Isomorphism of Complex Gestalts: The Audio-Visual Composition *Autarkeia Aggregatum*

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and
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Abstract: This paper provides a perception- and practice-based analytical perspective on the relationship between abstract moving image and sound in the context of the author's composition *Autarkeia Aggregatum* (2005). In particular, it investigates the challenge of understanding and developing audio-visual relationships comprised of extended, continuous isomorphism between mediums, formed with careful attention to higher-order, emergent dynamics of each medium in relationship to rhetorical unfolding. To this end, it investigates the applicability of selected conceptual frameworks and analytical approaches arising from electroacoustic music studies. The approach promotes the idea of relating the two mediums, not by mapping one to the other, but by considering both as manifestations of underlying temporal dynamics (tensions, implications, and rhetorical relationships) that are not, in their essence, either sonic or visual.

1 Introduction

This paper provides a perception- and practice-based analytical perspective on the relationship between sound and moving image in my 2005 audio-visual composition *Autarkeia Aggregatum*[1]. My core intent is to provide clarification of some essential sensibilities — or ways of experiencing — that undergirded my compositional process and imagination in the creation of this work. In order to do this, I am adapting concepts and approaches from the field of electroacoustic music studies to the challenge of analyzing audio-visual work. I am also exploring here the idea of composing and

[1] Available online at http://BatHatMedia.com/Gallery/autark.html [accessed 5 Feb 2021]

analyzing audio-visual relationships with reference to a more fundamental cognitive level that is neither sonic nor visual in its essence.

2 Background

Autarkeia Aggregatum was the first work I created using a custom visual algorithm involving the animation of nearly 12,000 individual points with rotational routines, Brownian noise, and motion blur (Battey 2006). A crucial aspect of the visual approach is that there are no cuts or splices in the visual material; the whole piece unfolds as one continuous transformation of the 12,000 points.

I realized the music in part with my Pitch Curve Analysis and Composition System (PICACS), inspired by my study of Indian classical music (Battey 2004, 2007). This involved the rendering of carefully shaped glissandi between just-tuned pitch steps through manipulation of an Armenian duduk sample. I then convolved the glissandi with the sound of an Indian tamboura. Thus, the partials of the glissando are amplified as they come into alignment with those of the tamboura. The tensions that are created and released whilst the duduk spectra move into and out of alignment with the tamboura spectrum form a core material for much of the piece.

More importantly, however, I see the true core of the work as a way of experiencing the world. The work reflects, at least in part, the impact of several years of Buddhist Vipassana meditation practice on my compositional sensibilities. A metaphor that I developed for explaining the experiential space I was seeking to evoke in *Autarkeia Aggregatum* was that of a swelling in slow, building waves — gentle but irresistible undulations on the surface of a massive ocean. The swelling moves up powerfully out of the depths — not indulgently or violently or obsessively or egotistically, but with a kind of insistence and inner integrity that encompasses the waves of the emotional surface but is not *defined* by them. The power arises from — and is rooted in — inner depths.

So, despite having succumbed to the temptations of analysis in this paper, I assert that the essence of the work is something that cannot, fundamentally, be analyzed; it is something that arises from non-reducible experience.

When seeking a title for the piece, I turned to the *Monadology* — the philosopher Leibniz's theory of fundamental particles of reality. I appropriated the two words from that work: *autarkeia* (Greek) for self-sufficiency, and *aggregatum* (Latin) meaning joined, aggregated. The terms together appropriately suggest an aggregation of the activities of many autonomous entities, like the visual texture of the piece.

3 Gestalts and Isomorphism

In the title of this paper, with the term "gestalt", and particularly in saying "*complex* gestalt", I am trying to communicate the idea of an audio or visual whole, expressed in time, that is massively multi-dimensional. The perceptual impact of the whole is more crucial than our ability to distinguish or consciously follow the individual parts. Indeed, we may not be able to distinguish individual parts. So a key question I am addressing here is how we can work with such complex gestalts in forming audio-visual relationships.

I should clarify, too, that I am not using the term gestalt in as strict a fashion as we might expect from the Gestalt perceptual theorists of the last century. However, my own working sensibilities and intuitions about working with complex gestalts do find strong resonance with the following claim by Gestalt researcher Erich Hornbostel, from his 1927 essay *The Unity of the Senses*:

> What is essential in the sensuous-perceptible is not that which separates the senses from one another, but that which unites them; unites them among themselves; unites them with the entire (even with the non-sensuous) experience in ourselves; and with all the external world that there is to be experienced. (1927: 87)

I will be arguing here that working effectively with complex gestalts encourages sensitivity to — or perhaps even requires an appeal to — such a fundamental cognitive level.

