

Flow - a Fourth Musical Element

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Abstract

Music is typically defined as having the attributes of melody, harmony, and rhythm. In this article, a fourth element is proposed - "flow". "Flow" is a new dimension in music that has always had the potential to be present, but, it is important to note, not ALWAYS present (examples of "music" NOT in flow are referenced in the main body of this paper. If we accept the premise that "flow" is a necessary component for sound to be classified as "music", then this begs the question, are the pieces referenced "music" or just "organized sound"?). The *Adagio* "Flow Machine", invented in 1968, FINALLY enables us to measure flow in music, and indeed, determine if flow even exists in a given piece of music.

The *Adagio* utilizes musical "hit points", such as a transition from one musical section to another (for example in a musical composition utilizing the sonata form, a transition from the exposition to the development section) to help define the composition's flow rate. Once the flow rate is established, the *Adagio* can be used to determine if the composer/performer/conductor has correctly maintained the proper rate of flow throughout the performance. An example is provided using Mozart's *Piano Concerto Number 21*.

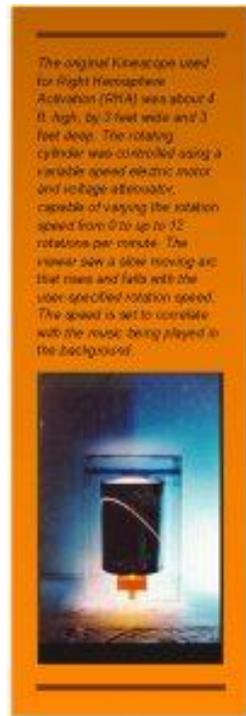
Working with the *Adagio* yielded an unexpected windfall; it was determined via an empirical study conducted at Nova University's Biofeedback Lab that watching the *Adagio* helped volunteers participating in a controlled experiment recover from stressors significantly faster than the control group.

In summary, the *Adagio* "Flow Machine" suggests a new approach to music theory and analysis. The *Adagio* was created specifically to measure the underlying "flow" in music. The *Adagio* is an entirely new way to experience and visualize music, to assist in performing music (both as a conductor and/or performer), and to provide a whole new methodology for music analysis and theory.

The *Adagio* can be thought of as a new arrow in the Musicologist's quiver. It provides a new, unique way of viewing the psychological impact and esthetic effectiveness of a music composition.

What is the Adagio?

The *Adagio* for Use in Musicological and Music Theory Applications



The original Kinescope used for Right Hemisphere Activation (RHA) was about 4 ft. high, by 3 feet wide and 3 feet deep. The rotating cylinder was controlled using a variable speed electric motor and voltage-dimmed, capable of varying the rotation speed from 0 to up to 72 rotations per minute. The viewer saw a slow moving arc that rises and falls with the user-specified rotation speed. The speed is set to correlate with the music being played in the background.

Since this is a unique one-of-a-kind instrument, unknown to but a few, perhaps it would be useful to initially express to the reader what the *Adagio* is **not**:

It is NOT tied to rhythm. In fact, it is almost the antithesis of rhythm, flowing and pushing back against the discreet rhythmic events.

It is NOT tied to melody or harmonic content, as “the flow” had no reference to pitch or duration of notes.

It DOES reveal and measure an entirely new dimension in music.

The *Adagio* can be used for music analysis. An article by the author, [Measuring Flow Rate in Music](#), demonstrates how *The Adagio* can be used for music composition analysis, and provides an example using Mozart’s *Piano Concerto No. 21*.

The *Adagio* for Use in Music Therapy Applications

The *Adagio*, with repeated use, can positively affect the viewer psychologically. It has been scientifically validated in a research study conducted at Nova University to activate the right brain hemisphere, and to reduce the stress level in the study’s experimental subjects. My article, [Stress Reduction and Right Brain Hemisphere Activation – a Research Study](#), provides an overview of this study, and contains a link to the original research document.

As a proven “stress reducer”, the *Adagio* (a.k.a., “Kinescope”, and “Kintron”) may be an effective tool in treating stress related diseases and personality/behavioral disorders, such as:

- PTSD
- Heart Disease
- Asthma
- Depression and Anxiety
- Inmate Rehabilitation
- Substance Abuse
- And many others

Flow Analysis Examples

The two and three dimensional illustrations (figures 1 and 2) help us to visualize and understand *Adagio* "hit points".

