

# FPA 147

## composition

For some of you, the notion of composition may be somewhat intimidating. Composers (and other artists) in our society are sometimes seen as gifted individuals who have a natural talent to express something profound. While there may be a few such artists, any form of artistic expression involves a great deal of craft. Inspiration may be difficult to come by, but craft may be learned.

This unit demystifies composition. The discussion will not be restricted to electroacoustic music; it will be expanded to include both acoustic composition and popular music in order to show the general strategies.

# Basic Principles 1

In creating music, we are ordering events in time. The actual events may differ between styles, but the principle is the same in all forms of music. For example, an event may be a snare drum hit, a chord played on a pipe organ, a strum of a West African cora, or a filtered and reversed train recording.

In music, there are several possibilities after the first event:

- It occurs again.

- It occurs again in an altered state.

- A new event appears (the new event may be silence—piece over!).

*In creating a musical composition, we can use any of these possibilities.*

# Basic Principles 2

Create an event. Then:

- ❖ Repeat
- ❖ Repeat with variation
- ❖ New event (includes silence)

If you use only the first technique, you have a very unified piece (everything relates perfectly to everything else because it is the same) but no variation and thus no interest.

If you use only the third, you have tremendous variation (everything is different from everything else) but no unity.

The second possibility offers a balance, since it has elements of number one (it is the same material) and number three (it is varied in some way).

But using only technique number two (variations) may produce the same results as number one— a compendium of possible variations.

All good music requires a balance between unity and variation, expectation and surprise.

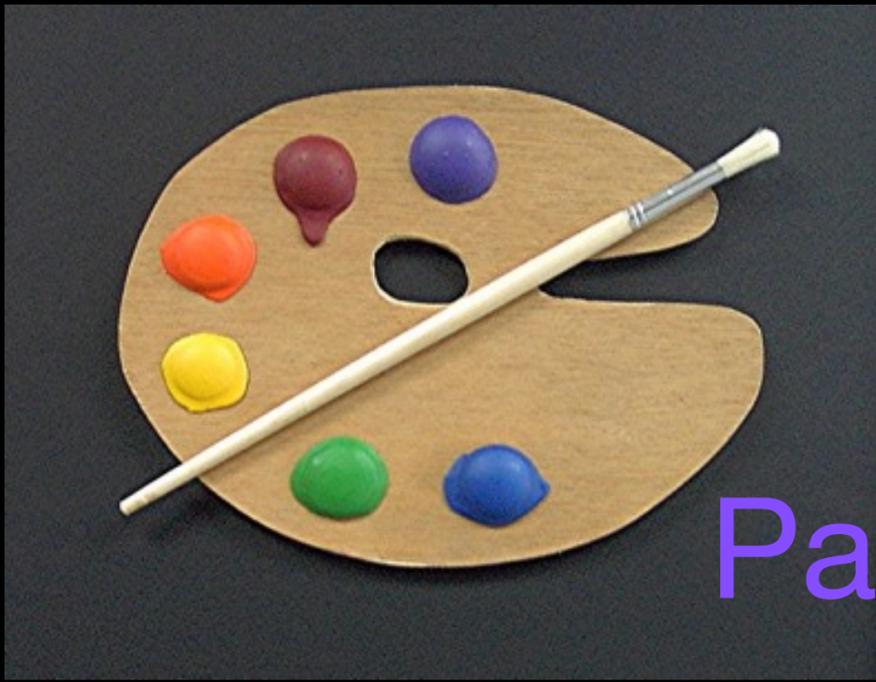
# Strategies

Therefore, we need an overall strategy or strategies to guide our decisions, a macro plan that deals with event-to-event decisions. Selecting the events themselves, and choosing which one to use at a given time, are the micro decisions.



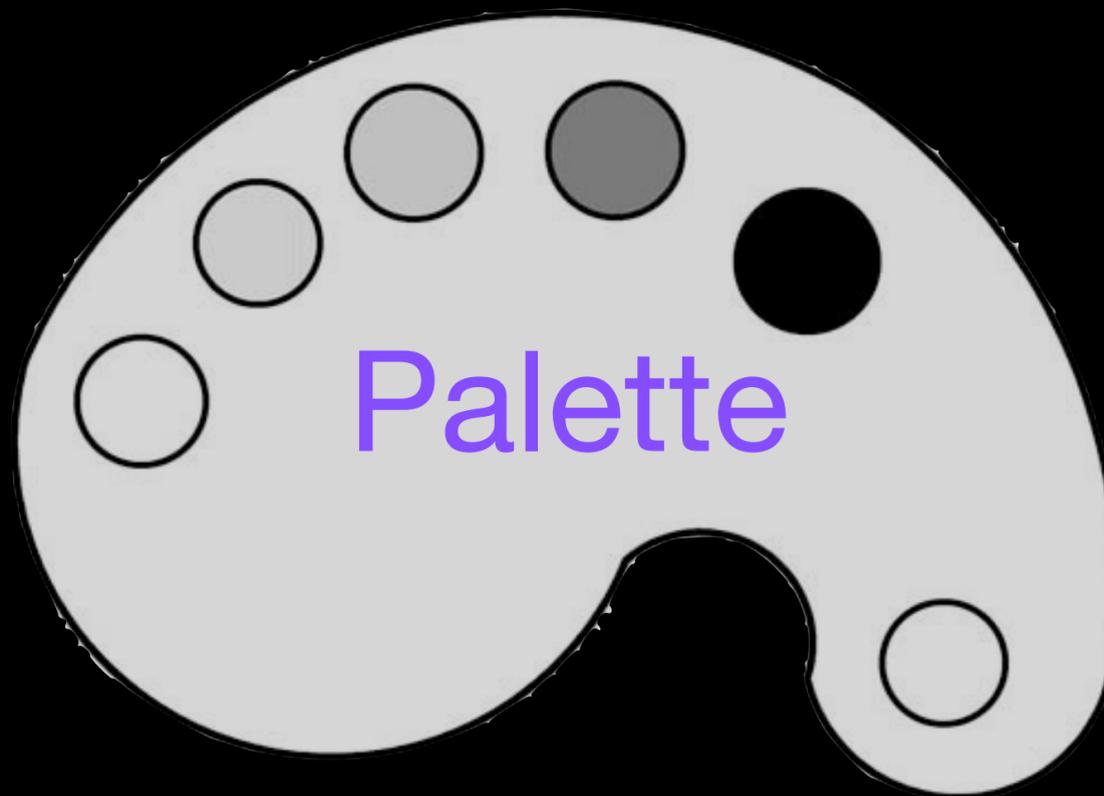
# Palette

The macro plan considers the range of sounds that can be used. In most music, the ensemble, or group of instruments that will perform the music, limits this range. If you were writing for a piano, for example, you would know what its capabilities were. In the twentieth century, composers began to look for more sounds that could be derived from traditional instruments; for example, composers explored the inside of a piano as well as the normal way it is played. Despite their experimental philosophies, these composers knew that they couldn't have a filtered reversed train sound in the middle of a composition for the piano, even a composition as radical as one that explored the sounds produced from the inside of a piano. Despite the new timbral resources they were exploring, works for piano were limited to the actual sounds of the piano.