Isomorphism, a key concept within Gestalt theory, is concerned with this underlying commonality among sensual experience. In that context, similarlity (iso) of forms (morphism) between two perceptual events does not require one-to-one correspondence between elements — only a similarity of structure (Luchins and Luchins 1999). Rudolph Arnheim, who applied Gestalt perceptual theory to questions of visual art perception, puts it this way:

> The character of any perceptual event resides in its dynamics and is all but independent of the particular medium in which it happens to embody itself. This interpretation relies on the concept of isomorphism, which was introduced by gestalt psychology to describe similarity of structure in materially disparate media. Thus a dance and a piece of music accompanying it can be experienced as having a similar structure, even though the dance consists of visual shapes in movement and the music of a sequence of sounds... such structural kinship is so compelling precisely [in] that it is directly and spontaneously experienced. (1986: 13)

Arnheim's point about spontaneity of experience is crucial: it makes a distinction between relationships that must be "read" analytically and those that we can absorb without analytical mediation being required. I certainly aspire to provide the latter kind of immediacy in my work — though this does not preclude also providing rewards to analytical engagement. Arnheim also presents us with the crucial idea of temporal dynamics, in which a structure, and therefore also an isomorphism, can unfold in time.

Indeed, one of the most important challenges we face in thinking about and analyzing sound and image relationships in audio-visual composition is finding a way to conceptualize and talk about the emergent perceptual properties of complex sensory streams — and the kinds of relationships can be established between such streams. By "emergent properties", I mean higher-order perceptual characteristics and impacts of a sensory stream that cannot be readily reduced to or predicted by an analysis of constituent parts. I suggest that Hornbostel's claim — that there is some essential commonality underlying our sensuous-perceptual responses — provides an important hint as to how we can address the challenge of working with such properties effectively.

4 Models from Electroacoustic Music Studies

The question of complex sensory streams and their emergent properties have achieved special emphasis in the field of electroacoustic music studies. Composer Trevor Wishart's book *On Sonic Art* (1996), a core text in the field, contrasts what he calls "lattice orientation" with a focus on continuums. By "lattice orientation", he means an approach to music that divides both time and pitch into discrete, quantifiable units — the traditional metric and scalar grid, for example. However, in music making that emphasizes the use of complex gestalts — by recording and manipulating non-instrumental sounds from the real world, for example — we might find ourselves moving to a continuum orientation: discarding or diminishing emphasis on the lattice and thinking instead in terms continuums of time and spectrum. We leave the paradigmatic domain of the quantifiable note (and the temptations to a false reductionism it can engender). We move towards thinking in terms of relationships among the transformations, or what have come to be called the "spectromorphologies", of sonic textures and objects.

The concept of the "gesture" is widely applied in this context. A sonic gesture is a perceptually graspable shape formed by spectral change. Wishart notes that the important thing about gesture is that

> it is essentially a time-varying property of a whole sonic object and cannot be atomised in the same way that pitch-lattice components can be separated through discrete notation. Conversely, this property of gesture is one reason why it can be applied to the analysis or control of sound-objects which are varying in a continuous manner in many dimensions of a continuum. (Wishart 1996: 112)

In other words, a gesture can be a complex gestalt. The work of Wishart, Denis Smalley (1997), and others also consider how such gestures can have affective impact, typically by suggesting that we form some kind of association between the morphology of a gesture with the morphology of other aspects of our cognitive-physiological experience. As composer and musicologist Stéphane Roy suggests, acousmatic music "can be seen as a 'wandering' that tries to extract from sound

matter the energetic shapes that transcend the 'here and now' of cultural experience and expand their roots in the depth of our ontological experience." (1998: 174)

Such a claim has more than a little resonance with the following statement by Rudolph Arnheim, speaking of the kinds of emergent qualities we might encounter in the domain of visual arts:

> The painter sees no difference in principle between the sweep of a coastline and the undulation of a snake. Ordinary perception suggests no split in nature [between the organic and inorganic]; it rather indicates various degrees of liveness… A dance is not a means of conveying to us the feelings or intentions of a person represented by the dancer. What we experience is much more direct. When we see agitation or calm, escape or pursuit, we watch the behavior of forces whose perception does not require a distinction between a physical outside and a mental inside. (1974: 400-401)

So, between Wishart, Smalley, Roy, and Arnheim, we see examples of how this idea of articulation of continuums — the structuring of multidimensional forces in time to render affective gestures and energetic shapes — is applicable to both sound and image domains.

It seems possible, then, that this line of thought also offers us a way to consider the combination of sound and moving image in a way that respects their great differences while also connecting them via reference to common roots deep in human experience.

5 Analytical Methodology

The relative lack of lattices and clear and discrete objects in electroacoustic music — and the fore fronting of multidimensional gesture and texture — leads to serious challenges for analysis. One response has been to use graphical representations to help define and clarify pertinent relationships among the sonic materials.

Here I will be adapting this graphical score strategy to analysis of *Autarkeia Aggregatum*. My approach was to make a graphical score of the music, then combine that score with the animation into a single movie. This reflects, too, how I composed the majority of the work: the music did come first.

