

Negotiating Ecstasy: Electronic Dance Music and the Temporary Autonomous Zone

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Electronic Dance Music (EDM) is an acoustic ecology whose perceptual and cognitive attributes have since the late 1980s engendered new modes of listening. The ordering of sound and the construction of electronic soundscapes is in a complex interface with cultural experiences such as clubbing, dancing and drug taking. This has led to the development of electroacoustic musicology and has had a profound impact on the way we frame the question “what is listening?” EDM also pushes to the forefront the essential question: *why* are we listening?

This essay explores these two questions by examining four principal features of the genre: 1) the unique characteristics of EDM, especially concerning its composition and performance; 2) the listening environment, particularly the institution of a ‘safe space’ (a so-called Temporary Autonomous Zone); 3) how chemical sensory alteration through the use of illegal drugs changes the listening experience; and 4) the reasons for participation in EDM events, in particular how listeners seek an ecstatic experience.¹ Because EDM is such a diverse field this essay moves from general remarks about characteristics of the genre to specifics of the teknival (a portmanteau of techno and festival), a form of EDM that is the epitome of a certain esoteric listening.²

Classical musicians and the musicologists have until recently generally been dismissive of what they perceive to be another vacuous popular music (which has the added stigma of being associated with an illegal drug culture). In recent years, however, there has been an increase in publications on the subject, including, for example a broad reception of techno in Deleuzian musicology,³ and some major publications that have begun to examine EDM and the spiritual experience in different ways: Simon Reynolds wrote two books which survey its historical and cultural milieu; Mark Butler has described and analyzed musical aspects of the form; a collection of essays edited by

¹ In this essay the term ecstatic is used to define a numinous encounter and the terms “religious” and “spiritual” are used interchangeably and do not necessarily imply institutional religion.

² This essay concentrates on music for dance and therefore does not deal with some of the recent developments in intellectual techno as made and (academically, philosophically) discussed by DJ Spooky, Achim Szepanski, Maffesoli and Jean-Luc Nancy, among others.

³ See, for example, the essays by Greg Hainge and Drew Hemment in *Deleuze and Music* (Ian Buchanan, ed), (Edinburgh: Edinburgh University Press, 2004).

Graham St. John examines aspects of culture and religion; and a monograph by Robin Sylvan explores the spiritual and religious dimension of global rave culture in greater detail.⁴ Most of the contemporary literature is not written by scholars, however, but comes in the form of blogs and websites, reflecting the fast pace of change in the genre and the tech-savvy demographic that is listening to this music.⁵ Although EDM is often very popular, attracting thousands of participants to events such as the Berlin Love Parade, academically it had been a marginal music.⁶ It experienced a Coming of Age in 2011 and moved more into the mainstream when American producer and singer-songwriter Skrillex (born Sonny John Moore) was nominated for five Grammy awards and won three.⁷ This cultural shift is an opportune time to reevaluate the listening experience of a music that has established itself as a dominant force in avant-garde techniques in both performance and appreciation.

Writing about EDM is somewhat problematic because there is no established international musical canon. This is partly because the genre is too young, but also because there is too much of it for any dominant form to become recognized on a global basis. There is also so much variety under the umbrella term “EDM” that it is difficult to abstract patterns or to provide terminology that doesn’t have multiple meanings. In *Generation Ecstasy*, Simon Reynolds draws an interesting historical sketch of the development of American EDM in which he acknowledges the rapidly changing scene and the profusion of terminology:

In the late eighties, “house” was the all-encompassing general term for rave music; Detroit techno was originally treated as a subset of, and adjunct to, Chicago house. But by the early nineties, not only was house’s primacy challenged by “techno” — now a distinct genre with its own agenda — but house itself started to splinter as a seemingly endless array

⁴ Simon Reynolds: *Energy Flash: A journey through rave music and dance culture* (Picador, London: 1998) and *Generation Ecstasy: Into the world of techno and rave culture* (Little, Brown & Co., Boston: 1998); Mark Butler, *Unlocking the groove: Rhythm, meter, and musical design in electronic dance music* (Indiana: Indiana University Press, 2006); Graham St. John (ed.), *Rave culture and religion* (New York: Routledge, 2004); Robin Sylvan, *Trance formation: The spiritual and religious dimensions of global rave culture* (New York: Routledge, 2005).

⁵ For example, <http://www.electronicdancemusic.org/> provides “syndicated updates from top House, Trance and Electronic Dance Music sources,” and <http://dj.dancecult.net/> is the online site for *The Journal of Electronic Dance Music Culture* (first edition 2009).

⁶ The Berlin Love Parade combined a music festival and parade. German media reported that at as many as 1.4 million people attended in 2010. <http://www.spiegel.de/panorama/gesellschaft/0,1518,708478,00.html>

⁷ Nominated for Best New Artist and Best Short Form Video. Won Best Dance recording, Best Dance/Electronic Album and Best Remixed Recording (non-Classical).

<http://www.grammy.com/nominees>. For information on the rise of EDM see, for example, http://articles.chicagotribune.com/2012-06-08/entertainment/ct-ae-0610-kot-electronic-music-20120608_1_electric-daisy-carnival-electronic-music-dance-music.

of prefixes — “tribal,” “progressive,” “handbag,” — interposed themselves in order to define precise stylistic strands and taste markets. What had once been a unified subculture based on a mix of music began to fragment along class, race, and regional lines, as different groups began to adapt the music to fit their particular needs and worldviews.⁸

Since the early 1990s the Internet has contributed to the growth and dissemination of different types of EDM, which has made sharp distinctions in style and nomenclature impossible.⁹ There are, however, several core characteristics of the music that influence approaches to listening.

Electronic Dance Music is fast (typically from 130 to 160 beats per minute) and is often characterized by a pounding repetitive kick drum pulse. Within this basic framework the music embraces an enormous sonic range filled with color, subtlety and variation. Many features of EDM distinguish it from other forms of popular music, including electronic production and performance, extensive use of “sampling,” extremes of length, repetition of fragments of material (harmonic, melodic and rhythmic and timbral), and constancy of key and tempo. These musical elements elicit psychoacoustic responses that may or may not be amplified through the use of certain drugs, however, EDM is constructed so that even without the influence of drugs the brain’s interpretation of these digital ecologies point to its use as an aural narcotic in its own right.