# Palette

In electroacoustic music, the range of sounds is not limited, since we are not composing for a specific instrument. Thus, it is perfectly conceivable to have a filtered reversed train, a strummed African cora, a snare drum hit, and a pipe organ chord all contained within the same electroacoustic work.



One strategy that artists have implemented throughout history is to restrict possibilities. For example, when a painter begins a painting, he or she can use absolutely any colour imaginable. But instead of purchasing paint tubes of every available colour, a painter begins with a few limited colours and mixes shades and variations of these colours together on a palette while creating the work. As creators of sound-paintings, electroacoustic composers can also consider the possibility of restricting their palettes to limited numbers of sounds, and creating variations upon these sounds for their pieces.

# Larger Concepts: *Methods & Materials*

Anything that is created, from art to apartments, uses a combination of materials and methods. Materials are what the object is made from, whereas methods are how the object is put together. In Acoustic Music: In traditional acoustic music—be it a folk song or a South Indian rag—the materials are the notes. They may be single notes combined in a horizontal fashion (in time) to create melodies, or they may be combined in a vertical fashion to create harmony. In either case, the notes are the raw building blocks.

The methods used to combine these notes determine the music's style. For example, the individual notes of a children's song are the same ones Beethoven used in his greatest symphonies, and they are also the same as those used by the Beatles or Radiohead. But in each case, there are rules—whether explicitly stated or implicitly understood—that govern their combinations.

# Development/Variation

One implicit rule is that there will be development and variation; you can repeat material only a certain number of times before it gets boring. Within pop music, this time limit has resulted in a three-minute standard for compositions; any further repetition of the limited materials causes the listener to lose interest.

# Development/Variation

Thus, music that exceeds three minutes in length requires development, which in turn requires methods that vary material. Some simple forms of development are changes of key (large-scale harmonic shifts), slowing material down or speeding it up, altering the internal relationships of the material (melodic and rhythmic variation).

## *In electroacoustic music*

In electroacoustic music, our material extends beyond notes to include all possibilities of sound events. Thus, the traditional methods of (pitch) organization are not directly applicable. Instead, the method might involve multiple iterations through a process:

# UNITY

Without it, the listener will not hear the relationships between events, and the music will sound like an unordered sonic mess, or collage. Unity can be achieved through the use of both material and method. Choosing a small palette of original timbres, or perhaps generating the work from one or two sources, might achieve unity of material. An example is Pierre Henry's "Variations for a Door and a Sigh," which is limited to the two sound sources of the title.

Applying the same process to a variety of material constitutes unity of method. For example, several source sounds can be put through the same filtering process.

The following rule cannot be stressed too strongly:

*When music balances predictability (unity) with surprise (variety), the listener is more easily engaged.*

When you are creating a musical work, electroacoustic or otherwise, it should be cohesive. In other words, it should sound like one piece rather than several opposing ideas strung together. However, this cohesiveness should not extend to the point where the listener loses interest.

# *micro & macro structure*

Event-to-event relationships (whether note to note in acoustic music or sound event to sound event in electroacoustic music) are considered microstructure. Microstructure results in the most immediate response by listeners, since they most easily hear the relationship between two events that occur one right after the other. (Opening of "Satisfaction")



# *macro structure or form*

Such changes allow the listener to perceive sections. These sections can be abstract lengths of time or definite lengths that make up a verse or chorus in a pop song.

The relationship of different sections is the macrostructure (or form). Form is the overall outline of the work—the relationship of sections (new sections versus repetitions). All music has form, since all music occurs in time. Form may be very complex—for example, a Beethoven symphony—or very simple—for example, a children's song.

To understand form, we need to distinguish the different sections within a piece of music.

# *popular music form*

## the introduction

The introduction establishes the key, tempo, mood, and even style of the song. All of these elements may be considered background once the song is established; however, since they are new to the listener, they are usually presented on their own, without any foreground text (words). Foreground and background will be considered in detail later.

The introduction establishes the background elements, but it also heightens expectations. For example, when will the singer begin?

# *popular music form*

## the verse

The verse often contains the same music as the introduction. The main change is the addition of words, creating a balance between repetition (the same music) and variation (words are added).

The verse will occur several times in the song, with new words but the same music each time. Again, this is a balance between unity and variation.

# *popular music form*

## the chorus

The chorus serves two purposes. First, it often contains the hook, or the catchiest part of the song. Traditionally, the chorus was the point in the song where everyone (the chorus of voices) joined in. Second, the chorus must be not only recognizable, but also unvarying. The chorus thus bears an interesting relationship to the verse: it is usually a large-scale change from the verse, since both the music and the lyrics are changed, but because it is repeated several times within the song, it remains unchanged. It thus offers both variation (on the micro-level in relation to the verse) and unity (on the macro-level in relation to its repetition within the song).

# *popular music form*

## the bridge

Another large section is the bridge, which occurs between two choruses or between a chorus and a verse. Rather than placing another verse between the choruses, the composer uses a large-scale sectional change to give greater variation to the macro-structure. The bridge is somewhat unexpected, since it presents new material in the middle of the song. When it does occur, it offers variation both on the micro-level (it's different from what came immediately before) as well as the macro-level (it's a section that hasn't been heard before).

# *the song form*

Intro / verse / verse / chorus / verse /  
chorus / bridge / chorus / out (chorus  
fade...)

This is a standard song form; many variations exist.

One reason why popular music continues to use this form lies in its very predictability.

Form allows the listener to know where he or she is in the music.

For example, when you hear the chorus repeat over and over, you know the song is about to end. Similarly, when you hear the alternation of two chords (the dominant and tonic) at the end of a classical symphony, you know you are at the end of the work. In either case, there is no doubt about when the composition is over.

## *“new” classical music*

One criticism levelled against modern music (European art music from about 1940 to 1975) is that audiences don't know where they are in the music. (You may have witnessed an embarrassed silence at the end of a modern composition because the audience doesn't know whether or not it's time to clap.) The loss of a formal roadmap from the audience's inability to infer sections, repetition, and overall form in the music. Prior to the twentieth century, form in classical music was almost as predictable as it is in today's pop music, and endings were very obvious.