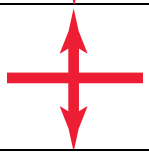
However, I would like for us to engage in a thought experiment. Let us at least temporarily forget what I have just said about the process. Instead, let us consider the possibility that *Autarkeia Aggregatum* is comprised of sound and moving-image manifestations of underlying temporal dynamics — dynamics that are in themselves neither specifically auditory nor visual in their essence. The root of the work, then, is a flow of hierarchically ordered tensions, implications, and rhetorical relationships unfolding in time — forms of cognitive-physiological experience. We shall consider the graphic score not as a representation of either the sound or the image, but as a representation of this underlying field of dynamics that gives birth to both the sound and the image.

For this analysis, I have drawn in part upon approaches to functional and implicative analysis in electroacoustic music developed by Stéphane Roy (1998), who was, in turn, adapting ideas originally developed by Leonard Meyer for more traditional music.

Table 1 presents symbols used in the score to specify certain functional relationships between gestures. An *interruption* is what Roy calls a "morphological rupture", without a consequent, which serves to halt previous event(s) (1998: 181). The call/answer indicates the traditional antecedent / consequent construct. The final three morphological links are of my own devising. With a *causal link*, one gesture is perceived to cause another. In an *alignment link*, articulation points of two gestures correspond at one point in time such that their previously independent trajectories now seem related; they may seem co-causal, having parallel influence. Finally, in a *range link*, two gestures are perceived to share a common trajectory for a period of time.

Table 1: Graphical representations of functional relations and morphological links:

	Interruption
	Call and Answer
	Causal Link (dot indicates the cause, arrow points to what is caused)

	Alignment Link
	Range Link (horizontal bar indicates the time range)

6 Analysis

The analysis covers the first large-scale section of the work, which is a buildup to 3:44. The analytical movie presents an analytical score on the bottom and the visuals of *Autarkeia Aggregatum* at the top. A video rendition is also available and is the primary intended form of presentation[2]. Still images of the analytical score appear in this paper as *Figures 1a, 1b, and 1c*.

A sonogram is included in the background of the analytical score, and its associated frequency units appear on the right edge of the score. However, the shapes appearing in the score, which represent the core gestures — or what we might also call morphologies — of the work, are not placed in any strict way in the vertical dimension.

We will consider the section on a phrase-by-phrase basis. In accordance with our thought experiment, for each phrase elements of the graphic score will first be discussed as if they describe important elements of an underlying "field of temporal dynamics". Then the visual and audio manifestations of those dynamics will be considered.

6.1 Phrase 1

Phrase numbers are indicated in the circles.

The pink shapes in the score represent the core material of this section of the piece. These are gestures (or morphologies) that, at a highly abstract level of description, are comprised of an attack followed by a sustain, and then a decay.

[2] Available online at https://vimeo.com/17495522 [accessed 5 Feb 2021]

Within any given pink shape, we see a horizontal green line. This line indicates a relative level of my own *purely subjective* sense of "tension" or "instability" in this pink material — and not in any other material. The grey horizontal line at the bottom of the shape indicates a level of minimal tension. The higher the green line is over this grey line, the higher the subjective tension. Thus, with this first phrase in the piece, the score demonstrates an initially heightened tension that falls gently to a plateau.

Keep in mind that this "tension" is a higher-order property of the given gesture. This tension may be manifested in an audio gesture or a visual gesture through relationships among and trajectories of numerous dimensions of that sensory stream. In other words, the tension is likely to be an emergent property of a complex gestalt. It may have no direct relationship to lower-order, objective parameters in the audio or visual material.

The blue shape indicates a different kind of gesture, one that rises exponentially to a peak point of intensity, followed by immediate decay. In this case, the peak of the blue gesture seems to provide a *causal link* that initiates the decay of the pink shape. The *range link* between the blue and pink decays suggests that we perceive the decay of these two morphologies as occurring together. So the blue gesture provides an articulation function in relationship to the pink gesture, helping to prepare an overall gestural and phrase closure.

In the animation, we see the pink gesture rendered as a screen-filling texture of pinks, browns, oranges and whites. What is represented in the score as a simple attack or decay is, in the animation, a multi-dimensional function of changing brightness, point-size, motion blur, and rotation speed in the behavior of the 12,000 points — a complex visual gestalt. The sustain, however, is rendered in the animation precisely via a lack of change in these — or other — parameters. There is still a great deal of motion, but there is no higher-order change. This is a complex gestalt of stasis — a stasis comprised of continual but consistent motion.

In the animation, the blue gesture manifests in an infusion of a blue-ish palette into the texture, giving rise to a momentary visual focal point — now more like an object than a field — at the top of the screen. The gesture then reverses immediately, decaying away with the rest of the visual field.

