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The Use of Tetrads in the Analysis of Arts-Based Media

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Abstract
In this article, we chose the musical form of a sonata to examine tetrads, a simple four-fold structure that Marshall McLuhan coined and employed to describe various technologies. Tetrads, as cognitive models, are used to refine, focus, or discover entities in cultures and technologies, which are hidden from view in the psyche. Tetradic logic frames human artifacts and the means of doing things. The ideas that McLuhan eloquently brought to consciousness, long before technologies became the sophisticated communication tools they have become today, may be reinterpreted in a far more timely fashion. The poignancy of his views invite our immediate attention in light of the limitless extensions humans are being afforded with new technologies. McLuhan has always remained a significant and powerful voice among artists--his ideas, in effect, resonate with our artistic sensibilities.

Exposition

Theme 1: Musical Form

Arts-based educational researchers frequently use creative forms of expression to achieve a design that has aesthetic qualities. This paper's flow of ideas is represented through a musically inspired, sonata-allegro *form* toward deep understanding of the following essay on McLuhan's

concept of tetrads as a lens for analyzing arts-based media. Typically, there are four sections in sonata form: exposition-development-recapitulation-coda. The exposition exhibits the first theme of the composition in the tonic key, the home key in which the sonata is written, a second theme in the dominant key, the key that is a perfect fifth higher than the tonic key; and a closing theme in the dominant key. Correspondingly, in this essay we introduce three concepts—form, metaphors, and models—as the thematic material at the beginning of the essay. These three concepts—analogous to themes of a sonata—establish how the next two sections of the essay, the development and recapitulation sections, elaborate on the characteristics of tetrads. The development section of a sonata contains a series of modulations and extensions of the thematic material introduced in the exposition. These modulations and extensions of the sonata's themes comprise greater tonal, harmonic, and rhythmic variation than the sonata's exposition and recapitulation sections. In the development section of this essay, we explore the nature of the tetrad in the context of Hegel's concept of the dialectic triad and then in the contrasting contexts of McLuhan's concepts of figure and ground and of the simultaneity of the four elements of a tetrad. Moreover, we incorporate discussion of the importance of the viewer's familiarity with the medium that is the object of analysis. The recapitulation section of a sonata returns to the themes of the exposition. In our composition, the themes are re-presented by the matter at hand, i.e., tetrads, and an explanation of the tetrads. Thus in the recapitulation section of this essay in sonata form, we apply the thematic concepts of metaphors and models to tetrads in the recapitulation. Finally, the coda, an ending standing outside the formal structure of the composition, presents a synthesis of our ideas.

While there are four distinct sections in sonata form and also in this essay, these are not to be confused with the writers' explication here of the form of the conceptual framework Marshall McLuhan termed a *tetrad*, so named because of the four lenses through which one may analyse any medium. The tetrad is enacted when four simultaneous questions about media are posed: What does the medium *enhance*? What does it *retrieve* from the past? What does it *reverse* into? What does it *make obsolete* (i.e., *obsolesce*) This paper explores McLuhan's tetrad to determine how that model may be used to translate our experiences of media and its usefulness in examining arts-based media.

One further note must be made regarding *form*, the overarching element of this paper. Form is perhaps the broadest and most pervasive concept in music. Form is the singular element from which we are able to make order from chaos. It may be considered both broadly and in detail. Moreover, like paradigms and models in research, form is usually conceptualized through either a top-down or bottom-up approach. Because pattern is the cornerstone of form, patterns are fundamental to understanding music on both macro and micro levels. All music, even the most abstract, exhibits aspects of formal, organizational concepts—that is, patterns of internal logic.

Theme 2: Metaphors

It is no surprise that a metaphor can translate experience. The description *the winds blew with Zeus-like fury* leaves little doubt as to the ferocity of the weather. Linguistic metaphors effectively facilitate clarity while creating new expressive forms. Language, however, is not the only medium for metaphor. Artists are intimately aware of the translative power of media. When poetry engenders aesthetic experience through imagery, for instance, that experience is different from the experience of a painting or photograph; when poetry translates art forms like music, dance, or theatre, there is a symbolic transformation. McLuhan (1962) was keenly aware of this power when he stated, "All media are active metaphors in their power to translate experience into new forms" (p. 64).