## “Architectural” Form

Some styles of music (both popular and serious) view form as a mould into which the music is poured. For example, it has been noted that pop composer Bryan Adams sometimes writes bridges for songs that do not yet exist. Later, when he is writing verses and choruses and needs a bridge, he can dip into his precomposed bridges and find one that is useable. Similarly, form in classical music before the twentieth century was predefined, and music was created to fit within it. Sometimes form is quite obvious (as in the song form earlier); at other times it is more hidden.



## “Architectural” Form

### Brian Eno's Discrete Music

For example, in Brian Eno's "Discrete Music," which used the process of a tape loop across two tape recorders, the form was created out of the process itself. He played material on the synthesizer, creating evolving textures out of the feedback loops. At a certain point, he decided that the process had run its course or that he had garnered as much variation out of the process as he could. At that point, the composition was complete.

# “Architectural” Form



In Reich's "Come Out", (played earlier in the semester) the important formal principle is that the process is clearly laid out for the listener. As you hear the development of the material (micro-structure), you soon realize that no big change will occur, and so you can foresee the overall form. This understanding refocuses the ear to the ever-changing timbres and the ever-shifting rhythms.

# *External form*

Form and structure can also be derived from an external source or an extra-musical component, such as a poem.

One example already discussed is the elektronische musik works from the 1950s and 1960s that were based upon serialism. For the most part, the structure of these works was determined beforehand, and the composers had to create sounds that fulfilled the formal requirements.

A more organic use of external form is Barry Truax's 1979 work, "The Blind Man." It uses a poem by Norbert Ruebsaat as source material; the poet not only reads the poem but also improvises upon the text.

# traditional formal structures

## Theme & Variation

In electroacoustic music, the "theme" might be a sound object, or sound event. Keeping the material the same (a theme) and varying the methods (variations) is one way to create a theme and variations.

A great deal of electroacoustic music, particularly musique concrète (and acousmatic music) is based upon this principle. (Mozart's "Twinkle")

# *sectional forms*

Simple sectional forms, such as ABA, ABACA, ABACABA, and so on, can function well. In such forms, each letter (such as the A) is a repeated section, while the other letters (such as the B) represent contrasting sections.

An example of a very short ABA form is Twinkle Twinkle Little Star:

A: Twinkle twinkle little star, how I wonder what you are.

B: Up above the world so high, like a diamond in the sky,

A: Twinkle twinkle little star, how I wonder what you are.

In electroacoustic pieces, a section may be determined by either its materials or its methods, rather than by the text and music. Despite its lack of words and traditional music, EA may still contain clear forms and sections.

# *passacaglia or ground bass form*

The passacaglia, or ground bass, is another traditional form useful to composers of EA. In this form, a bass line repeats over and over while the music above continually changes.

Composers like Brahms and Britten have written very famous passacaglias, but you may be more familiar with the twelve-bar blues, which also employ the passacaglia.

For an electroacoustic composer, the recurring bass line may simply be a sound object that is looped while other layers change above it (the concept of layers will be discussed shortly).

# *Canon*

A canon is a simple form that is as old as written music. It is simply a direct repetition of material after a certain delay— examples are “Row, Row, Row Your Boat” and Bach’s famous “Canon.” With a few exceptions, canons are not usually very useful for creating entire pieces, but they can be used to generate sections.

In electroacoustic terms, the tape loop or digital delay are methods of generating canons. (re: Eno) We heard this example in reference to process composition. Simply put, a delay line functions as a canon generator.

## *new forms*



Lastly, twentieth-century art music has produced two simple but useful organization macro-shapes: the spaceship and the wedge.

The latter describes music that begins very simply and quietly and continually gets louder or more complicated; Ravel's "Bolero" is an example of the compositional wedge shape.

The spaceship is generally a bulge, in which the progression and accumulation of material culminates in the middle of the piece, after which the composition gets simpler and quieter.

# *texture*

## homophony – polyphony

When musicologists examine the music of a culture, including our own, one of the elements they consider is texture, which is the way in which individual parts, or voices, are put together. There are two contrasting characteristics: at one extreme is **homophony**, or **melody and accompaniment**, where there is a clear distinction between a lead voice and those accompanying it; the other extreme is **polyphony**, where several parts **move independently of one another**. Most songs fall into the former category, whereas much of the music written before 1750 (e.g., Bach) falls into the latter category. However, between the two extremes lie textures that comprise a mixture of the two.

*texture*

polyphony

Polyphony, or true independence of voices, is difficult to achieve. One may, however, consider many musique concrète works as polyphonic because of their abstract materials: all the sounds are equally non-referential, and they are processed so that none takes on a dominant role.

*texture*

homophony

Homophony in electroacoustic music may be thought of as foreground and background, rather than melody and accompaniment. In fact, such distinctions can be applied to a great deal of music. Music that has more than one part, and in which a distinction between foreground and background may be made, can be considered to have different layers.

# layers

The concept of layers is important to music because it allows the ear to travel between the different points of interest that each layer offers.

# *monophonic layers*

In order to have layers, the music must have different parts. Thus, in acoustic music, instruments that can produce only one note at a time, such as the voice or the flute, tend to have only one layer. This characteristic is sometimes called monophony, which is confusing to those of us in electroacoustics because monophony means one channel, or speaker, and has historical connotations (early musique concrète was presented monophonically, since all magnetic tape recorders had only a single channel at the time).

However, it is still possible to have multiple layers in a monophonic EA composition. For example, Schaeffer used multiple tape recorders playing independent loops and mixed them to a single channel. Each loop could be heard as a separate layer.

When we speak of mono versus stereo (as in Project Three/Five), we are considering spatial presentation rather than the number of voices.

# foreground vs background

When you are listening to music, elements that are in the foreground demand your attention; they will have the most change associated with them and thus require more attentive listening. Background elements will usually have less change; however, they do tend to have clear purposes and functions.

Again, using popular music as a reference, the different instruments provide different layers. These layers are separated not only through instrumentation, but also through frequency. Furthermore, each layer serves different function:

A close-up photograph of a man with a beard and short hair, singing into a vintage-style microphone. He is looking slightly to the left of the camera. The background is dark, suggesting a stage or concert setting.