In the sonic embodiment of the pink gesture, we hear a slow attack coupled with a rising glissando. Notice that the pitch is rising, but the green tension line is falling, because the pitch and spectral change together present a higher order move to relative stability.

Sonically, the blue gesture is rendered as a very low frequency presence which grows exponentially in intensity, increasing mid-low frequency content up to its peak, and decaying away again in mirror fashion.

6.2 Phrase Two

Phrase two forms an answer to the antecedent call provided by phrase one. The pink gesture, including the green tension line, is quite similar, though it is positioned higher in the score, suggesting some kind of contrast, perhaps a comparative lightness or delicacy.

The yellow gesture is new, but we can see that it is providing an articulation function that mirrors that of the blue gesture in phrase one. The peak of the yellow gesture provides an impetus to the decay of the pink gesture, and the pink and yellow gesture establish a *range link* of their decays.

In the animation, the points are directed into a new behavior, providing the contrast to phrase 1: instead of forming circular motion, the points now trail outward in tendrils. The attack and decay are again rendered with a multidimensional behavioral modulation.

The audio manifestation is similar to phrase one but emphasizes a higher octave.

The score's yellow gesture is rendered in the animation as a gray-green presence, roundish, that infuses the image. So, as with the blue gesture, this new gesture is relatively more object-like

within the overall visual texture. In the audio, we hear an arc of broadband high-frequency material, reminiscent of a cymbal roll.

6.3 Phrases Three and Four

Phrases three and four continue and confirm this call and answer pattern — including the contrast of octaves in the audio and the circular versus tendril motion in the animation. They do so in a more time-compressed fashion, with the phrases elided.

In phrase three, the green tension line rises (at 0:40), in contrast to the previous phrases. While there is no direct visual parallel to this tension change, a rising glissando in the audio at this point does seem to initiate a gradual slowing of the activity in the animation, which thus forms a prolonged decay.

I'm going to just let this run through phrases three and four, and then we will jump to phrase 13.

6.4 Phrases Five and Six

In phrase five we have a first — and relatively rapid — shift to a highly tense or unstable state (at 0:58). This is reflected in the animation through a new kind of instability: a rotation (counterclockwise) of the color distribution within the whole texture.

The peak of the score's blue gesture forms a *causal link* to a second rise in the tension scale. A *range link* is established between the decay of the blue gesture and this further rise in the score's tension scale. In the animation, the causal link initiates a gradual slowing in the motion of the texture, similar to phrase three.

This ramping up of the tension in phrase five sets the stage for a gestural answer in phrase six. The full time span of the yellow morphology also helps defines the boundaries of the phrase; the close of the yellow morphology coincides with the launch of the phrase seven. The firmness of this closure, which otherwise would be perceived as very strong, is softened by the rapidity with which it is displaced by phrase seven.

The yellow gesture is rendered in both sound and image with similar materials as its initial appearance.

6.5 Phrases Seven and Eight

Phrases seven and eight continue the call and answer structure. Note that the pink shape now extends to encompass three phrases, indicating that these phrases are articulated through the modulation of a seemingly continuous morphology.

In phrase seven in the animation, the tension line is rendered in a trajectory of accelerating motion and brightening palette, which is retracted rapidly to form the phrase closure. (It is now very clear that score elements are not always rendered in sound or image in the same fashion.)

In phrase eight the closing function of the score's blue gesture reappears, reinforced by double articulation. The second articulation provides the *causal link* to the phrase decay. In the animation, we have the same blue semi-object appearing, but the orientation is upside down, reinforcing a larger structural sense of a balancing or closure of all activity up to this point. Notice that the articulation of the two blue morphologies again entails a multidimensional articulation of the visual behavior.

6.6 Phrases Nine and Ten

Phrases nine and ten provide an even more elided restatement of phrases two and three, reinforcing the large-scale closure of activity up to this point and establishing a moment of solidity from which to launch the final large-scale portion of the build to 3:44.

6.7 Phrases Eleven and Twelve

As we can see, multiple phrases can be implied by the articulation of one, seemingly continuous morphology, such as the pink shape that renders phrases ten, eleven, and twelve.

The score's yellow gesture provides the bridge from phrase ten to eleven, and it binds (as a *range link*) with the tension gesture in the score's pink phrase. Another yellow gesture also provides the bridge to phrase twelve. Phrase twelve's decay is triggered by the peak of a blue gesture and is

concluded by the peak of a second. Two more blue gesture peaks in rapid succession trigger phrase 13.

In the animation, the score's yellow gesture is again manifested as a green-gray round-ish presence in the visual field. But this time the motion starts at the top of the image field and flows downward. In the case of the first yellow gesture, the whole image field begins to flow downward, gradually returning to a stationary state at 2:23 (roughly following the score's green line indication of tension stability). In the case of the second yellow gesture, the roundish infusion dissolves with the rapid upward swing in the tension line.

