITIQUE*, Issue 2 Summer 1995 p.14
3. Stoll, C. (1996), *Silicon Snake Oil*, Pan Books p. 233
4. Harrison, E. Op. cit. p.14

2. SPACE EXPLORATION: Mapping the Internet

1. Bright, M.,(1996) 'Technology: The Guardian Guide to the Internet', *The Guardian*, 9/1/96, p.14
2. Cyberscope news item, Newsweek, 19/8/96 p.4
3. Burnett, R. (1996) *The Global Jukebox: The International Music Industry*, Routledge 1996, p.139 - 142
4. Kemp, A., (1996) 'Tired prefix sent to Cyberia', *The Observer*, 4/8/96, p.1
5. Cotton, B. and Oliver, R., (1992) *Understanding Hypermedia: from multi - media to virtual reality*, Phaidon, p.26
6. Kemp, A. (1996), Op. cit, p.1
7. Kellner, D., (1995) *Media Culture: Cultural studies, identity and politics between the modern and postmodern*, Routledge p. 303

3. TECHNOPHILIA AND TECHNOPHOBIA

1. Stoll, C. (1996) Op. cit. p. 234
2. Levy, S (1995) 'Bill's New Vision', Newsweek, 27/11/95 p.45

4. POPULAR MUSIC and/as TECHNOLOGY

1. Penman, I. (1995), 'Black Secret Technology', *The Wire*, 3/95, p. 37
2. 'Mauss, Marcel' in Lechte, John (1994) *Fifty Contemporary Thinkers: from Structuralism to Postmodernity*, Routledge, p. 27
3. Horkheimer, M. and Adorno, T (1972) *Dialectic of Enlightenment*, quoted in Burnett, R. (1996) Op. cit. p. 31
4. Goodwin, A. (1988) 'Sample and Hold: Pop Music in the Age of Digital Reproduction' in Frith, S. and Goodwin, A. (eds.) (1990) *On Record*, Routledge, p. 258 - 273
5. Laing, D. (1990), 'Making popular music: the consumer as producer' in Tomlinson, A. (ed) *Consumption, Identity and Style: Marketing meanings and the packaging of pleasure*, Routledge p.186
6. Paltisan, R. (1987) *The Triumph of Vulgarity: Rock music in the mirror of Romanticism*, OUP
7. Staunton, T. (ed.) (1985) *Bigmouth Strikes Again: The NME Book of Quotes*, IPC/NME, p.41
8. Penman, I. (1995), Op. cit. p. 38

9. Extracts from Vermorel, F. and Vermorel, J. (1985) 'Starlust' in Frith, S. and Goodwin, A., (1990) Op. cit., p. 488
10. Staunton, T. (ed.) (1995) Op. cit. p. 66
11. NME, 27/7/96 p.52
12. Hall, S. and Whannel, P. (1964) 'The Young Audience' in Frith, S. and Goodwin, A. (1990), Op.cit. p. 37
13. Buxton, D. (1985) 'Rock Music, The Star System, and the Rise of Consumerism' in Ibid. p.438
14. Goodwin, A. (1988) Op. cit.
15. Moby quoted in 'Definitely Moby' (unaccredited), Future Music, 4/95 p.62
16. Ibid. p.63
17. Young, R. (1995), 'Worlds Collide', The Wire, 12/95, p.21 - 22
18. News item, NME, 10/8/96, p. 3
19. Mills, R. (1996), 'My Ever Changing Moogs', Q Magazine, 7/96, p. 156
20. Stubbs, D. (1989) 'Fear of the Future' in McRobbie, A. (ed.) (1989), Zoot Suits and Second Hand Dresses, Macmillan Education Ltd.' p. 272
21. Staunton, T. (ed) (1995), Op.cit. p.26