# foreground vs background

## Voice

Foreground; provides the changing interest through the continual change in the text and melody

Usually mid-frequency range



# foreground vs background

## Guitar

Midground, although usually foreground when voice is absent

All frequency ranges: low (power chords), midrange (riffs/textures), high (solo, lead lines)

Harmonic material (power chords) and melodic/rhythmic (riffs and lead lines)



# foreground vs background

Bass

Background, supporting the mid-ground guitar, often in conjunction with the rhythm of the bass drum

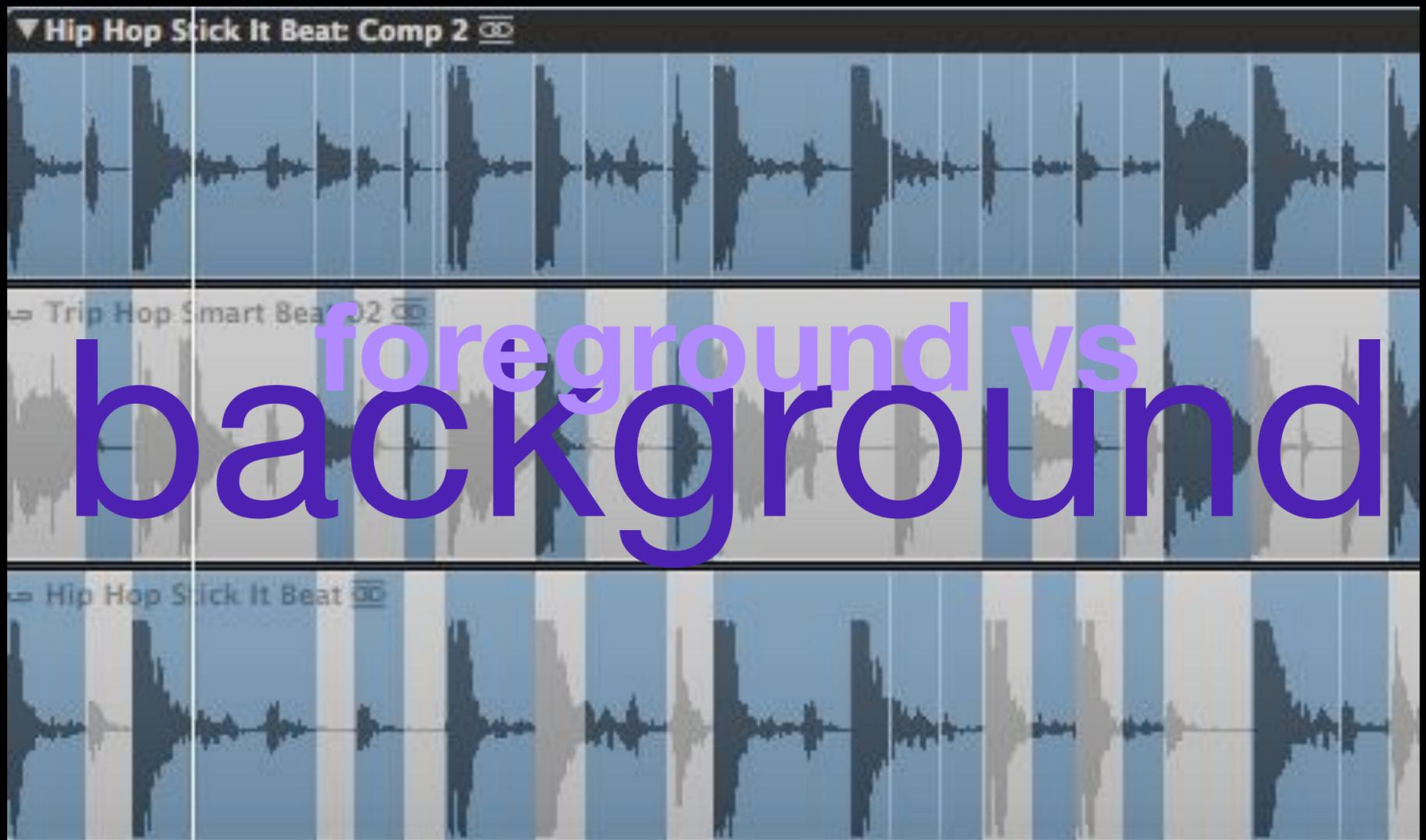
Low frequencies



Keyboards  
Background  
Harmonies (slow pads) or melodic counterpoint (riffs, synth lines)  
Low, mid, or high frequencies



Drums  
Background  
Rhythmic drive (almost always constant)  
Divided frequency range—bass drum (low frequencies), toms (midrange), snare (mid to high), cymbals (high).



Note that the foreground layers (voice and sometimes guitar) provide the most change and, thus, most interest to the listener; the background layers, such as the drums, provide the least change; however, once they have started, they are almost continual.

Layers in electroacoustic music occur almost de facto because of the software: that is, Logic, uses tracks to organize the material, so it is natural to compose with tracks and layers as defining structures.

Consider having different tracks serve different functions (as in popular music).

tracks 1&2 - foreground

much change, varied frequency range, most interesting transformations

tracks 3&4 - background

low frequency sounds, moving more slowly, less foreground interest, more repetition... continuous sounds....

tracks 5&6 - “rhythm”

loops, loop-like material, repetition with movement...

### foreground tracks 1-2

These tracks should contain lots of change and demonstrate a varied frequency range. They could also perhaps contain your most interesting transformations.