Most EDM is created electronically, so the physical act of sound production is largely eliminated. With the advent of digital processing, and in particular computer “sampling,” sound can be manipulated in myriad ways that render the original partly or wholly unrecognizable. The principal use of electronics for sound generation provide what Edgar Varèse described as “organized sound,” because the medium offers composers almost endless possibilities of musical expression.¹⁰ In fact, EDM composers haven’t abandoned the tempered system because it is still useful as a tool for articulating time, replete with melodies and cadences that mirror the effects of so-called “club drugs.”

As early as the 1960s sampling was primarily used to “quote” music or spoken phrases in an electronic or deejayed composition, or to manipulate pitch (as demonstrated, for example, by the Mellotron in The Beatles 1967 hit *Strawberry Fields Forever*). Now the term “sampladelic” refers to what Reynolds defines as “disorienting, perception-warping music created using the sampler and other forms of digital technology.”¹¹ This concept Pierre Schaeffer described as “acousmatic sound,” where the listener experiences the sound from behind a “veil” of speakers and the actual source of

⁸ Reynolds, *Generation Ecstasy*, p. 7.

⁹ A useful guide can be found at: <http://techno.org/electronic-music-guide/> [accessed January 2013].

¹⁰ Edgar Varèse, “The Liberation of Sound,” in *Perspectives of New Music*: Vol. 5, No. 1. Princeton: Princeton University Press, 1966, pp. 11-19 at p. 18.

¹¹ Reynolds, *Generation Ecstasy*, p. 29.

the music is hidden from view.¹² This is an important part of the EDM experience since the listener is free from engagement with a “performer” and therefore able to concentrate entirely on the experience of hearing the music and is freed from social constraint to move to the music if they wish to do so.¹³ As Michael Chion notes, “the acousmatic situation changes the way we hear. By isolating the sound from the ‘audiovisual complex’ to which it initially belonged, it creates favorable conditions for *reduced listening* which concentrates on the sound for its own sake, as *sound object*, independently of its causes or its meaning.”¹⁴ This notion of “reduced listening” is a key component in listening strategies for EDM and is discussed further below in relation to the use of narcotics.

Starting in the late 1970s, some instruments had a profound effect on the specific sound of EDM, such as the Roland TB 303 baseline (a bass synthesizer with built-in sequencer), and the Roland TR 606 (a programmable analog synthesis drum machine). Now there is a vast array of specialized equipment such as the Korg Electribe EMX-1, an all-in-one techno-producing piece of hardware that contains a drum machine and synth/sequencer. Software for personal computers that is capable of producing professional standard music abound.¹⁵

Because the music is created digitally it is not codified by instrumentation and this musical element is in any case obscured since traditional instruments are rarely employed live, and, whether they are used live or recorded, their sound is greatly manipulated. It is difficult therefore to recognize sub-genres through specific instrumentation and, since on a superficial level EDM has many other features that are similar (such as dynamic, tempo, and pulse), discerning the work of individual deejays can only be done at a highly specific area of detailed sound observance (i.e. at the level of “reduced listening”). For EDM, the music is a “sound object” (another concept by Pierre Schaeffer), that is broadly identifiable through the musical features listed above, but, as Schaeffer predicted, “the role of color or timbre [is] completely changed from being incidental, anecdotal, sensual or picturesque; it [becomes] an agent of delineation like the different colors on a map separating different areas, and an integral part of form.”¹⁶ The

¹² Michel Chion, *Guide To Sound Objects. Pierre Schaeffer and Musical Research*, English translation by John Dack and Christine North, p. 11. Available at: <http://modisti.com/news/?p=14239> [accessed January 2013].

¹³ The listener is aware of the deejay, the producer of the sound and the architect of change, however, this “performer” is also hidden in a certain sense because their instrument is digital. Even an engrossed and balletic deejay can only hint by gesture at description of the “sound object.”

¹⁴ Ibid.

¹⁵ Apple’s Garageband, for example, is a digital audio workstation that now comes as a standard installation on their new computers; or the professional can use immensely sophisticated software such as Logic Pro 9, or Ableton, which provide everything needed to create and produce EDM at an affordable price. See <http://www.apple.com/ilife/garageband/>, <http://www.apple.com/logicpro/>, and <http://www.ableton.com/products>.

¹⁶ Chion, *Guide To Sound Objects*, p. 12.

listener does not have a classical orchestra or other ensemble as a frame of reference and communal familiarity; instead any noise (“sound object”) is acceptable. Most EDM “sound objects” (tracks) do not rise to the level of manipulation of noise that its counterparts in digital art music do because it is useful to invoke regular rhythms for dancing and tonic-dominant hierarchies for engaging patterns of tension and resolution. However, although the lay listener may not be able to distinguish different sub-genres in EDM, or even different deejays, the role of the creator of the music has become refined and has now merged with the roles formerly held by the sound engineer, the producer and the deejay and is subsumed under the latter term. Reynolds describes one of the early pioneers, Larry Levan, in the role of deejay-as-shaman, as “a techno-mystic who developed a science of total sound in order to create spiritual experiences for his followers.”¹⁷ For the hard-core EDM fan, there is cult-like worship of individual deejays and a preference for certain sub-genres of music that resonate with the listener based on individual preference and bias and especially for the spiritual (or numinous or religious) experience they receive.

Because computers present the possibility for infinite gradations of sound production the deejay’s art is subtle and nuanced, even if their ingenuity is lost on many listeners at a conscious level of understanding. A large percentage of EDM listeners probably do not knowingly distinguish subtleties of mismatch and adjustment described by musicologist Robert Jourdain as part of the sound experience (see below), however, listening takes priority among the sense. Light shows may dazzle, but their primary function is to compliment the music, helping the listener access a different plane within the music and to disorient them by changing the shape and color of their surroundings. Much EDM is heard in the dark of a club, or outside at night, or with closed eyes.