This dissolve and the tension gesture together initiate a reluctantly accelerating rotational flow in the whole visual texture. This rotation accelerates in conjunction with the score's rising tension line, right up to the arrival of the peak of the first blue morphology. After this peak, the accumulated momentum seems to take on a life of its own. Multiple rapid reversals in the rotation of the visual field intersperse with the score's blue gestures in a drive to the initiation of phrase 13, whereupon the spinning motion slams to a stop.

In the audio, the score's green tension gestures are rendered through glissandi that move towards or away from harmonic alignment points.

Notice, too, the functional accumulation of blue gestures up to this point in the piece: singular articulation in the early phrases, then double articulation in phrase eight, then triple articulations in phrase 12. This parallels an overall build in intensity in the energy of the whole section.

6.8 Phrases 13 and 14

With phrase 13 and 14, the new orange hexagon shape includes an arrow indicating direction of flow or activity. The gesture of the third hexagon provides a *causal link* to the appearance of the first of three maroon triangles. These triangles indicate discrete events with relatively rapid decay.

In the animation, a slowly rising grey-green shape forms the primary animation expression of the score's pink morphology. At the causal link from the third hexagon, the circular figure in the animation accelerates upward and streams off the top of the image. Three bright pulses appear in the body of the visual field, corresponding to the red triangles in the score.

In the audio, the orange hexagons in the score are rendered in as something akin to a strum across a set of strings. The green line indicates the pitch direction of the strum, and the vertical size of the shape is rendered as pitch range of the strum. In the animation, the hexagons are rendered as momentary bright points within the texture. The red triangles are rendered as bell-like tones.

Altogether, a slow pulse is being established via these articulative gestures, and it continues into the next phrases. The pulse is visible in the score if one considers the spacing of the hexagons and purple triangles. Our arrival point at phrase 18 is emphasized, in a classic fashion, by a delayed arrival of that final pulse.

6.9 Phrases 15 to 18

We can see that the yellow triangle gesture again serves as a bridge between phrases. At its peak, we have an *alignment link* with the first of our three large purple triangles. Here also is the first appearance of an *interruption* function, where the attack of the purple triangle shuts off previous activity. This combination implies a very strong point of articulation. It is immediately answered with a different arrangement of the previous three red triangles, followed by a spiraling or flowing motion upward. That whole phrase is answered (and interrupted) by the next purple triangle, which is echoed by a more stable sequence of triangle events, pushing to the third and final purple triangle interruption. This is echoed by another three bell tones and a swirling motion, which grows into the arrival of phrase 18.

In the pink shape, maroon lines appear for the first time. These indicate relative tension of the events represented by the maroon triangles and swirls. So, we can see how rising

tension/instability pushes into to the interruption points and to the final point of arrival at phrase 18. The sudden drop in tension at this primary arrival point is quite clear.

The blue gesture again appears in its now very familiar guise as a closure initiator. The first attack provides the causal link to a now upward-directed orange hexagon, the close of which is aligned with the end of the spiral gesture, the rapid drop in the maroon tension line, the arrival of multitudinous red triangles, and, for the first time, a sustained plateau of the blue morphology.

In the animation, the *interruption* functions are rendered in a sudden blackout of the visual field, from which the texture has to rebuild itself. The red triangles and swirls are rendered in pulsing bright gestures that ultimately accelerate up to phrase 18. The accumulated pressures of the whole piece up to this point and the final, accelerating push of the intensity culminates in the energies bursting open in "liberation" as a swirling field of particles.

In the audio, the purple triangles are rendered as relatively low-frequency bell tones. Higher-frequency bell tones and their transformations provide the rendering of the maroon triangles and swirls and provide strong perceptual pushes into each interruption function and certainly into the arrival of phrase 18. This push is amplified by the accumulation of relatively dissonant tones in the pink morphology and their resolution at phrase 18.

From there, we can follow the dissipations of both audio and visual energies, setting the stage for the second section of the piece.

6.10 Analysis Conclusions

A few characteristics of the first section of *Autarkeia Aggregatum* become clear in this analysis. Certainly, in accordance with the title of the talk, the whole section is characterized by prolonged isomorphism between complex audio and visual gestalts. There is also a considered linking of audio and visual events and transformations through both short-term and long-term rhetorical logic involving call and answer constructs, repeated appearances and development of certain kinds of gestures and materials in functionally similar contexts, and energy flows and trajectories that often

imply a sense of causation or of shared cause. Overall, a directionally focused build in intensity over nearly four minutes pushes to a clear arrival point, and this overall build is developed through a hierarchy of levels of sublevels of phrases and gestures. In other words, though the compositional sensibility focuses on continuums and gesture, some relatively traditional musical constructs are still quite evident in the organization of both the sound and the image.