We engage metaphor as a means to build models that lead us to theory (Barbour, 1974). Metaphors pave the way for researchers to design projects and procedures, interpret data, and express their findings. "A metaphor is not a language, it is an idea expressed by language, an idea

that in its turn functions as a symbol to express something. It is not discursive and therefore, does not really make a statement of the idea it conveys; but it formulates a new conception for our direct imaginative grasp" (Langer, 1957, p. 23). Metaphor becomes an essential analytical tool when a researcher seeks to comprehend a novel phenomenon. Research can be brought to fruition through the metaphor since, in explanation, research paradigms frequently rely on the appropriation of terms that apply to several concepts. Relativity is one such term, defined by Einstein to refer to the physical realm of light and gravity; by philosophers and social scientists to refer to the idea of the multiple perspectives that arise from a nondeterministic world view. The idea that perspective may be relative gave rise to new phenomenological and interpretive research paradigms.

McLuhan (1962) noted that the "spoken word was the first technology by which man was able to let go of his environment in order to grasp it in a new way" (p. 57). He considered words to be "complex systems of metaphors and symbols that translate experience into our uttered or outered senses" (p. 57). In short, words represent a "technology of explicitness" as they translate sense experience into vocal symbols, allowing "the entire world [to] be evoked and retrieved at any instant" (p. 57). McLuhan thus used two closely related yet different terms—uttered and outered—to play with his notions of the complexity of logos (i.e., the word).

Given the constraints imposed by a particular symbolic system, symbols may offer only a limited range of meanings in particular contexts. Both McLuhan (1962, p. 39) and Derrida (1976, p. 3) proposed that the phonetic alphabet reduces speech to a visual code. The shift from the aural-oral to the visual took thousands of years to accomplish, as was summarized by Ong (1982):

> All script represents words as in some way things, quiescent objects, immobile marks for assimilation by vision . . . . The alphabet, though it probably derives from pictograms, has lost connections with things as things. It represents sound itself as a thing, transforming the evanescent world of sound to quiescent, quasi-permanent world of space" (p. 91).

To begin to understand a phenomenon, one tries to grasp the object, thing, or situation through varied means. The "grasping" of a "thing" is in itself a metaphor that connotes the literal handling of an object. For example, in the thought "I get it," one expresses the desire to bring "it" closer to one's gaze, while using the sense of touch as another sensory translator. McLuhan (1963, p. 60) wrote, "Our very word *grasp* or *apprehension* points to the process of getting at one thing through another, of handling and sensing many facets at a time through more than one sense at a time." (McLuhan, 1963, p. 60). Metaphor is a way we come to know ourselves and to apprehend phenomena. Metaphors thus enable humans to translate the past, present, and future into experiences just as researchers translate schemata and models into research. Further, linguistic metaphors may be fleeting over time. Metaphors possess "emotional and valuational overtones and are expressive of the poet's experience and evocative of the reader's" (Barbour, 1974, p. 14).

Closing theme: Models

When drawn from common experience, a metaphor enables us to bridge the gap of comprehension. In turn, the metaphor may be represented in abstract form through the construction of a model. Barbour (1974) asserted that both metaphors and models "influence the supposedly literal reporting of facts, and they extend language by the creation of new meanings" (p. 44). Models can complete the understanding of concepts at a glance. Black (1962) contended that models "may help us to notice what would otherwise be overlooked and to shift the relative emphasis attached to details — in short, to see new connections" (p.237). Thus Black proposed that

scientific models, or schemata, are sharply refined metaphors that explicitly capture systems, and provide us the means to understand some whole with greater perspicuity.

Models and metaphors, however, are not interchangeable insofar as models are systematically developed. In a broad sense, models may be considered as "systematically developed metaphors" (Barbour, p. 43-44). Models may be figuratively or literally rotated to represent a complete view of the nature of things. Thus models become concrete entities that allow us to view concepts and their abstractions.