5. POPULARITY

1. Grossberg, L. (1994) 'Is Anybody Listening? Does Anybody Care?' in Ross, A. and Rose, T. (eds.) Microphone Fiends: Youth Music and Youth Culture, Routledge, p. 45
2. Attali, J. (1985) Noise: The Political Economy of Music, Minneapolis: University of Minnesota Press discussed in Burnett, R. (1996) Op. cit. p. 41 - 42
3. Ibid. p. 41 - 42
4. Ibid. p. 41 - 42
5. Beadle, J.J. (1993) Will Pop Eat Itself?, Faber and Faber
6. Wallis, R. and Malm, K. (1984) Media Policy and Music Activity, Routledge quoted in Burnett, R. (1996) Op. cit. p. 85
7. 'Whose Internet?' (range of articles), Newsweek, 22/4/96, p.42 - 46
8. Laing, D. (1986) 'The Music Industry and Cultural Imperialism Thesis', Media, Culture and Society, 8: p.331 - 341
9. News item, .net Magazine, p.9
10. Stoll, C. (1996), Op. cit. p. 112
11. Editorial introduction to first UK issue, Wired, 4/95, p. 9
12. Katz, J. (1995) 'The Age of Paine' in Ibid. p.66
13. Ibid. p.66
14. Davies, C. (1995) 'Short circuit on the superhighway', Sunday Times, Culture Section, 6/9/95 p. 4
15. Harrison, M. (1995) Visions of Heaven and Hell, Channel 4 TV (publication accompanying the TV series) p. 20
16. The Late Show, BBC2 'The Internet and Politics' feature, 10/5/95
17. Ibid.
18. Oldfield, P. (1989) 'After Subversion: Pop Culture and Power' in McRobbie (ed) (1989) Op. cit. p. 258
19. Ibid. p. 265
20. Ibid. p. 265
21. Ibid. p. 265
22. Ross, A. (1992), 'New Age Technoculture' in Grossberg, L., Nelson, C. and Treichler, P. (eds.) Cultural Studies, Routledge

6. POPULAR MUSIC AND THE INTERNET

1. Rapport, S. 'Wired for Sound', .net Magazine, 3/95 p.40
2. Ibid. p.40
3. Parales, J. (1990) 'The Big Get Bigger', New York Times, 19/3/90 quoted in Burnett, R. (1996) Op. cit. p. 61 - 62
4. Cameron, K. (1996) 'Exiles from Mainstream', Vox Magazine, 8/96 p.20
5. Ibid. p. 20 - 23 for full story
6. Trask, S. (1995) 'Wired for Sound', Future Music, 4/95 p.89
7. Burnett, R. (1996), Op. cit p. 185
8. Coleman, N. (1996), 'Pop Music: Cult Folk heroines on the loose', The Independent, 8/3/96 p. 10 - 11
9. Ibid.

10. Fiske, J. (1992), 'The Cultural Economy of Fandom' in Lewis, L.A., (1992) *The Adoring Audience: Fan culture and popular media*, Routledge p. 30 - 49
11. Goldsmith, M. (1996), 'Cocteau Twins: Live on the Net', .net Magazine, 5/96, p.31
12. Staunton, T. (ed.) (1995), Op. cit. p. 17
13. Goldsmith, M. (1996), Op. cit. p. 32
14. Ibid. p.32
15. Stubbs, D. (1996), 'Queasy Listening', .net Directory, Issue 5, 4/96 p.22
16. Ibid. p. 22
17. Ibid. p. 22
18. CD release, Bowie, D. (1995) *1.Outside: The Diary of Nathan Adler or The Art-Ritual Murder of Baby Grace Blue*, BMG Records, 1995
19. Mallins, S. (1995), 'Duke of Hazard', Vox Magazine, 10/95 p. 70
20. Ibid. p. 70
21. Cotton, B. and Oliver, R. (1994), *The Cyberspace Lexicon: from multi-media to virtual reality*, Phaidon, p. 148 - 150
22. No longer available on the Internet
23. Cotton, B. and Oliver, R. (1994), Op. cit. p. 136
24. Fitzgerald, B (1996) 'We wanna get downloaded ... we wanna have a good time', NME, 8/6/96, p. 54
25. Burnett, R., (1996), Op. cit. p.80
26. Thornton, S. (1994), 'Moral Panic, the Media and British Rave Culture' in Ross, A. and Rose, T., Op. cit. p. 179
27. Tope, F. (1996) 'Renegade Soundwave', .net Directory, Issue 5, 4/96 p. 14
28. Ibid. p. 13
29. Rapport, S. (1995), 'Bands play live on the Internet', .net Magazine, 3/95, p. 56
30. Goldsmith, M. (1996), Op. cit. p. 34
31. Hirsch, P. (1970) *The Structure of the Popular Music Industry*, Survey Research Centre: University of Michigan quoted in Burnett, R. (1996) Op. cit. p.72
32. Fiske, J. (1992), Op. cit. p. 48
33. Spedding, D. (1996), 'It's all Courtney's fault', Sky Magazine, 2/96, p. 61