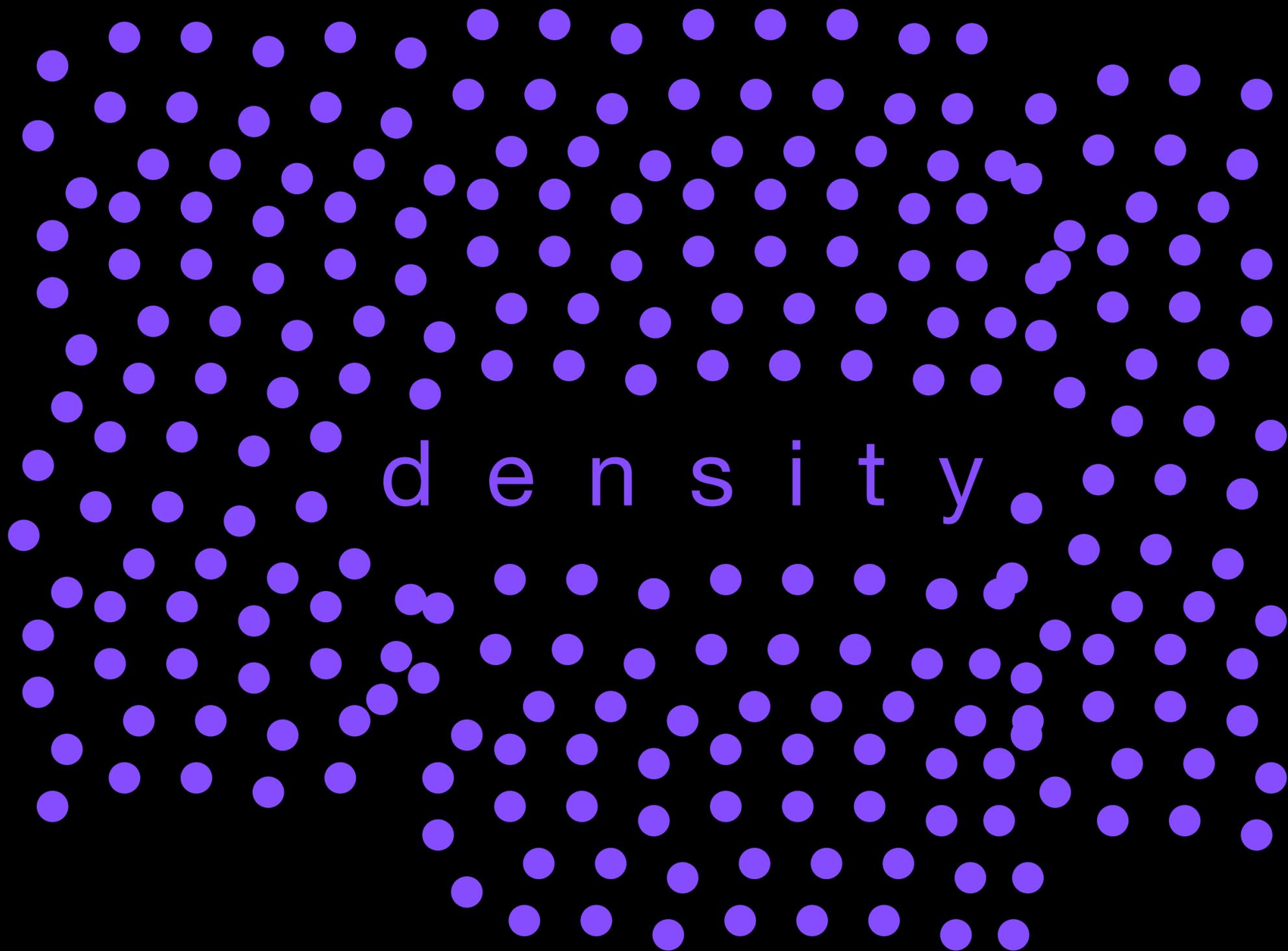
### background tracks 3-4

Consider having a separate track or two for your low-frequency sounds. They should move more slowly, and have less foreground interest and more repetition.

Another background track could contain more continuous, repetitive material.

### rhythm tracks 5-6

Finally, dedicate a track or two to rhythmic material, perhaps a loop or loop-like material that provides movement through repetitive rhythms.



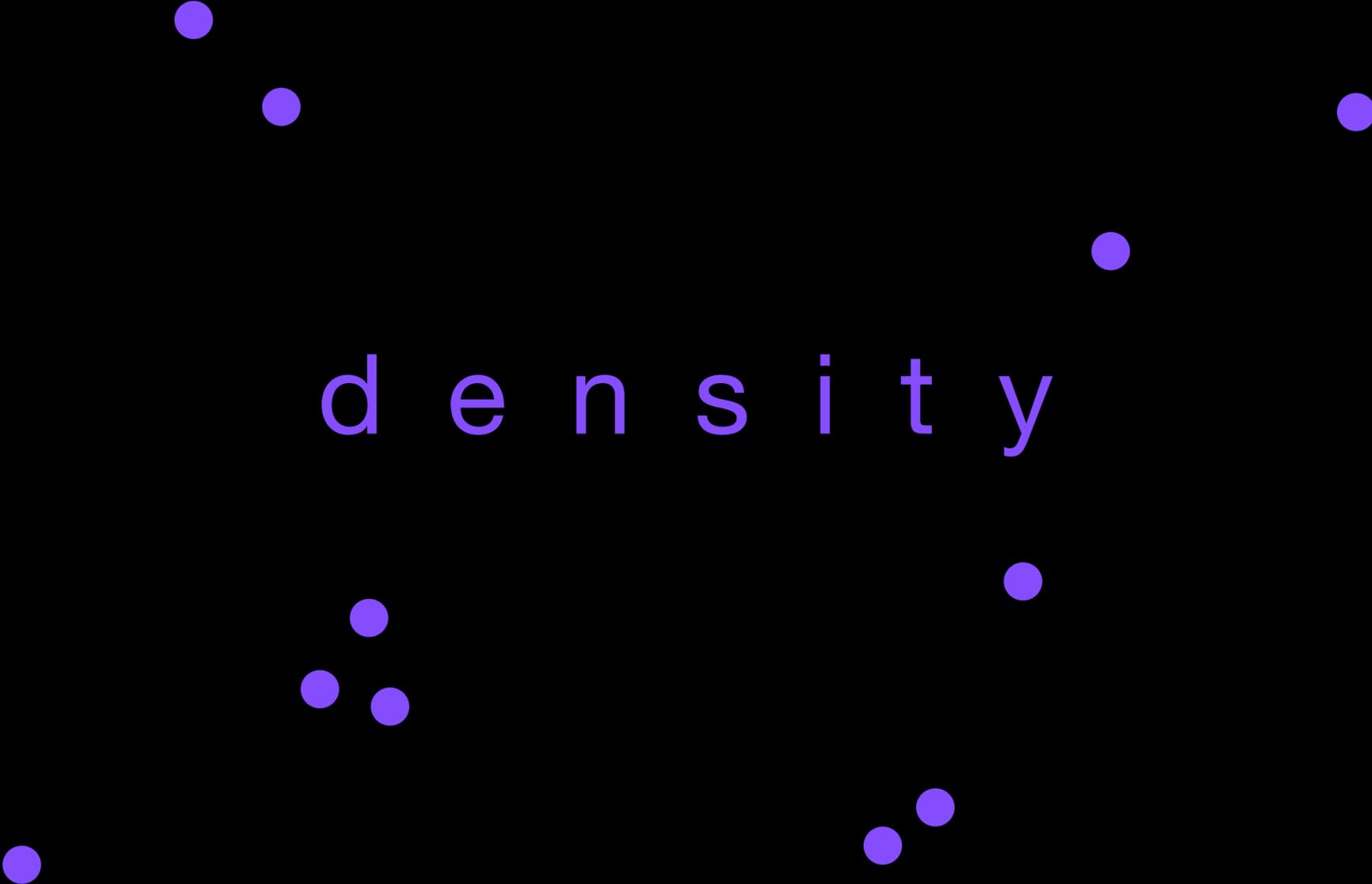
Consider how many events you have occurring at any one time—this is the density of your music.

Are lots of events occurring? Are there many layers?

How long are the events? Are they short and percussive or long and gestural?

One way to maintain interest in music is to change the density.

Consider changing the density by dropping out layers occasionally, or even thinning out to one layer (a solo!).



# density

## Density within the Spectrum

As mentioned, the distribution of the events in the spectrum (frequency range) is important.

Are there low, mid-range, and high frequencies all at the same time?

Are all of the events clustered in a small area of the spectrum, or spread throughout?