I presented the analysis as a thought experiment in which we pretended that the graphic score represents a set of underlying temporal dynamics — dynamics that are in themselves neither specifically auditory nor visual. This is clearly a problematic experiment, aside from the fact that it is a falsification of how both the work and the analysis were made. There are times that the score maps much more effectively to the audio domain, for example; some essential temporal dynamics that are carried primarily in the visual element are not reflected in the score. Further, insofar as the score does provide a valid map to the combined audio-visual gestalt, this is no doubt due in part to the very fact that the audio and visual elements exhibit such strong isomorphic links. Taking a graphical score approach like this to an audio-visual piece that involved more prolonged counterpoint or disjunction between the two mediums would involve a considerably greater challenge and bring up more fundamental questions about what constitutes the underlying field of temporal dynamics.

But the experiment does point to deeper truths. Making a visual score of one medium is a process of abstraction. It is clearly related to the process of abstraction required to establish isomorphisms between the sound and image gestalts and coordinating those qualities effectively to form a unified flow of tensions, implications, and rhetorical relationships unfolding in time. A graphical analysis can give insight into the cognitive-physiological space (or spaces) where this alignment of the mediums takes place in a composer's imagination. The score, here, is clearly a map; it is not the territory. But it makes sense to consider that the sound and image, too, are maps of a sort, each with a different function and relationship to the territory. We have great deal to gain by

reminding ourselves that the territory — the substance — that all of these maps point to — or evoke — is cognitive-physiological experience.

7 Final Considerations

Prolonged isomorphism of complex gestalts is a key characteristic of *Autarkeia Aggregatum*. However, one might ask whether this approach constitutes merely relatively sophisticated "Mickey-Mousing". In fact, I might plead "guilty" to the charge of Mickey-Mousing, but I will also argue that the fact that it is "relatively sophisticated" Mickey-Mousing is very significant. The isomorphic mapping of complex gestalts is an artistic act, not a mechanical one. Establishing the isomorphisms that convincingly account for the unique, multidimensional perceptual properties of each medium within a complex field of short-term and long-term temporal relationships, implications and rhetoric does not always or often have obvious solutions. The artist may have to exercise considerable discipline to discard multiple unsatisfying approaches until a convincing solution is found. A solution that ultimately proves itself to perception does not always have an easily rationalized basis, even in retrospect.

I see the development of convincing facility with such isomorphism to be sufficient for the creation of rewarding artistic work. But I also see it as an ideal foundation to establish in order to begin investigating a more advanced counterpoint of sound and image gestalts. But what will such a counterpoint entail? One thing is clear: finding the answer will require artists to forefront perception over formalism. We must listen and look carefully, both in detail and holistically, persistently and with determination, acknowledging the reality of — and working with — the complex, multidimensional, non-reducible richness of our responses to sonic and visual phenomenon, as well as the underlying dynamics of our human experience.