Volume is also a factor in this liminal listening experience since the norm is extremely high volume and this blocks out everything else (including some primary thought functions). Hearing everything but paying attention to only parts allows time for the brain to pay attention to ecstasy, and the repetitive structure of the music masks the long span of time spent on the dance floor. This overarching periodicity leads to a dissolution of time, and this means that as we hear the repeated structures of EDM we literally re-cognize the musical material.

At a teknival such as the N.O.I.S.E. Festival on the military base in Aisne, France in 2011, the digital music has been prepared in advance but the presentation is spontaneous, designed by the deejay either in reaction to the mood of the participants or to directly influence the ambience.¹⁸ Unlike popular music tracks, which are usually between and three and five minutes long, EDM tracks are much longer, and seamless integration provides a continuous music event that may last for several hours. This also

¹⁷ Reynolds, *Generation Ecstasy*, p. 35.

¹⁸ http://www.lemonde.fr/culture/article/2011/05/02/teknival-de-laon-un-bon-moment-musical-entre-amis-mais-sans-l-ame-du-truc_1515558_3246.html [accessed January 2013].

denotes an extreme listening event in which hierarchy of content is the provenance of the deejay and is carefully controlled to negotiate large time spans. A successful deejay makes these changes and inventions at interesting times, carefully monitoring the crowd so that they can both follow and manipulate the collective mood.

Sylvan summarizes the role of the deejay, noting that “essentially, what DJ does is to take a number of tracks, each of which has its own distinct feeling and structural components (i.e., rhythm, tempo, melody, harmony, timbre, instrumentation, etc.), and blend them together so that the transitions are seamless, and the entire set is an integrated whole. In order to accomplish this task, a DJ must utilize the similarities between the tracks, through techniques like beat matching and key matching and, at the same time, must also utilize the differences between tracks to create a sense of dynamic and forward momentum.”¹⁹

Composition is often intuitive, and computer interfaces such as Ableton often require more technical knowledge than formal theoretical musical training. As the genre has developed there has been a turn towards some advanced techniques used in classical music, including *musique concrète* and aleatory procedures. Some of the more intellectual bands, such as Autechre, an English duo, have successfully employed mathematical algorithms or generative methods to negotiate a temporal framework.²⁰ This has spawned an experimental genre called Intelligent Dance Music (IDM) that includes artists such as Aphex Twin, PlatEAU and Nosaj Thing, however, this label is now somewhat discredited since it is antithetical to what most people to be the true spirit of EDM.²¹

Listening at the Teknival

Although there is a thriving club culture for EDM, the genre had its origins in environments such as the rave and the teknival. Teknival, the most current term which can be used with any authority to describe an EDM event combined with one or more other ventures, grew out of the rave scene, a term used since the 1970s to describe dance parties characterized by fast-paced electronic music, laser light shows, and an associated drug culture. The music itself includes genres such as House, Trance, Psytrance, Dubstep, Eurodance, and Jungle. Now an established global phenomenon, the teknival can be an indoor or outdoor event lasting from one evening to several days with attendance in the tens, or in the tens of thousands.²²

¹⁹ Sylvan, *Trance Formation*, p. 153.

²⁰ See for example, *EP7* (1999) and *Confield* (2001), both released on Warp Records.

²¹ As Aphex Twin has stated: “It’s basically saying ‘this is intelligent and everything else is stupid.’ It’s really nasty to everyone else’s music ... I don’t use names. I just say that I like something or I don’t.” <http://www.furious.com/perfect/aphextwin.html> [accessed January 2013].

²² They are often called “free parties” because they are free from both the restrictions of the club scene and because there is usually no entry fee.

These are liminal listening spaces that perfectly fit the descriptor “Temporary Autonomous Zone,” a term coined by Hakim Bey in his 1985 book *T.A.Z.: The Temporary Autonomous Zone, Ontological Anarchy, Poetic Terrorism*.²³ Bey’s book describes the creation of temporary spaces that elude normal control protocols. Teknival, a specialized musical experience that has at its heart EDM, redefines not only the arena in which listening happens but also the act itself because the music demands a certain type of listening. Musicologist Judith Becker uses the term “deep listening,” which she adapted from composer Pauline Oliveros, to describe “persons who are profoundly moved, perhaps even to tears, by simply listening to a piece of music.”²⁴ Becker’s exploration of the notion of deep listening relates it particularly to global trancing and this trance-like state is certainly a feature of EDM, though not its primary one. EDM does a certain “deep listening,” however, a better term is “esoteric listening” since the music is intended for a particular group and is difficult to understand by the outsider who may be discouraged by its timbre, repetition, volume and length. Another useful term is “engrossed listening,” because the whole mind and body can become engaged in the listening process to the exclusion of other activities.

A large subculture is involved in this type of TAZ as both a group and personal experience (although the genre is constantly changing and is therefore difficult to historicize). Often aided by the utilization of illicit narcotics, the Zone becomes a “safe space” for divesting one of self and of negotiating a new ecstatic or rapturous state. Providing a unique double disengagement with normality, the EDM TAZ operates outside the boundaries of criminal justice, and, through music and drugs, the person operates outside normal representation of self. Engaging in group identity in a TAZ permits suppression of conventional personal identity in an environment made safe by the presence of others in a space sanctified for this particular use.

Music is not incidental but rather a key feature of the EDM TAZ. It remains the principal tether to the mundane but also a significant stimulus to explore an ecstatic state and the transformation of self. The listener, freed from convention and regulation, engages in a different kind of experiential engagement with sound and with listening. Sensory alteration through narcotics and the disengagement from self and from circumstance point to the goal of participation in any TAZ: to discover the transcendent properties of music, the ways in which it can mediate one’s relationship with the divine.