Development

Whether a metaphor is in the form of a word, analogy, story, parable, or myth, all such 'translators' or 'figures of speech' may imply some model. Further, whether the design of a model is textual, graphic, iconic, tactual, or in a hybrid form, models in turn define or shape paradigms, theories, research programs, and metatheories, e.g., Maslow's hierarchy of needs (Huitt, 2004) and Bloom's taxonomy of learning behaviors (Bloom, 1956). Paradoxically, as paradigms, theories, and research programs become increasingly sharpened, it is inevitable that metaphors replace holistic models. For instance, achieving self-actualization and self-transcendence are only the apex of Maslow's hierarchical model of human needs but each of those terms has now become shorthand for individuation. When metaphor, as shorthand, replaces a model, we, in effect, reverse our grasp of an idea. We discover, however, that such a reversal is not an impediment to either knowledge or cognitive progress, but rather may precipitate our understanding of new phenomena. For example, the use of pre-composed music loops in digital audio programs often leads the user to reflect upon the traditional aspects of composing patterns in music.

Modulation 1

McLuhan was neither the first person to observe reversals or that reversals may refocus our view, nor was he the first to construct a model that depicts a system of rational thought as a means of clarifying phenomena. The German philosopher Hegel (1770-1831) introduced his dialectical triad to provide new perspective on the world and, more specifically, to interpret historical events. Dialectic, first noted in Socratic thought, implies a tension between contradictory ideas; however, Hegel reconceptualized dialectical process. Represented as a triad, Hegel's dialectic consists of thesis, antithesis, and synthesis—an event (thesis), a revolution or opposition to the initial event (anti-thesis), and an evolution to a higher level of understanding (synthesis). For Hegel, the dialectic was a model that described a conceptual process. His model had a profound impact on Western rational thought, underscoring divergent ideals from Marxism and Nazism to the cognitive theories of Vygotsky and Piaget.

The dialectic triad, if dealt with only in shorthand, omits Hegel's concept of the dialectic as a process for change (Stace, 1955). For Hegel, as a category of understanding, the idea of *being* was purely abstract, an ideal that possesses no particular content. That lack of content, or emptiness, was not *any thing*, but he reasoned that the absence of everything is *no thing*. "A" cannot equal "not A" as that proposition does not exist in dialectical logic. In other words, positives and negatives do not simply exclude each other. Rather "A" and "not A" are identical, yet they are also distinct. There is pure negation, as contradiction, rooted in the dialectic. For Hegel, the category of being *a thing* leads directly to the category of *no thing*. The negation of *being* into *nothing* leads directly to the category of *becoming*, an ongoing process rooted in activity and change.

Today it is difficult to imagine that the complex logic of Hegel's predecessors, insofar as the nature of reality (i.e., descriptive metaphysics) is concerned, did not conceive dialectic as a cyclical

process. Yet in the history of philosophical thought Hegel's view was a huge leap from the linear logic of his predecessors. Interestingly, Hegel never used the terms thesis, antithesis, and synthesis, but they became shorthand for his complicated discussions of being, nothing, and becoming. Further, an important yet frequently overlooked point is that while Hegel's dialectic was rooted in the conceptual realm, Marx took great interpretive license in his materialist interpretation of what was intended as an idealist model. Upon examination of Hegel's model, McLuhan (1988) believed that the tetrad transcends "dialectical and systematic Marxist approaches to interpretation of social processes and technological transformations of culture" (p. 128).

Modulation 2

McLuhan (McLuhan & McLuhan, 1988) pointed out that all Western syllogisms fall within triadic and logical conventions. Syllogisms are a form of deductive logic and follow the three-part pattern if (a), then (b), therefore (c). McLuhan argued that neither dialectic nor deductive analysis can facilitate the understanding of the essential nature of media and its simultaneity (p. 125). McLuhan's keenly focused view of media in all novel forms, which emerged throughout the later part of the twentieth century led to such statements as, "We look at the present through a rear-view mirror" (McLuhan and Fiore, 1967, p. 75). The interplay between media and the human being—as well as the capacity to simultaneously consider past, present, and future—compelled McLuhan to devise a model that would allow its users to grasp media and apprehend their impact. Beginning with the simplest medium and moving to more complex media, he sought principles that could be applied to all media as a means toward understanding how media impacted a world rapidly moving toward digital technologies. Those principles, which he later termed "laws," assist the analytical understanding of any medium. By consequence, understanding media enables humans to understand ourselves by virtue of media being extensions of humans. Furthermore, the laws of media, in and of themselves media, require a holistic approach.