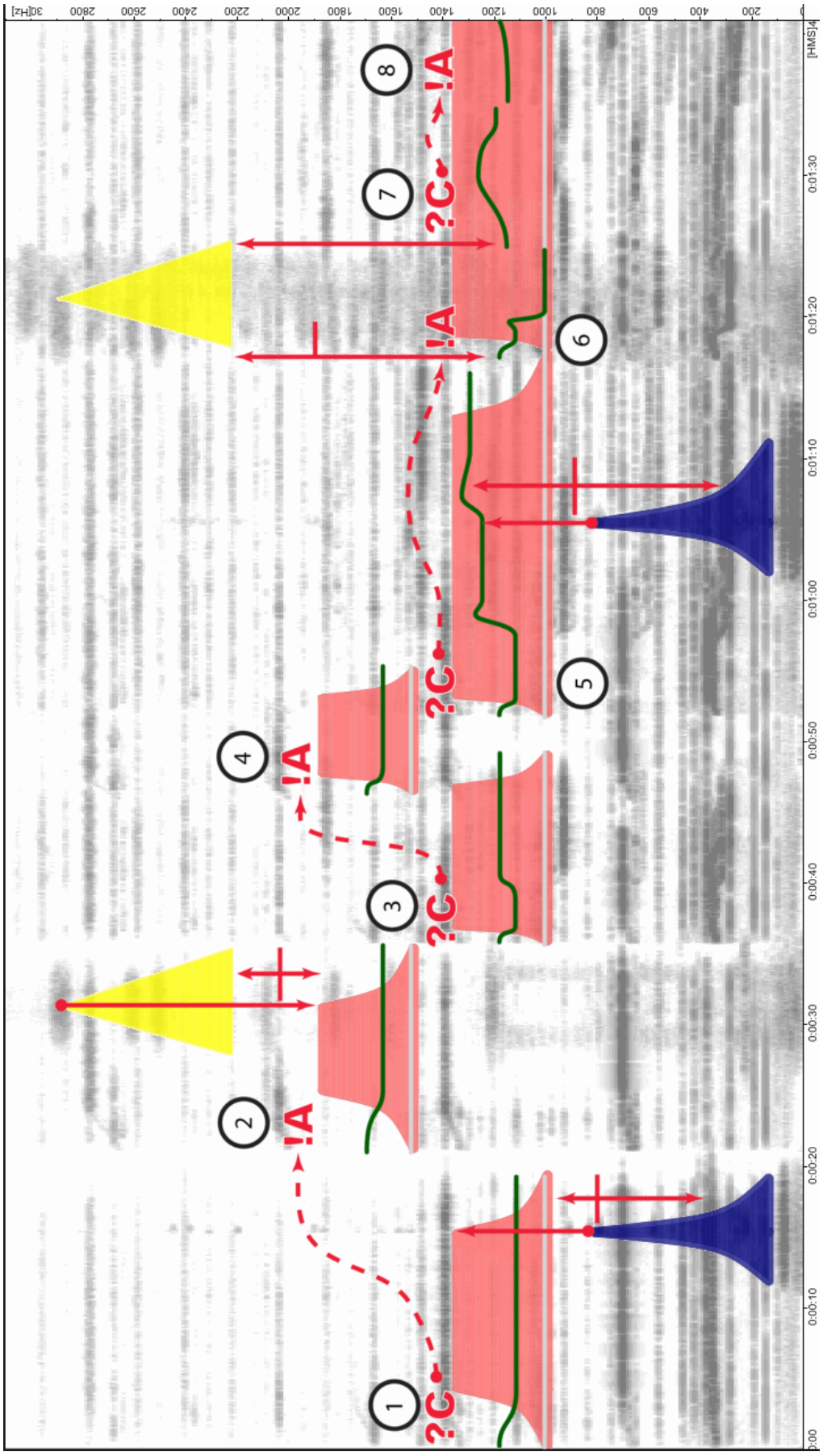


Figure 1a: Analytical score, page 1

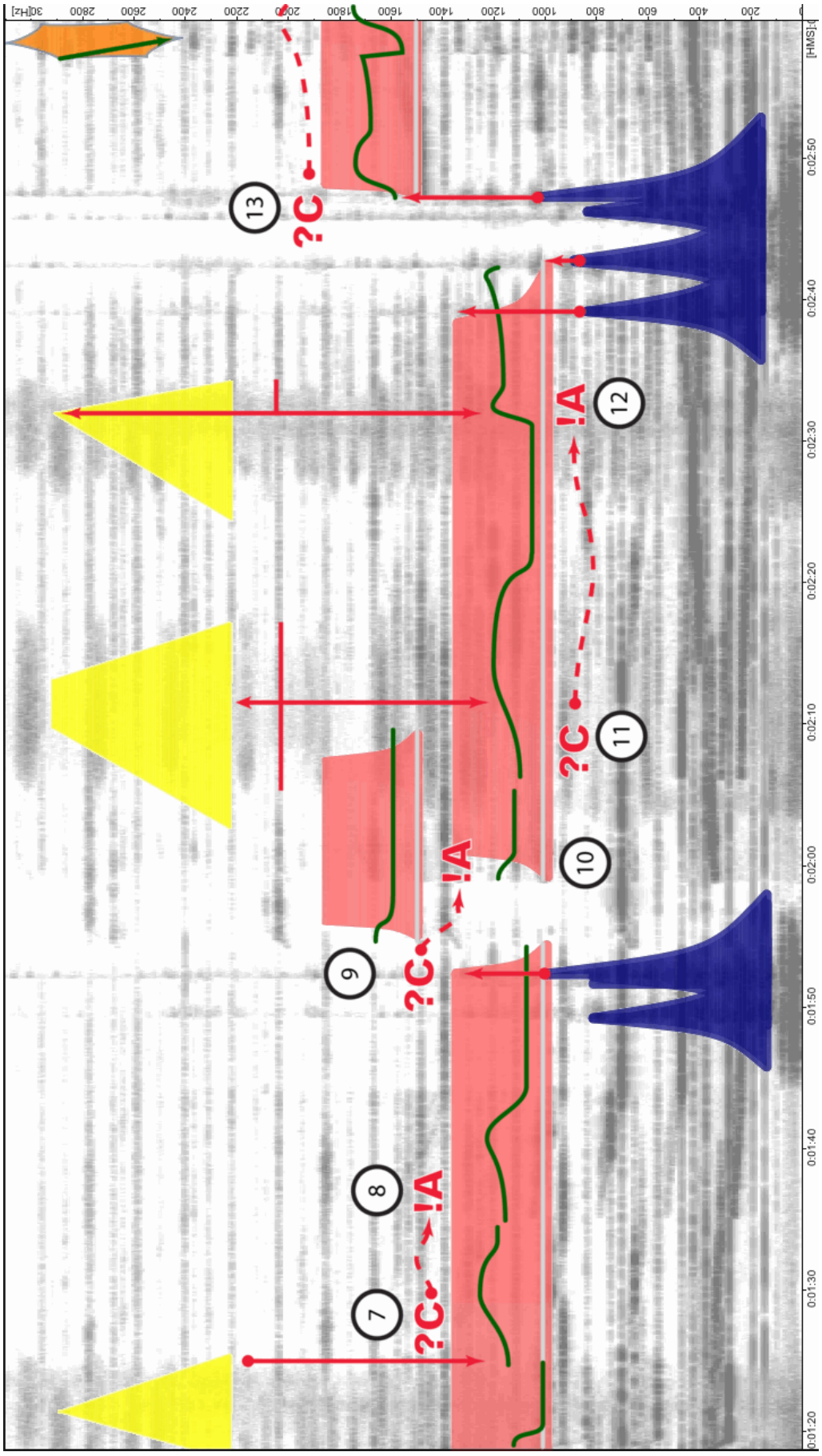


Figure 1b: Analytical score, page 2