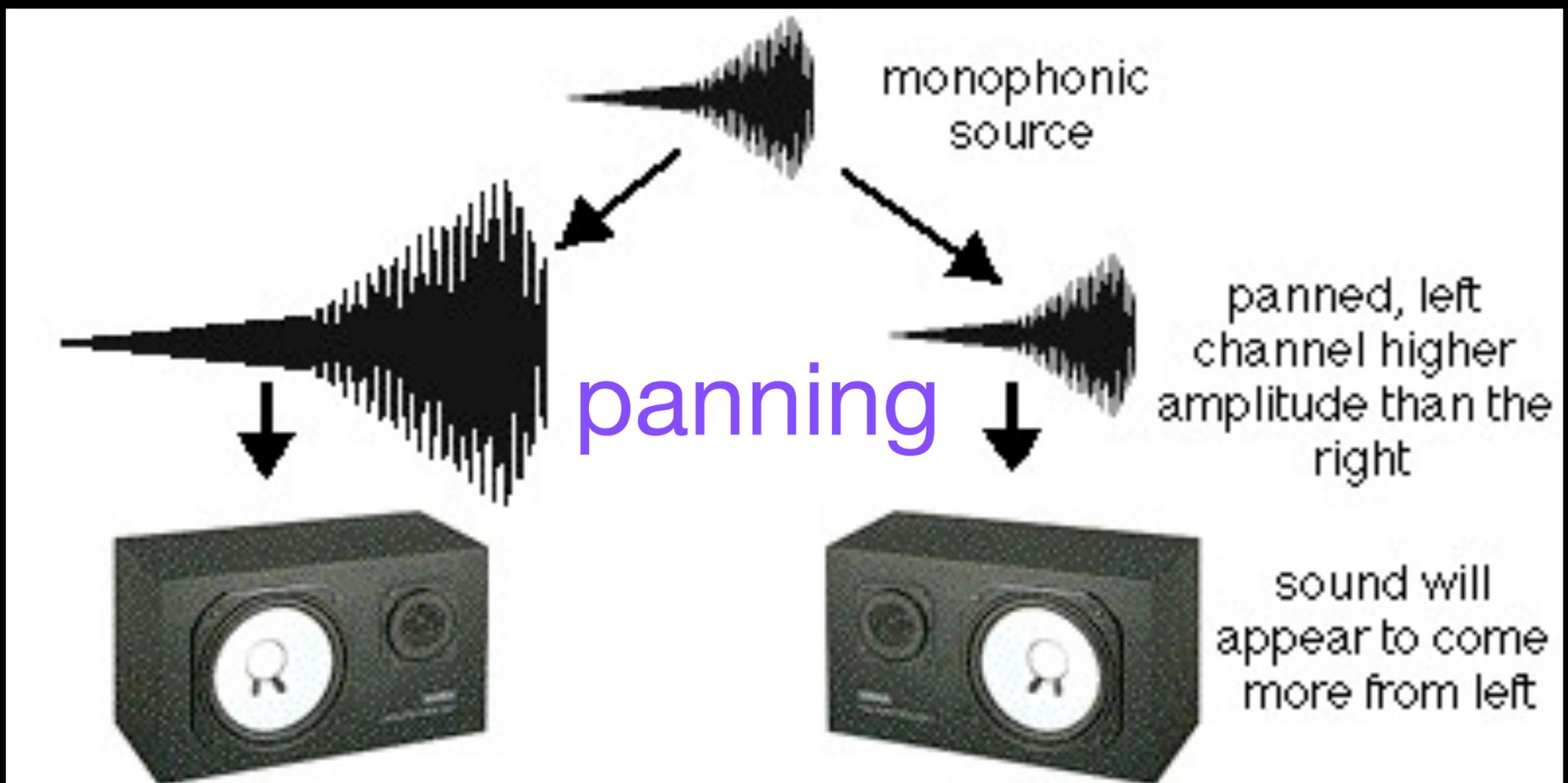
Too many events with similar spectral qualities will mask each other or cause level problems.

For example, two sounds generated from the same source material and occurring at the same time will be difficult to differentiate and separate. This is the reason bands will not have two bass players; if they have two guitarists, their parts must be carefully orchestrated so that they do not conflict.

# spatial

# location

Where the individual events occur in the virtual world of the piece is considered their spatial location. It includes both their left-to-right location (panning) and the foreground/background location, usually determined through the use of reverb.



Panning places a sound in a left-to-right perspective. It is usually achieved through a simple amplitude alteration: for example, sending a monophonic sound to two channels, with the left channel being louder than the right, will make the sound appear to come more from the left if it is played through two speakers separated in space.

# *reverberation*

Events that lack reverb will seem very close to us and therefore more in the foreground. Remember that reverberation is the reflection of sounds in an enclosed space. Sounds that naturally occur inside will sound more natural with added reverb. This does not mean that you should not add reverb to outdoor sounds; it simply means that the resulting processed sound will be more artificial.

When a sound is quite close to us, its amplitude will mask the reverberated reflections, which may not be apparent at all.

# *r e v e r b e r a t i o n*

Historically, reverberation has been added to sounds in a different way than other processes. In the classic tape studio, as well as in commercial music, processed sounds (filtered, chorused, etc.) were recorded directly onto their tape tracks; reverb, however, was added to a track in its entirety, sometimes to all the tracks at once, during the final mixing to stereo tape. One of the reasons for adding the reverb this way is that reverberation mainly adds high frequencies. Adding reverberation to one of the first sounds in a layered section makes it difficult to judge the amount of reverb required (since other processes may add high frequencies as well). The temptation might be to add even more reverb; unfortunately, too much reverb (or adding reverb on top of more reverb) diminishes rhythmic definition and precision.

Because of this traditional use, reverb tends to be applied equally to all layers. This tendency is further enforced by the concept of “putting sounds into a room.” In a commercial recording, it may not make sense to put one type of reverb on the drums (to mimic a large concert hall setting, for example) and another type on the guitar (to mimic a bathroom setting, for example); most commercial recordings will try to emulate a natural, live recording situation. However, in electroacoustic music, it might be interesting to offer this type of spatial paradox.

# *transformation & repetition*

Repetition is important in music, both on the micro-level of sounds and the macro-level of sections. One question to consider is:

When sounds recur, are they the same or altered in some way?

We can perceive elements that we have heard before, so repetition is important in music. However, too much repetition leads to boredom. If we recognize a sound, but it is altered, it will satisfy the balance between unity (we recognize it) and variation (it is somehow different). Therefore, we need to consider what aspects of the sound may be altered over time. Any process can be applied in varying amounts. When you are creating transformations, consider using a continuum of transformations. For example, changing a sound a little at a time leads the listener through the transformations.