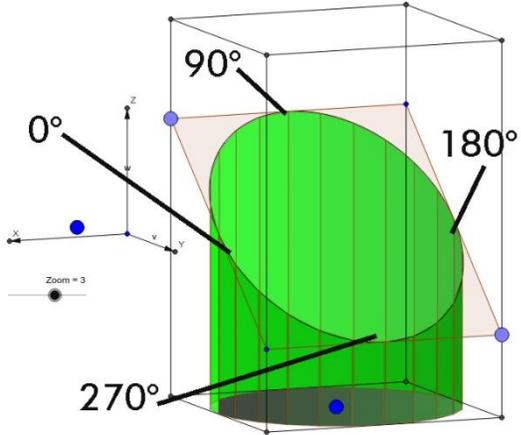


Figure 1: "Hit Points" for Flow Analysis

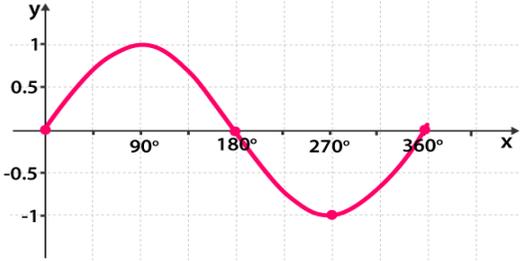


Figure 2: Hit points shown as 2 dimensions. Hit points are 0, 90, 180, and 270 degrees.

Mozart's Piano Concerto #21 - Moderate Flow Rate Example

Video 1: [Flow Rate Analysis of Mozart's Piano Concerto #21](#)

In the video referenced above (Video 1), the visual of the *Adagio* fades at major "hit" points allowing the viewer to see the score. The score was used to identify major "hit points" as delineated in Table 1.

Table 1 identifies some major compositional events ("hit points") of Mozart's piece as it relates to the *Adagio*. You can use the illustrations above with the "Adagio Rotation Point" column to orientate yourself as to where you are along the *Adagio* curve.

Composition Event	Bar #	Time from Beginning	<i>Adagio</i> Sine/ Rotation Point
Piano Entrance	24	1:36	180°
Transition		2:24	90°
Transition		2:56	270°
Transition		3:43	180°
Transition		4:44	180°
Melody repeats		5:48	180°
B theme enters		6:12	180°
Final cadence		6:31	90°
End		6:54	180°

Table 1

Additional Statistics

- The entire movement is 415 seconds long, requiring 5.5 rotations of the *Adagio* over the entire Andante movement
- The *Adagio* makes one revolution every 75" or .8 RPMs per minute
- The *Adagio* rotates 1/4 turn (90°) for every 4 bars of music

An Example of Music with a Slow Flow Rotation

Here is an example of a Gregorian chant (with a contemporary arrangement). The movement is barely perceptible, with a rotation speed of only 1 rotation every 2' and 14", or .3 RPM. This slow movement would be a challenge to the beginner. Also note that this piece also has its compositional cadence, "end point", at 180°. Also note that the piano comes in at 36" from the beginning, at the 90° "hit point".

Video 2: [YouTube video](#) entitled "Chant of the Mystics: Divine Gregorian Chant", Kyrie as arranged by Patrick Lenk

An Example of Music with a More Rapid Adagio Rotation

Here is a good music example of a piece with a rapid rotation rate, written by Gil Evans and performed by Miles Davis. It has a rotation speed of a revolution every 40", or a sprightly 1.5 RPM!

Video 3: [Video demonstrating a more rapid Adagio rotation speed.](#)

Conclusion

The *Adagio* can be thought of as a new arrow in the Musicologist's quiver. It provides a new, unique way of viewing the psychological impact and esthetic effectiveness of a music composition. Additionally, with the current world-wide access to multi-media via the internet, flow analysis can be performed and shared with others with ease.

The video below gives an overview of the *Adagio* research, use in "flow", and potential usage in psychology, medicine, musicology, music therapy, and the arts.

Video 4: [A short video summarizing research and usage of the Adagio in music therapy, musicology, and the arts.](#)

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