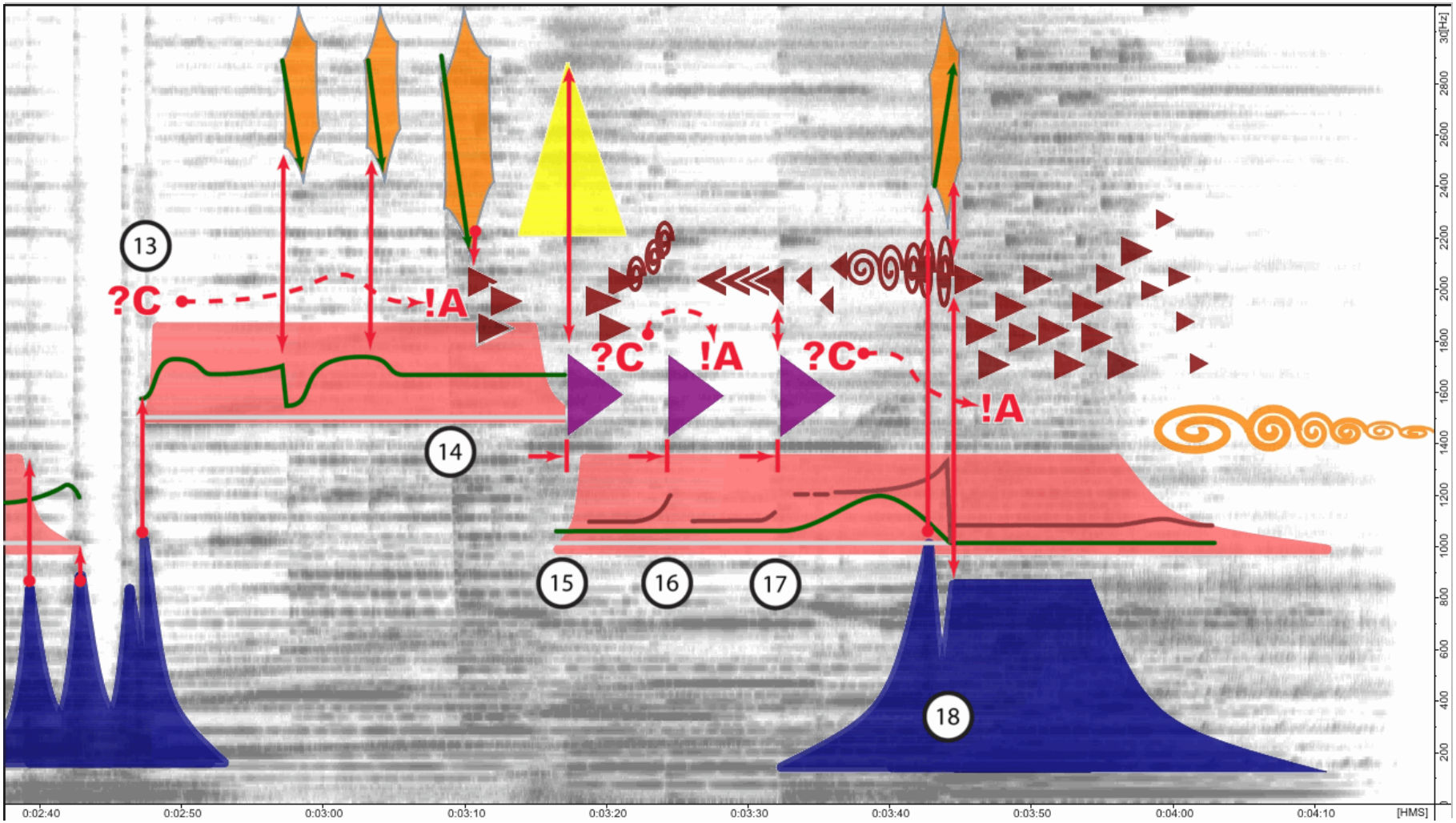


Figure 1c: Analytical score, page 3

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