# gesture

One of the most difficult concepts in composition is that of gesture. In some cases, gesture may be considered a melodic or a rhythmic idea. Rather than hearing individual notes, we will perceive the longer phrase. In electroacoustic music, we are generally not creating melodies; however, we are very much interested in gestures. Rather than assembling individual sounds that follow one another, we are trying to create some meaningful relationship between them. Long gestures are sometimes difficult to create in acoustic music. They are easier to produce in electroacoustic music because the transformation may create the gesture. For example, slowing a sound down will create a longer gesture that has a direct relationship to the original.

## *the time frame of a* **gesture**

A given event may have a time frame implicit in its architecture. For example, very low-frequency sounds imply momentum, since it takes a great deal of energy to overcome the inertia of a large object. Such sounds, even if they are higher-frequency sounds that have been transposed through speed change, tend to last longer than high-frequency sounds, which have the opposite properties: low inertia and little momentum. Therefore, low-frequency sounds should occur less often, or at least be used to create slower gestures.

# context

## Where is the Event in the Context of the Whole?

When you create a gesture or a sound event, one aspect to consider is its position within the entire composition. Will it be near the beginning of the piece or near the end?

The positioning of the event in the overall structure of the work can change its impact and meaning. Listeners are more receptive to new sounds at the beginning of a composition. At that time, you are creating the sound world, and in many cases, it might be quite foreign to the listener. Thus, all sounds will seem new (but inviting, we hope!).

Once you have created the sound world with some consistency (for example, water sounds or very short sounds with reverb separated by lots of silence, etc.), completely different sound events will be heard as a marked contrast. Contrast in itself can be a good thing, but it is something you need to be aware of when placing sounds into sectional relationships.

Furthermore, presenting your less extreme transformations near the beginning of the composition will allow the listener to draw parallels between sounds. Once the sounds are more familiar, more extreme transformations will be recognizable. However, completely new sounds near the end of a piece might disorient a listener.

A B A

*(statement/restatement)*

As mentioned in the section on form and structure, a standard formula in music for sectional relationships is A B A. This formula may be thought of as statement/development/restatement, or statement/contrasting (varied) statement/original statement.

In both cases, the second restatement should not be an exact restatement; the listener has already heard that information and doesn't need to have it represented again. Therefore, the second restatement is often shortened, or even merely hinted at or simply suggested.

# *critical* listening

One of the biggest advantages of composing electroacoustic music is that you can hear your work as you are creating it. In acoustic composition, this is rarely the case. For example, composers writing a symphony can only imagine what the music on paper sounds like. Therefore, while you are creating electroacoustic music, you must become a critical listener, so that you can recognize both weak and strong points in your composition. Identifying problem spots will allow you to fix them and make a better piece of music; identifying strong spots will allow you to use those ideas again in different ways.

# *collage*

Avoid the tendency to produce a “sound catalogue,” which can happen in attempts at both unity and variation.

This is perhaps the biggest problem for composers who are approaching electroacoustic composition for the first time. The working process that many students follow is to choose their sound material (sometimes rather randomly!) and then to process these sounds in very abstract ways (often to an extreme). At that point, they are left with dozens of sounds that may bear little relation to one another, so their compositions consist of stringing these sounds together one after another. The result is what I call a varied sound catalogue, or collage:

Here is a sound, here is another sound, here is a different sound, now yet another different sound . . . .

# *collage*

The listener cannot make any connection to the sounds because they are either unrelated in their sources (e.g., ocean waves, a train, a baby's cry, a telephone, some singing, etc.) or in their transformations (extreme flanging, extreme filtering, extreme echo, etc.).

The unified sound catalogue results from transformations of related material without giving thought to overall variation or repetition:

Here is a sound, here is a transformation of the sound, here is another transformation, here is yet another transformation. . . . >>Both cases create a sound catalogue, which is an uninspired presentation of the processing of source sounds.<<

# composing at every stage

One key to avoiding collage is to consider compositional ideas while you are processing or, better yet, while you are choosing your source material. Sustained sounds, for example, might work with varying amounts of pitch transposition. Complete some of these transformations, and then assemble them in your multitrack audio editor to listen to their relationships. If this works, try some different variations of the material, both in the processing (different transpositions) and the composing (different relationships).

The process of electroacoustic composition should be very fluid. At times, a process might suggest a relationship to other sounds. At other times, a relationship between sounds might suggest a new process. There are some other points to consider in this challenge to avoid collage and create interesting music>>>>

# rate of change

How often is the listener rewarded with new or altered material? This question leads us to consider predictability.

Too much unpredictability may have the same effect as listening to noise—it will all sound the same though it is always different! Too much predictability, on the other hand, may induce boredom. Collage (the varied sound catalogue) is the result of unpredictability: the inability of the listener to relate the different sounds to one another. However, too much predictability (for example, a non-varying drum loop) will cause loss of interest and boredom. If listeners can't hear any change in a layer, they will stop listening to it.

Of course, it all boils down, once again, to the relationship between repetition and variation.

# first impressions

Put yourself in the place of the listener; the first sounds you hear set the stage for the entire composition.

Does it begin with a bang? Does it grab the listener's attention?

Does it fade in, slowly revealing its material?

*Either approach is valid, but you need to make a decision about the impact that your beginning will have.*

You are creating a sound world and inviting the listener inside. Consider which of your sounds will be the first ones you present to the listener. Is the first sound or gesture one that the listener can recognize? Are the sounds familiar? If this is the case, variations may be slowly introduced, taking listeners from the familiar to the strange or exotic.