7. POPULAR MUSIC'S DEMOCRACY

1. Bullock, A., Stallybrass, O. and Trombley, S. (1988), *The Fontana Dictionary of Modern Thought*, Fontana, p. 211
2. *Dancing in the Streets: Planet Rock*, BBC 2 - first broadcast on 17/8/96

8. CONCLUSION

1. Beverley, J. (1990), 'The Ideology of Postmodern Music and Left Politics', *Postmodern Culture*, Vol. 1, no. 1 (9/90) (no page numbers as downloaded from the Internet)
2. Harlow, J. (1996), 'Pop world laments dying scream of the teenybopper chorus', *Sunday Times*, 18/8/96, p. 4
3. Fiske, J. (1992), 'The Cultural Economy of Fandom' in Lewis, L.A. (ed) (1992) *The Adoring Audience: Fan culture and popular music*, Routledge
4. Beverley, J. (1990), Op. cit.

BIBLIOGRAPHY

- Attali, J. (1985), *Noise: The Political Economy of Music*, Minneapolis: University of Minnesota Press
- Beadle, J. J. (1993), *Will Pop Eat Itself?*, Faber and Faber
- Beaumont, P. (1996), 'Behind Closed Doors: conspiracies and cover-ups', *The Observer*
- Beverley, J. (1990), 'The Ideology of Popular Music and Left Politics', *Postmodern Culture*, Vol. 1, no. 1 9/90
- Blake, A. (1992), *The Music Business*, Batsford Cultural Studies, Batsford
- Bowen, D. (1996), 'Is anybody out there?', *The Independent on Sunday*, 10/3/96
- Bowie, D., CD release (1995) *1.Outside: The Diary of Nathan Adler or The Art-Ritual Murder of Baby Grace Blue*, BMG Records, 1995
- Bright, M.,(1996), 'Technology: The Guardian Guide to the Internet', *The Guardian*, 9/1/96,
- Brockman, J. and Matson, K. (1996), *Science, Mind and Cosmos*, Phoenix
- Bullock, A., Stallybrass, O. and Trombley, S. (1988), *The Fontana Dictionary of Modern Thought*, Fontana
- Burnett, R. (1996), *The Global Jukebox: The International Music Industry*, Routledge