²³ Hakim Bey is the pseudonym name of Peter Lamborn Wilson (born 1945). *T. A. Z.* is composed of three sections: “Chaos: The Broadshets of Ontological Anarchism,” “Communiques of the Association for Ontological Anarchy,” and “The Temporary Autonomous Zone.” The full text is available at: http://www.hermetic.com/bey/taz_cont.html.

²⁴ Judith Becker, *Deep listeners: Music, emotion, and trancing* (Bloomington, IN: Indiana University Press, 2004), p. 2. For Oliver’s use see <http://deeplisting.org>.

Welcome to Wonderland

Melbourne, Australia has been a center of EDM and rave culture since the late 1980s and has even given its name to a distinct dance known as the Melbourne Shuffle. Teknivals are a regular feature of the Melbourne scene. One of these outdoor dance parties is captured in a documentary entitled *Welcome to Wonderland*, created by an independent, self-funded crew of Melbourne filmmakers led by James Short & Clara Hornley.²⁵ The DVD is a chronological narrative of the one-night event, which includes interviews with an eclectic and articulate group of people who have come to the party to produce, DJ or just participate. Cut in with short animations, it represents a technological stand-in for actual shared experience for readers of this essay and is, in the experience of this author, broadly representative of the genre.

The Wonderland documentary begins with the set-up crew selecting a location and rigging the lighting and music stations. The arrival of people, the dance party itself (which starts during the day, continues all night and ends after dawn), and the aftermath are cut with interviews. Like the famous Burning Man Festival in the US, the Wonderland party included artwork, and sculpture, market stalls, living art, costumes and food as an holistic approach to the TAZ.

Wonderland is typical of the range of people who attend these events. Evenly distributed among the genders, it is primarily people in the 20-40 age group, though all are welcomed without discrimination. There is a high proportion of students, hippies, squatters and travelers in the party, but increasingly “seekers” from all walks of life attend, intrigued by the reports of transformational experiences. Interestingly, Wonderland and the other TAZs where EDM is played are not places for sexual conquest, but rather provide a much more personal and interior space. There is certainly a strong sense of community and the drug Ecstasy itself promotes a strong sense of camaraderie and relationship, however, the primary function of an EDM event is to allow people to be alone together.

An example from the Wonderland CD serves to illustrate some of the typical features of EDM and also to point out the sonic range and high-level of individual creativity that the genre offers once one listens past the background to the foreground detail. EDM is universally in “common time” (four beats per measure). This even pulse is because the music is essentially dance music, which alternates feet for each pulse. *Giri Mana* by Ganga Giri is in common time at a comparatively slow pulse of around 126 beats per minute.²⁶ The CD track is only 4:31 long because it is only a sample of what happened at the event. Nonetheless, this is sufficient to show Ganga Giri’s talent and

²⁵ *Welcome to Wonderland*, DVD & CD, © 2006, Short Documentaries.

<http://www.welcometowonderland.com/>. Of particular interest are the composer featurettes and extra DJ interviews, which give the musicians a chance to explain their creative processes. Brett Aplin, Sugar, Ben Last, Vegas Nerve, Kozmic Native, DJ Krusty and others composed original music for the film, and some were deejays at the live event.

²⁶ *Welcome to Wonderland* CD, track 3.

sensibilities. The following description charts what happens chronologically during the track and briefly describes the sonic content.

- 0:00 begins with drum beat, ambient forest sounds, followed by a cymbal pulse and a didgeridoo (this establishes both rhythm and tonality and suggests an essence of Australia with an indigenous instrument)
- 0:33 kick bass starts and settles into rhythmic groove with little other sound
- 0:59 transition to:
- 1:01 the real start of the piece in full effect, with wordless vocals
- 1:35 increase in sound varieties / different vocals
- 2:18 repeat of vocals from start
- 2:35 new sounds including birds chirping
- 2:50 reestablish pulse
- 2:58 new vocals
- 3:21 change of electronic sounds, more tinny regular percussion
- 4:00 repeat to beginning vocals / counter melody which becomes more prominent
- 4:31 transition to next track (which features spoken words of the title of the new track “Tempt to Take”)

In microcosm and on a reduced time scale these few minutes parallel the entire EDM event. The progressive start is typical: having a period that is preparatory to the main part of the piece is analogous to the effect of the drug kicking in (the period after ingestion before it takes full effect – for Ecstasy this is around 40-60 minutes). When the music comes up to a new level of intensity it parallels the full effects of the drug and thereafter sustains a high but modifies the sound to keep the brain engaged. On drugs of the amphetamine type (like Ecstasy) all senses can be heightened, but especially hearing, so the listening unwittingly becomes a more active participant. This kind of active listening allows the brain to experience more fully the numerous interruptions and subtle changes that take place in each track (part of the psychology of listening described below), including recognizable sounds such as birdsong and changes in digital sound such as the percussion.

Because EDM is essentially experiential listening, created for group events with specific space and situation, recordings like the Wonderland CD and DVD are an adjunct to the live event, however, this is a rapidly expanding secondary market.²⁷ The recorded versions of EDM differ in two major respects from a recording of a classical piece. First, although there is a market for recordings of specific events such as teknivals, and for sub-genres of EDM (including many internet sites such as radio stations and video sharing

²⁷ See for examples <http://www.billboard.com/features/the-beat-generation-electronic-dance-music-1005652552.story#/features/the-beat-generation-electronic-dance-music-1005652552.story>

sites which broadcast or store EDM), it is not primarily a recorded genre but a hybrid of deejaying and improvisation.²⁸ Second, because the music is created spontaneously, “composed” by a deejay in response to the unique stimulus of the occasion, repetition of the event in recorded form is usually a poor substitute for authentic experience. Although EDM is created, by definition, for group events, recordings recreate the experience in a specific type of Temporary Autonomous Zone provided by headphones and an MP3 player in a private and personal setting. This is in contrast to classical music, which has concert halls as its public listening venue but has an established audience for private listening; or chart pop, which, since the waning of disco, is essentially something to be listened to at home or work. Although intrinsically interesting, this is a new private liminal form of listening not discussed further in this essay, which concentrates instead on the primary live experience.

