

Flocking and the Emergence of Genre in Post-Digital Music

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Network as constellation

Points, stars, nodes, humans...all of these individual elements achieve meaning when they are organized into patterns.

When humans first gazed up at the stars they were unable to make sense of what they saw, but after long periods of observation they noticed these tiny points of light occupied a different position of the night sky during the different seasons. They arranged these points of light into patterns and used them to know when to plant and harvest their crops. When we look at the stars today we «see» the Hunter (*Orion*), both of his hunting dogs (*Canis Major* and *Canis Minor*) etc. Because communities learned to identify, store and recall the state of the heavens for physical survival these patterns have become entrenched in our collective knowledge after being handed down for thousands of years.

Humans organize data into patterns to distinguish one set of data from another. A pattern acts as an encapsulation that enables easier mental storage and recall. This method of storing large chunks of information is indicative of the way the human mind organizes data from its surroundings: by pattern recognition.

Many of the patterns we form today behave as dynamic networks. All networks exchange energy and/or information. The role each node plays in a network is similar to a gear: each gear acts alone, its energy output determined by its size and the number of teeth

it contains. But in concert, a gear's energy contributes to a larger task such as moving a vehicle or telling time. The sum is greater than the individual parts. It is this network behavior that forms a task-oriented or solution-based system.

While a mechanical system of gears is static, i.e. the size and number of teeth of a gear and the number of gears is predetermined, computer software is able to dynamically shape-shift based on the needs of the user. A computer network such as the internet provides us with a working example of how individual nodes—in this case, computers with humans attached to them—arrange themselves into a dynamic 'constellation' of patterns. This 'constellation of human nodes' is essentially a network that shapes itself and adapts to the requirements of the people operating within that system. These nodes make connections with other nodes, exchange information, appear and disappear, resulting in the formation of a dynamic network of complex behavior. This model serves as an abstraction for flow, growth, and movement.

Genres as flocks

While the model of a constellation provides an interesting way to examine how networks form from seemingly arbitrary information, it is the flock – a dynamic network – which provides us with a better model of the formation and behavior of genres within electronic music. Because electronic musicians were enthusiastic early adopters of technologies such as the internet, the network facilitated

the spread of not only information, but software, content and communities. In many respects, these communities behave very much like a flock of birds. This flocking behavior, enabled by a network, kick-started the rapid development of sub-genres within electronic music communities. In the context of electronic music a flock consists of a cluster of individual nodes that generate content. Content can consist of a sound file, a software instrument, an algorithm, an idea or information. Because no single node in a flock determines its overall behavior, a flock is not a hierarchical organization but a decentralized one. A flock exhibits the properties of an individual organism via the emergence of a group behavior. When we see a flock of birds we group the birds into a single pattern containing the properties of shape and behavior. We cognitively encapsulate a flock into a synchronized, moving mass of individuals.

Of course there are exceptions to this model when we examine how musical genres form. There are single artists who have initiated the formation of a genre by establishing an initial set of codes and symbols which are reinforced by a hierarchical (one-to-many) network of record distribution and music journalism. But in general, the formation and behavior of genre, as facilitated by the internet, resembles the behavior of a decentralized flock. Where individual actions are distributed or reflected throughout the flock by each member following a set of simple rules.

Let's explore a probable example of how this model might work in the genre of «post-digital» music. But first let me define the term post-digital music: a style of music created with audio software utilizing and foregrounding technical glitches, mistakes and/or artifacts as a device for critiquing the perceived technical perfection of digital audio. Now let us return to our example. An artist releases

material that makes use of a technique or a sound that is new and distinct. The artist belongs to an email list centered around post-digital music. She posts an announcement to the list that she has composed new material, is making it available for downloading and is looking for feedback on it. List members download the material and an exchange of information takes place between the nodes or members on the list. As people post opinions and critiques of the material some are inspired to create new material using similar techniques to the artist. These members then make their work available which in turn establishes and reinforces the new codes derived from the original work. The list unknowingly facilitates the development of these codes via this process and as a result they become central to this new style. As the style becomes more popular among the members it exhibits an emergent quality and grows into a genre. The genre's overall sound, while based on a single catalyst, has now grown into a organism shaped by all the members through the exchange of information and content (embodied energy). In short, a group of nodes assembles and follows a set of simple rules which creates emergent behaviors. These simple rules are the basis of all flocking behavior: alignment, separation and cohesion.

Let me briefly explain these rules by comparing the behavior of birds to the behavior of a newly forming genre. Alignment means steering towards the average heading of local flock mates and matching its velocity. In genre formation this occurs by the adoption of transmitted codes from flock mates that define the rules and behaviors of a genre. For example, a musician adopts the codes and rules of Rock music by imitating established musicians and composes music aurally identified as belonging to that particular genre.

Separation means to avoid crowding or collision with local flock mates. In a musical genre

this translates to maintaining an autonomy based on individual aesthetics that imparts a unique and distinguishing aesthetic to an artist's content. A piece or song is identified as belonging to both a genre of music and an individual artist.

Cohesion means to move toward the average position of local flock mates; flock centering. In genre formation it means that, in order to be associated with a genre, an artist must maintain creative proximity to its core codes and rules. A Rock piece performed by operatic singer and 19th Century brass ensemble, while perhaps a novelty, would not generally be considered as belonging to the genre of Rock.

While there are additional rules involved in flocking, I have chosen these three to illustrate my point and construct a model of sub-genre formation within post-digital music.

Precursors and mechanisms

Prior to the adoption of the internet, musicians were primarily categorized by the record label they recorded for, and the genre an artist is filed under at the record shop. Many indie record labels specialize in a style of music such as hardcore, industrial, techno, etc. and music journalists create quirky names for these styles in order to encapsulate them for easy reference. A genre's name is often derived from street slang, an overall sound or the place of origin but many times a name is picked up by music journalists looking to 'discover' the latest musical trend by being the first to write about it.

Today the internet offers a dense network of communication channels consisting of mp3 servers, peer-to-peer file trading, news-groups, email lists, web forums, chat rooms, web sites, blogs, online music magazines, music portals, and fan sites. These channels exchange so much information that a blur-

ring effect occurs in the division between fan and journalist. As many music blogs make evident: professional writers and fans are often one and the same. The internet can singlehandedly spawn, nurture, promote, publish, inform, form communities, critique, flame, and deconstruct a genre of music through the exchange of information, tools and content.

An emergent sub-genre of electronic music constructed via the exchanges within a flocking community becomes the «star» while most of the individual artists remain faceless – often deliberately obscured by DJ or project names. Because of this facelessness the life span of any one artist tends to be shorter than the lifespan of the overall genre. As nodes leave the flock, they are replaced by others waiting to take their place, giving the appearance of a dynamic shape-shifting contour which we identify as a genre.

For a community to exhibit flocking behavior it must maintain a balance between the behavior of individual nodes and the emergent behavior of the overall flock. The same holds true in the formation of musical genres: while an artist will express a unique vision through their work, they still adhere to rules and codes which establish a commonality, cohesion or an identifying element. When many nodes within a community are connected in a dynamic network the emergent property of flocking occurs and establishes a set of codes and behaviors. These codes reinforce and mutate into an organism called a genre (or sub-genre) whose energy is the cumulative sum of the disposable and temporary parts or nodes. The medium is no longer the message; the genre has become the message.



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