- Buxton, D. (1985), 'Rock Music, The Star System, and the Rise of Consumerism' in Frith, S. and Goodwin, A. (1990) *On Record*, Routledge
- Cameron, K. (1996), 'Exiles from Mainstream', *Vox Magazine*, 8/96
- Coleman, N. (1996), 'Pop Music: Cult Folk heroines on the loose', *The Independent*, 8/3/96
- Collins, J. (1995), *Architectures of Excess: Cultural life in the information age*, Routledge
- Connor, S. (1989), *Postmodernist Culture*, Blackwell
- Cotton, B. and Oliver, R., (1992), *Understanding Hypermedia: from multi - media to virtual reality*, Phaidon
- Cotton, B. and Oliver, R. (1994), *The Cyberspace Lexicon: from multi-media to virtual reality*, Phaidon
- Dancing in the Streets: Planet Rock*, BBC 2 - first broadcast on 17/8/96
- Davies, C. (1995), 'Short circuit on the superhighway', *Sunday Times, Culture Section*, 6/9/95
- Durant, A. (1990), 'A New Day for Music? Digital technologies in contemporary music-making' in Hayward, P. (ed.) (1990) *Culture, Technology and Creativity in the Late Twentieth Century*, John Libbey
- Eisenberg, E. (1987), *The Recording Angel: Music Records and Culture from Aristotle to Zappa*, Picador
- Fiske, J. (1992) 'The Cultural Economy of Fandom' in Lewis, L.A. (1992), *The Adoring Audience: Fan culture and popular media*, Routledge. 30 - 49
- Fitzgerald, B (1996), 'We wanna get downloaded ... we wanna have a good time', *NME*, 8/6/96
- Friedman, K. (1995) 'Language and Culture in the Information Age', *A & D*, Vol 10 No. 11/12, 12/95, p. 56 - 59
- Future Music*, 4/95, 'Definitely Moby' (unaccredited article)
- Gaines, S. (1986), *Heroes and Villains: The true story of the Beach Boys*, Grafton Books
- Goldsmith, M. (1996), 'Cocteau Twins: Live on the Net', *.net Magazine*, 5/96
- Goodwin, A. (1988), 'Sample and Hold: Pop Music in the Age of Digital Reproduction' in Frith, S. and Goodwin, A. (eds.) (1990) *On Record*, Routledge
- Grey, S.. (1995), 'MPs warn of computer drug threat to children', *Daily Express*, 24/3/95
- Grossberg, L. (1994), 'Is Anybody Listening? Does Anybody Care?' in Ross, A. and Rose, T. (eds.) *Microphone Fiends: Youth Music and Youth Culture*, Routledge
- Hall, S., Held, D. and McGrew, T. (1992), *Modernity and it's Futures*, Polity/OU
- Hall, S. and Whannel, P. (1964), 'The Young Audience' in Frith, S. and Goodwin, A. (1990), *On Record*, Routledge
- Harlow, J. (1996), 'Pop world laments dying scream of the teenybopper chorus', *Sunday Times*, 18/8/96
- Harrison, E. (1995) 'Sound Finance', *mute DIGITALARTCRITIQUE*, Issue 2 Summer 1995
- Harrison, M. (1995) *Visions of Heaven and Hell*, Channel 4 TV (publication accompanying the TV series)
- Hennion, A. (1983) 'The Production of Success', in Frith, S. and Goodwin, A. (eds.) (1990) *On Record*, Routledge
- Hirsch, P. (1970) *The Structure of the Popular Music Industry*, Survey Research Centre: University of Michigan
- Holland, S. (1996) 'Dice Game Music', *Times Higher Education Supplement*, Multimedia Supplement, 14/6/96
- Horkheimer, M. and Adorno, T (1972) *Dialectic of Enlightenment*, New York, Seabury
- Jenkins, K. (1995), *On 'What is History?': from Carr and Elton to Rorty and White*, Routledge
- Katz, J. (1995) 'The Age of Paine', *Wired*, 4/95
- Kellner, D., (1995) *Media Culture: Cultural studies, identity and politics between the modern and postmodern*, Routledge
- Kemp, A., (1996) 'Tired prefix sent to Cyberia', *The Observer*, 4/8/96
- Laing, D. (1986) 'The Music Industry and Cultural Imperialism Thesis', *Media, Culture and Society*, 8: p.331 - 341
- Laing, D. (1990) 'Making popular music: the consumer as producer' in Tomlinson, A (ed) (1990) *Consumption, Identity and Style: Marketing meanings and the packaging of pleasure*, Routledge p. 186 - 194
- Lechte, John (1994) *Fifty Contemporary Thinkers: from Structuralism to Postmodernity*, Routledge,
- Levy, A. and Burrell, I (1995), 'Anarchists use computer highway for subversion', *The Sunday Times*, 5/5/95 p.10
- Levy, S., (1996) 'The Year of the Internet', *Newsweek*, 1/1/96 p.23
- Levy, S (1995) 'Bill's New Vision', *Newsweek*, 27/11/95
- Lynn, M. (1995) 'Rock 'n' rollers storm up the export charts', *Sunday Times*, 12/2/95 p.6
- Longhurst, R. (1995) *.net, The Bible: The plain English guide to getting on the Internet*, Future Publishing
- Machover, T. (1996) 'Pop Music: Technology should respond to human inventions', *The Independent*, 1/3/96
- Mallins, S. (1995), 'Duke of Hazard', *Vox Magazine*, 10/95
- Millar, P. (1996) 'Gripped by the Alien ...', *The Sunday Times, Culture*, 16/6/96
- Mills, R. (1996), 'My Ever Changing Moogs', *Q Magazine*, 7/96
- Mills, S. (1996) 'Writers' blocs lose the old plot', *Times Higher Educational Supplement*, 14/6/96
- Moby, CD releases *Everything is Wrong* (Mute Records 1995) and *Everything is Wrong: DJ Remix Album* (Mute Records 1996)
- Nataf, A. (1991), *The Wordsworth Dictionary of the Occult*, Wordsworth Reference
- .net Magazine*, 4/96
- Newsweek*, 19/8/96, cover story, 'Life on Mars'