The influence of drugs

The physical situation (outdoors or in a large and unconventional space) is one feature of the EDM TAZ, however, probably the most significant element, that moves the act of listening to an extreme, is the use of drugs, which have a profound effect on both physiology and psychology of the participant. It is an essential interpretative key to unlocking the mystery of the transformative experience achieved by many at these events.

Commonly used drugs include marijuana, ketamine, alcohol, amphetamine (speed), LSD and magic mushrooms; however, the EDM culture is indebted in particular to one drug, Ecstasy.²⁹ Ecstasy is now primarily a recreational drug. It acts in the brain “through three main neurochemical mechanisms: blockade of serotonin reuptake, introduction of serotonin release, and induction of dopamine release.”³⁰ Its effects are, as its name suggest, ecstatic, and may include euphoria, intense empathy with other people, enhanced sensory perception, and diminished feelings of fear and anxiety.³¹ There is an interactive dynamic between the drug and the music that is greater than the sum of the two. Reynolds observes that “When large numbers of people took Ecstasy together, the

²⁸ EDM is played continuously on dedicated radio stations such as Techno.fm, and sharing sites like YouTube and Vimeo (where music videos are often uploaded replete with psychedelic graphics).

²⁹ Ecstasy (also known as E, X, Thizz, Rolls and XTC), is a Schedule 1 (US) / Class A (UK) narcotic, usually found in the form of small pills which are swallowed or occasionally snorted. It is a designer drug, which means that it mixes psychoactive ingredients in certain combinations in order to achieve a specialized “trip.”²⁹ The primary active agent is *3, 4-Methylenedioxymethamphetamine* (MDMA), although tablets may also contain other ingredients such as speed and caffeine. Tablets are differentiated by size, shape, and color; and are imprinted with a design and are thus identified by street names such as “Blue Mitsubishi,” and “Purple Buddha.”

³⁰ Jessica E. Malberg and Katherine R. Bonson, “How MDMA works in the brain,” in Julie Holland (ed.), *Ecstasy: The Complete Guide*, pp. 29-38.

³¹ Jerrold S. Meyer and Linda F. Quenzer, *Psychopharmacology: Drugs, the brain and behavior* (Massachusetts: Sinauer Associates, Inc., 2005), p. 296.

drug catalyzed a strange and wondrous atmosphere of *collective intimacy*, an electric sense of connection between complete strangers” and notes that “even more significantly, MDMA turned out to have a uniquely synergistic/synesthetic interaction with music, especially up-tempo, repetitive electronic dance music.”³² Whether narcotics enable more capacity from the brain or whether they simply suppress inhibition and enhance feelings of well-being is hard to define with any certainty. From a purely physical standpoint, it is clear that substances such as MDMA encourage the release of endorphins in the body, when combined with music, dramatically increase pleasurable feelings to the point of ecstasy.

There are currently no significant studies of the psychoacoustic response to EDM on drugs and earwitness accounts, whilst revealing at an anthropological level, do not explain what is happening at a physical level.³³ There are some relevant studies on aspects of listening, especially related to the exceptional or ecstatic experience, that do shed light on the EDM listening experience. For example, in 2005 psychologist Oliver Grewe and his colleagues published results from experiments they conducted to ascertain how highly charged emotional responses to music (which they describe as “chill” experiences or “goose bumps” or “shivers down the spine”) are aroused, and concluded that “they do not occur in a reflex-like manner, but as a result of attentive, experienced, and conscious musical enjoyment.”³⁴ This points again to a “reduced listening” for EDM where the listener learns to attend to detail. Although Grewe’s team were unable to locate a distinct chill-triggering acoustical pattern they did conclude that “strong emotions . . . are related to structural elements,” and that “important musical factors seem to be harmonic sequences, the entrance of voices, and the beginning of a new part, that is, a violation of expectancies.”³⁵ This is related to new models of expectation and fulfillment required by this music (see below). It also raises the problem of how best to define the influence of music on emotion in the particular circumstances of a teknival.³⁶

Robin Sylvan, developing a theoretical framework for understanding the spiritual dimensions of different types of popular music, suggests that music is “the vehicle par excellence for conveying religious experience and meaning.”³⁷ Sylvan has summarized the effects of this numinous encounter at different levels and his conclusions are directly applicable to EDM:

³² Reynolds, *Generation Ecstasy*, p. 83.

³³ For general studies on the effects of MDMA see: <http://www.maps.org/research/>.

³⁴ Oliver Grewe, Frederik Nagel, Reinhard Kopiez and Eckart Altenmüller, “How does music arouse “chills”? Investigating strong emotions, combining psychological, physiological and psychoacoustical methods, *Annals of the New York Academy of Science* 1060: 446-449 (2005), p. 446.

³⁵ *Ibid.*, p. 447.

³⁶ For a summary of recent related theories see: Alf Gabrielsson and Erik Lindström, “The influence of musical structure on emotional expression,” in *Music and Emotion: Theory and Research* (Oxford: OUP, 2001), pp. 223-48.

³⁷ Sylvan, *Trance Formation*, p. 55.

At the physiological level, it affects the body and its subsystems; at the psychological level, it affects the structure of the psyche and the state of consciousness; at the sociocultural level, it affects and reflects the social order and the cultural paradigms; at the semiological level, it provides symbolic structures which create affective meaning systems; at the virtual level, it creates compelling temporal and spatial worlds into which one is drawn; at the ritual level, it fits into a larger set of ritual activities, with their own functions and purposes; and, finally, at the spiritual or religious level, it establishes a link to the spiritual world and the contours and dynamics of that world. Moreover, music affects people in all of these ways simultaneously, integrating all these levels into a harmonious whole that is greater than the sum of the parts.³⁸