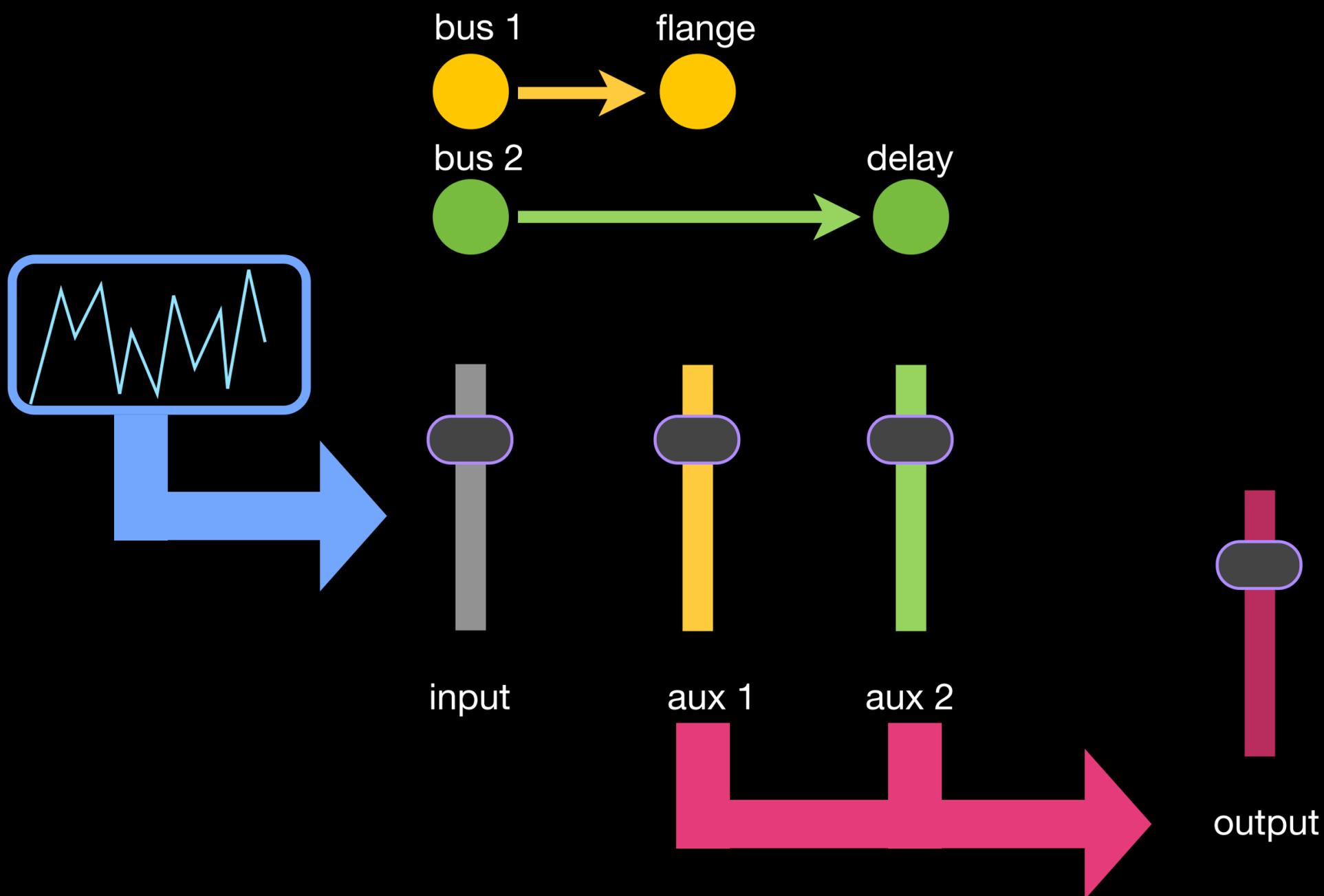
*Or, it is possible to present a completely foreign aural environment, slowly making it recognizable.*

# endings

Similarly, endings are important because they are your last contact with the listener. Does your composition end with a bang, an obvious conclusion? Is the music suddenly cut off, leaving the listener wanting more? Or will it fade out, slowly removing listeners from the sound world, letting them down gently?

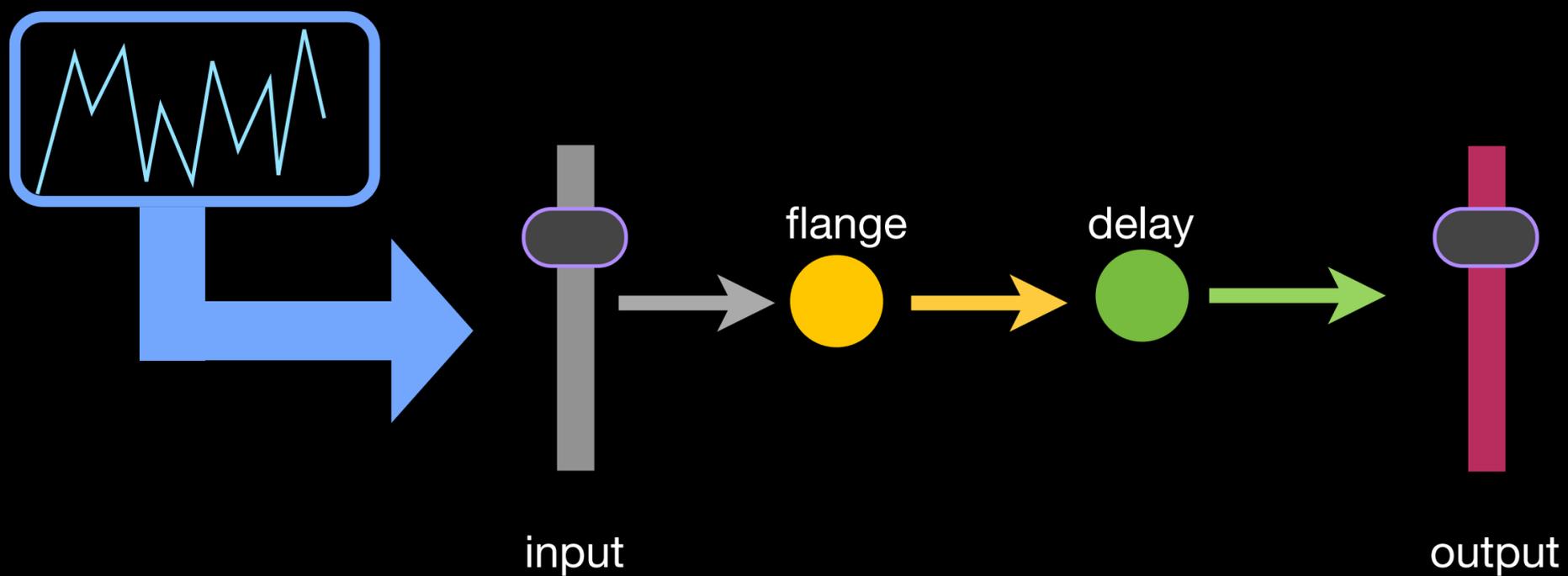
# parallel processing

This is where a given sample is simultaneously by two or more processes. For example a sample is sent to bus1 (aux send1) which has a flange as an insert and to bus2 (aux send2) which has a delay as an insert. This allows for precise control of each effect on the original sample.



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## series processing

This is where a given sample is processed by an insert on the track and then the result of that process is further processed by a second insert. The resulting sound is cumulative. In this case we hear a flanged sound which is then delayed.

# *final considerations*

While you are listening to the finished composition, keep in mind that it is a demonstration rather than an attempt at serious artistic creation. But as when you are listening to any EA music in this course, consider these questions:

How are the sounds/transformations related? (micro-structure)

How are the sections related? (macro-structure).



*lastly..*



If at all possible, listen to your exercise on speakers. (The best quality sound system you can find). If you can, do this as you are building the piece. This way you'll be making your judgements based on what the piece will sound like to the judge vs how it sounds in headphones (of various and often dubious quality).