- Newsweek*, 19/8/96 p.4, Cyberscope news item
- Newsweek*, 22/4/96, 'Whose Internet?' (range of articles), p.42 - 46
- NME*, 27/7/96
- NME*, 10/8/96
- Okri, Ben (1996), *Birds of Heaven*, Phoenix
- Oldfield, P. (1989) 'After Subversion: Pop Culture and Power' in McRobbie (ed.) (1989) *Zoot Suits and Second Hand Dresses*, Macmillan Education Ltd
- Pacey, A. (1983), *The Culture of Technology*, Blackwell
- Paltisan, R. (1987) *The Triumph of Vulgarity: Rock music in the mirror of romanticism*, OUP
- Parales, J. (1990) 'The Big Get Bigger', *New York Times*, 19/3/90
- Penman, I. (1995), 'Black Secret Technology', *The Wire*, 3/95, p.37 - 39
- Pope, I. (1995), 'The Death of Discs', *.net Magazine*, 3/95
- Rapport, S. (1995 a) 'Wired for Sound', *.net Magazine*, 3/95
- Rapport, S. (1995 b), 'Bands play live on the Internet', *.net Magazine*, 3/95
- Ross, A. (1992), 'New Age Technoculture' in Grossberg, L., Nelson, C. and Treichler, P. (eds.) *Cultural Studies*, Routledge
- Roszak, T. (1991) *Flicker*, Bantam Books
- Savage, J. (1991) *England's Dreaming: Sex Pistols and Punk Rock*, Faber and Faber
- Storr, A. (1992), *Music and the Mind*, Harper Collins
- Spedding, D. (1996), 'It's all courtney's fault', *Sky Magazine*, 2/96
- Staunton, T. (ed.) (1985) *Bigmouth Strikes Again: The NME Book of Quotes*, IPC/NME
- Stoll, C. (1996), *Silicon Snake Oil*, Pan Books p. 233
- Stubbs, D. (1989) 'Fear of the Future' in McRobbie, A. (ed.) (1989), *Zoot Suits and Second Hand Dresses*, Macmillan Education Ltd.'
- Stubbs, D. (1996), 'Queasy Listening', *.net Directory*, Issue 5, 4/96 p.22
- The Late Show*, BBC 2 'The Internet and Politics' feature, 10/5/95
- Thornton, S. (1994), 'Moral Panic, the Media and British Rave Culture' in Ross, A. and Rose, T. (1994), *Microphone Fiends: Youth Music and Youth Culture*, Routledge
- Tope, F. (1996) 'Renegade Soundwave', *.net Directory*, Issue 5, 4/96
- Trask, S. (1995) 'Wired for Sound', *Future Music*, 4/95
- Vermorel, F. and Vermorel, J. (1985) 'Starlust' in Frith, S. and Goodwin, A.,(eds.) (1990) *On Record*
- Wendt, L. (1995) 'Narrative and the World Wide Web', *A & D*, Vol. 10 No. 11/12, 12/95, p. 82 - 91
- Williams, R. (1983), *Keywords*, Flamingo
- Wallis, R. and Malm, K. (1984) *Media Policy and Music Activity*, Routledge
- Wired*, 4/95, First UK edition
- Young, R. (1995) 'Worlds Collide', *The Wire*, 12/95, p.21 - 24