In his broadly encompassing book *Music, the Brain and Ecstasy*, Robert Jourdain surveys some of the leading issues in music and neuroscience. In the last two chapters he turns to the fundamental questions regarding the remarkable power of music: “how is it that music takes hold of us, rattles us to the core, and somehow speaks to us in a way that words cannot.”³⁹ He defines this as an ecstatic experience, noting that, “A defining trait of ecstasy is its *immediacy*. Ecstasy is not some splendid event, like a ravishing sunset, that happens in the external world before our eyes and ears. Ecstasy happens to our *selves*. It is a momentary transformation of the knower, not merely a transformation of the knower’s experience (although exceptional experience is often required to bring ecstasy on).”⁴⁰

With such a huge payoff it is not surprising that frequenting EDM events may become habitual as people seek to re-experience ecstasy or at least reanimate the original feeling. It would confirm the notion that the people who participate in EDM events have expectations of the experience that are beyond the ordinary. Philosopher Charles Taylor describes this type of extraordinary activity as one of fullness:

We all see our lives, and/or the space wherein we live our lives, as having a certain moral/spiritual shape. Somewhere, in some activity, or condition, lies a fullness, a richness; that is, in that place (activity or condition), life is fuller, richer, deeper, more worthwhile, more admirable, more of what it should be. This is perhaps a place of power: we often experience this as deeply moving, as inspiring. Perhaps this sense of fullness is something

³⁸ Robin Sylvan, *Traces of the Spirit: The Religious Dimensions of Popular Music* (New York: The New York University Press, 2002), p. 42.

³⁹ Robert Jourdain, *Music, the Brain and Ecstasy* (New York: W. Morrow and Co., 1998), p. xiii.

⁴⁰ *Ibid.*, p. 327.

we just catch glimpses of from far off; we have the powerful intuition of what fullness would be, were we to be in that condition, e.g., of peace or wholeness; or able to act on that level, of integrity or generosity or abandonment or self-forgetfulness. But sometimes there will be moments of experienced fullness, of joy and fulfillment, where we feel ourselves there.⁴¹

Taylor is not specifically referring to an EDM event, but his description amply covers the essential goal of attendance and is corroborated by people at the Wonderland teknival. Ami, one of the interviewees in the documentary, remarks that “if the music is good it will take you to that place,” and describes Wonderland as the “entry point to another world.”⁴² Sally, another Wonderland participant, said she believed that people come to “embrace their freedom” and that “people draw strength from it.”⁴³ The entire discourse in the documentary is similar and, although it may have been edited to demonstrate a point of view, there is a unity of response with other anthropological research of teknivals and dance parties.⁴⁴ A sense of communion with the divine is expressed in EDM events not through a momentary illumination of the mind but an atemporal period of ecstasy that brings the listener to the frontiers of what cannot be spoken.⁴⁵

Discussing raves, a specific type of EDM TAZ heavily influenced by the consumption of Ecstasy, Sylvan identifies three specific features that are applicable to most EDM events. He suggests that they:

provide a form of ritual activity and communal ceremony that regularly and reliably produces such experiences through concrete practices. But it goes even further than that: Raves also provide a philosophy and worldview that makes sense of these experiences and translates them into a code for living, a map for integrating the transformative experience into concrete details of day-to-day life. And, last but not least, raves provide a sense of community, a cultural identity, and an alternative social structure that exists in the “real world” outside of the rave.⁴⁶

⁴¹ Charles Taylor, *A Secular Age* (Cambridge, MA: Harvard University Press, 2007), p. 5.

⁴² *Welcome to Wonderland*, DVD.

⁴³ Ibid.

⁴⁴ See for example Graham St. John’s article “Neotrance and the Psychedelic Festival” and his extensive bibliography in *Dancecult: Journal of Electronic Dance Music Culture*, Vol. 1, No. 1; available online at <http://dj.dancecult.net/index.php/journal/article/view/11/35>.

⁴⁵ The description of the sought-after experience as “ecstatic,” is true both in the sense of overpowering emotion and of being taken out of one’s self or one’s normal state. The TAZ sets the physical “safe space,” EDM enhances dissociation with the norm so that rapturous delight might enter.

⁴⁶ Sylvan, *Traces of the Spirit*, p. 4. What Sylvan calls “experiences” I am suggesting are often numinous encounters.

Listening to EDM is clearly associated with ritual activity as well as with personal worldview and personal identity. Music is the cohesive in this holistic experience: without drugs the experience may be diminished, but without music it would not exist. The question “Does this music make sense only when the listener is under the influence?” is often asked by critics and both by those who partake of narcotics and those who don’t. The response is obviously no, since the music can make sense on many levels, but, as Reynolds suggests, “rave culture as a whole is barely conceivable without drugs, or at least without drug metaphors: by itself, the music *drugs* the listener.”⁴⁷

Although it isn’t necessary to take drugs to listen to EDM, it is certainly a critical factor in understanding some of the aims of this music and some of the psychology of composition. The following therefore considers extreme listening at the limits of brain capacity that has been enhanced by drugs. Under the influence of drugs, the psychology of melodic expectation and fulfillment (what music theorist Eugene Narmour called the implication-realization model) is radically changed.⁴⁸ There is a new set of rules. Those who do not take drugs accept the new rules as the norm, though if a listener has never experienced the music on drugs the experience is obviously different and perhaps less complete. Once started, any piece of music sets up implications for what is to follow, and the success of the piece is dependent on how these expectations are realized. EDM generally only has small violations of expectation with deviations that prevent the brain habituating to the rhythm while at the same time providing music that has coherence.

During the act of listening, especially to something as complex as EDM, the primary auditory cortex has too much information to handle so there is a selection process, a reduction in the listening process that limits what is processed. EDM’s reliance on repetition (pulse, key, tempo) eradicates the need to keep decoding the background information and frees the mind to find another message, which communicates on a different level, a mentalese that bypasses verbal encryption at the encoding and decoding stages.⁴⁹ Repetition helps the listener fall into the groove of expectation because the important information happens more at the surface level. Jourdain neatly summarizes what is, in essence the same theory posited by Narmour: “Everything we do, including grasping a moment of music, commences with a kind of fleeting hypothesis that is confirmed or disconfirmed; every subtle mismatch is countered by adjustments to the

⁴⁷ Reynolds, *Generation Ecstasy*, p. 8.

⁴⁸ Narmour’s work is set out in two texts: *The Analysis and Cognition of Basic Melodic Structures: The Implication-Realization Model* (Chicago: University of Chicago Press, 1990), and *The Analysis and Cognition of Melodic Complexity: The Implication-Realization Model* (Chicago: University of Chicago Press, 1992).

⁴⁹ Cognitive scientist Pinker defines “mentalese” as follows: “The hypothetical ‘language of thought,’ or representation of concepts and propositions in the brain in which ideas, including the meanings of words and sentences, are couched.” Steven Pinker *The Language Instinct* (New York: W. Morrow and Co., 1994), p. 509.

next anticipation. We perceive music only as well as we can predict what's coming, for to predict is to model the deep relations that hold music together."⁵⁰ The success of "Scary Monsters and Nice Sprites," the 2010 Grammy winning EP by Skrillex, is largely predicated on these subtle mismatches and anticipations.⁵¹ It starts with a repetitive electronic tune after which indistinguishable words are heard intercut with a vocal sample of a woman shouting "Yes, Oh my God," and some evocative electronic sounds. These elements are repeated sequentially but with subtle changes for each repeat and are not of equal length, so the changes are unexpected. Towards the end of the EP actual words are distinguishable and the piece ends with a hiccupping distortion of the primary melody.

Peter Burkholder has posited a simple model for associative musical meaning, which is useful for analyzing the ways people hear EDM in the way that Jourdain has described and Skrillex has put into effect.⁵² Burkholder suggest that there are five stages when we listen to music:

1. We recognize and focus on what is familiar in the music.
2. For each element we recognize, we carry certain [primary] associations with it, based on other occasions we have encountered it.
3. Once we have been reminded of other music or of some musical concept, these associations themselves are likely to carry other [secondary] associations.
4. Having recognized that which is familiar, and having experienced these two levels of association, the listener then observes how those familiar elements are manipulated or are juxtaposed with new elements in order to say something new.
5. Finally, the listener interprets all this information, including the associations aroused and the changes or new elements that are introduced.⁵³

Successful EDM relies on the skill with which the deejay understands the effects of what they are composing. With EDM the frame of reference is heavily self-referential. The deejay will work within the framework of familiarity with sounds of the average listener so that they can manipulate and juxtapose common elements with new ones in a way that invokes interesting primary and secondary associations for the listener in a meaningful way. Skrillex is particularly masterful at this in a way that satisfies both the hard-core

⁵⁰ Jourdain, *Music, the Brain and Ecstasy*, p. 302.

⁵¹ The song reached No. 3 in the 2012 US Billboard for Heatseekers. The official YouTube version had been viewed nearly 88 million times at the end of June 2012. The YouTube version is the one described here.

⁵² J. Peter Burkholder, "A Simple Model for Associative Musical Meaning," in Byron Almé and Edward Pearsall (eds), *Approaches to Meaning in Music* (Bloomington: Indiana University Press, 2006), pp. 76-106.

⁵³ *Ibid.*, p. 78.

listener and the neophyte since he has an extraordinary ability to utilize pleasant sounds and to make the changes in a wholly pleasing way even within the confines of the EP format.

Because of the effect of MDMA and other ‘night club drugs’ on the brain, smaller musical events, phrases and formal designs are given difference emphasis in the cognitive process. Experienced EDM fans become expert at listening and, as Robert Jourdain notes, “The expert listener does not merely perceive notes passing by, but totes along armfuls of fragments for use moments later. These memories are largely the responsibility of the frontal lobes, which act upon the auditory cortex to maintain observed relations for many seconds when they would otherwise fade away.”⁵⁴

This structure is deeply connected to the music being primarily for dancing. It points again to a type of “reduced listening” which concentrates directly on the sound object but does not impede any physical response and is in marked contrast to passive listening to other types of music (particularly classical music), where physical response is actively discouraged. Commentator Jimi Fritz points that “With conventional music, we listen to the form and follow the lyrics, but with rave music there is no beginning or end. The music is cyclical and continuous and acts more as a catalyst for our own personal inner journey, more a transportation system than an end in itself.”⁵⁵ He concludes that, “Rave music is specifically designed to make you move your body.”⁵⁶

Certain primitive types of dance have developed in response to EDM. There is no choreography for this music in the same way there is for disco, for example, rather there is a return to basic rhythmic movement with some sense of abandonment. As Reynolds suggests, “Robotnik vacancy, voodoo delirium, whirling dervishes, zombiedom, marionettes, slaves to the rhythm: the metaphors that house music and “jacking” irresistibly invite all contained the notion of becoming less human.”⁵⁷ While the act of making EDM is disembodied the response it elicits is deeply embodied, however, Jourdain believes that “there is no obvious evolutionary reason why the intricate patterns of sound that make up music should continuously unfold in our musculatures.”⁵⁸ This suggests that drugs play an important role in changing the brain’s response to the stimulus.

Listening also implies language and communication. We listen to music to experience its “meaning,” and for how it makes us feel. Critics of EDM describe it as

⁵⁴ Robert Jourdain, *Music the Brain and Ecstasy*, p. 265.

⁵⁵ Jimi Fritz, *Rave Culture: An Insider’s View* (Victoria, British Columbia: SmallFry, 1999), p. 76.

⁵⁶ Ibid.

⁵⁷ Reynolds, *Generation Ecstasy*, p. 29.

⁵⁸ Jourdain, *Music the Brain and Ecstasy*, p. 325.

anti-intellectual, but this is a misconception resulting from the application of the wrong criteria of judgment to analysis and the role of expectation in this music.⁵⁹

It is common to categorize listening by categories that describe the degree of participation and the required response of the listener: active, passive, informational, reflective, dialogic and so on.⁶⁰ The general descriptor for the activity of listening to music is *appreciative* listening since the primary role of the listener is to appreciate the sounds (an essentially passive response) rather than to be required to verbalize any understanding. Appreciative listening to music does not require verbal response, it frequently does not use words to relate meaning (particularly in EDM which is largely textless), and it doesn't rely on human interaction at the level of identifying non-aural cues.

In contrast to most other forms of popular music, which opt for consonance and thin textures in order to make the text audible, much EDM is instrumental because the chemically altered brain processes verbal communication in different ways and words are a distraction from a different kind of higher-level functioning.⁶¹ There are other reasons that this music is largely textless, including the primary use of electronically produced sound that has conventionally avoided adding the human voice speaking or singing comprehensible text. Words and vocalization may be used, but are usually manipulated to the point of incomprehensibility. Sampled text clips (from movies or famous speeches, for example) are often used as memory interrupters, functioning to shift the focus of the brain from the repetitive musical narrative and to maximize the associated meaning of text excerpts that have wide cultural impact (for example, Martin Luther King's "I have a dream speech").

EDM has titles that reflect the drug culture that engendered it, but they often offer little or no clue as to content. For example, for tracks on the *Welcome to Wonderland* CD some are private references (*Big Electric Rabbits* by Sugar); some are a mystery (*Tetrapod* by Tristan Cooke), while some acknowledge existing musical genres (*Boogie Mama* by Engage) or the general style and occasion (*Bush Dreaming* by Brett Aplin, which is a trance- / ambient-style piece). This is a useful way of reducing or eliminating

⁵⁹ This review by Rich Juzwiak is typical of the type of criticism outsiders level at EDM in general and the nonstop dance party in particular. See <http://gawker.com/5913180/dance-dance-dissolution-the-electric-daisy-carnivals-fresh-hell> [accessed January 2013].

⁶⁰ See, for example, Andrew Wolvin and Carolyn Coakley, *Listening* (Madison, WI: William C. Brown Publishers, 1992).

⁶¹ The growing field of music and cognition has discovered much about the way the brain perceives music. See, for example, C.L. Krumhansl "Music: A link between cognition and emotion" in *Current Directions in Psychological Science* 11, 2002, (2): 45-50; Daniel Levitin, *This is Your Brain on Music* (London: Penguin Books, 2006); and Isabelle Peretz, "Music cognition in the brain of the majority: Autonomy and fractionation of the music recognition system" in *The Handbook of Cognitive Neuropsychology* (B. Rapp, ed), (Hove, UK: Psychology Press, 2000), pp. 519-540. There have also been an increasing number of scientific studies on the effects of MDMA which can be accessed via the MAPS Psychedelic Bibliography at <http://www.maps.org/sys/w3pb.pl>.

expectation of the content of a piece based on associations with words in a title, thereby freeing the mind to receive the music with a different kind of anticipation.

Jourdain correctly posits that “the deepest pleasure in music comes with deviation from the expected: dissonances, syncopations, kinks in melodic contour, sudden booms and silences,” and suggests that all these deviations “serve to set up an even stronger resolution” which is even more satisfying precisely because of the deviations.⁶² Simply put, “banal music raises common anticipations then immediately satisfies them with obvious resolutions” whereas “[w]ell-written music takes its good time satisfying anticipations. It teases, repeatedly instigating an anticipation and hinting at its satisfaction, sometimes swooping toward a resolution only to hold back with false cadence.”⁶³ It is this subtlety that raises the music of Skrillex above much other EDM since his technique and innovation combined with an uncanny ear for the unusual and an extraordinary sense of timing encourage a certain kind of deep listening from his audience.

Jourdain believes that because of the way the nervous system functions in its response to pain and pleasure, “the art in writing such music lies less in devising resolutions than in heightening anticipations to preternatural levels” and concludes that, “the same basic mechanism applies to all pleasures, artistic or otherwise, for the simple reason that this mechanism is pleasure.”⁶⁴ This is the key point to the success of EDM: the deep pleasure it engenders is predicated on a background canvas that is highly regularized through repetition of musical features. The principal musical content is all foreground material, full of deviations and heightened anticipations. Deejays are constantly devising new ways to reengage the (chemically enhanced) brain so that over extended time periods there is a satisfying mixture of anticipation and resolution. EDM must provide sufficient stimulus for appreciative listening and this music has to be pleasing on both physical and psychological levels so that it can encourage and support a transformational experience.

Electronic Dance Music is endlessly fascinating as it invades and occupies, reseeding a cultural wasteland. As it mutates and expands it sweeps up the post-tweens, and draws the hippie back in. It provides anyone who wants to participate a way to negotiate personal space for esoteric listening that has as its goal some enduring sense of fullness.

Jourdain has encapsulated exactly what it is that makes this music so extraordinary and so popular:

⁶² Jourdain, *Music the Brain and Ecstasy*, p. 319. Jourdain is not specifically writing about EDM, however, his description is apt.

⁶³ Ibid.

⁶⁴ Ibid.

Many people say that it is beauty alone that draws them to music. But great music brings even more. By providing the brain with an artificial environment, and forcing it through that environment in controlled ways, music imparts the means of experiencing relations far deeper than we encounter in our everyday lives. When music is written with genius, every event is carefully selected to build the substructure for exceptionally deep relations. No resource is wasted, no distractions are allowed. [...] We respond not just to the beauty of the sustained deep relations that are revealed, but also to the fact of our perceiving them. As our brains are thrown into overdrive, we feel our very existence expand and realize that we can be more than we normally are, and that the world is more than it seems.⁶⁵

Because its essential elements are basic and therefore at a fundamental level able to be understood by a large population, EDM has been important in establishing a cultural space and medium of identity and is therefore the music of an idealized globalization. Ultimately, EDM helps the individual reconstruct self out of “ontological anarchy” (another term from Bey, that describes a possible psychological mindset provided by the Temporary Autonomous Zone). Although EDM has been dismissed as facile and undistinguished, it is ultimately a pervasive popular music that invites innovation and inspiration from its creators and an esoteric and engrossed mode of perceiving sound from its listeners.

⁶⁵ Jourdain, *Music the Brain and Ecstasy*, p. 331