McLuhan posited that every medium is both a medium and a message. That point of view led to his famous aphorism, "the medium is the message" (1994, p. 7). "The medium is the message" does not refer solely to any medium as a vehicle that affects the content of media but refers also to the notion that all new media effectively alter established meanings. Understanding a medium and its message means analyzing (1) the medium in and of itself, (2) the message intended to be delivered by the medium, and (3) the message embedded in the effects of the medium. For instance, the automobile, an extension of human locomotor capacity, had an enormous impact on modern living. Its message included modernity and affluence, a message that faltered during the Great Depression. At that time, one could easily ignore the context (in this case, the medium in and of itself) of the automobile, which had become an indicator of the chasm created between the rich and poor, in favor of the message intended by automobile manufacturers and advertisers *all is well, we are moving forward.* Today, while the medium of the automobile still functions as a measure of moving toward the future, the context of effects embedded in the medium of the automobile now includes air pollution and greenhouse effects. At any rate, perspicuity is achieved when the whole of any medium is respected: that is, the medium embodied as a context, also referred to as *ground*, and also as a message, or *figure*, receive consideration. If one's gaze falls solely on message or medium—ignoring, as McLuhan expressed, the combined view of both *figure* and *ground*—understanding is less likely to be whole.

Because the dialectic triad uses an historical view point to explain the process of change—a, then b, therefore, c—an incomplete perspective is formed. History without contextualization can suffer from too much relativism. Moreover, new media persistently arise among old media, and that juxtaposition of new and old leads to a simultaneity of changing events. Change, therefore, is not

linear. In the midst of technological change and the rise of new media, McLuhan realized that another conceptual model was needed if only to understand all forms of media. Later he recognized that without such an approach one could not battle the intellectual and sensory seduction that inevitably come from the power of a medium. As an English professor, McLuhan was well aware of the power of logos—the word—and, in effect, he came to understand the need to analyze all media, which he conceived to mean all human constructs, abstract or concrete.

Modulation 3

The dialectic triad, essentially a linear sequence of logic, is a consequence of linguistic form. On the other hand, a tetrad's pattern of logic is intended to be contemplated simultaneously, much the way that a painting, a photograph, or ambient sounds are perceived. In effect, a tetrad can be greatly aided by visual, auditory, and textual means. Each of the questions the tetrad comprises—abbreviated as *enhance, transform, retrieve, obsolesce*—represents a process orientation. Metaphorically speaking, a tetrad is akin to the auditory sense: for example, where ambient sounds at a dinner party are simultaneously present, we alternate our focus dependent upon the sounds that we choose to consciously apprehend. In contrast, the triad resembles the sequential aspects of written words in a sentence. By virtue of the sequence of events over time, one may assume that a triad evokes a causal view—that is, a cause and effect contingency: Each synthesis creates the opportunity for a new, beginning thesis. In contrast, the tetrad embodies a corollary of interdependent conditions that are simultaneously relative and relational. Without the inherent implication of causality, McLuhan & McLuhan (1988) suggested, the tetrad could become a means to understanding all artifacts and ways of doing things. The tetrad is a way of grasping ubiquitous but unheeded technological and cultural phenomena (p.128).

As a natural consequence of asking McLuhan's four questions, one may begin to understand the tetrad as comprising four actions: enhancement, retrieval, reversal into (transformation), and obsolescence. The combined actions describe the functions and subsequent impact of a medium. Recalling that all human artifacts are media, every artifact posesses the qualities of both the content and context—of both the message and the medium. No medium is ever "empty" of either its context (ground) or content (figure). However, to complicate matters somewhat, McLuhan contended that every medium is ostensibly the medium for another medium. Human senses are the media for perception, and words, music, images and dance the media of expression for thoughts (i.e., cognition, abstraction) and emotions. The human voice is a medium for song, and song a medium for artistry and technique, which are in turn the media for the musical thoughts of the vocalist. Thus every medium possesses the quality of both figure and ground. For instance, if the figure is the song, then the voice may be the ground. Conversely, if the figure is the voice, then the vocalist may be the ground. This example metaphorically defines the subtle difference between dialectic and the tetrad. Dialectic principally serves to analyze the figure or the thing—the phenomenon or artifact—in focus. For instance, in the case of the written word, dialectic serves to elucidate the thesis, namely the invention of the written word; the antithesis, namely the forging of mass literacy; and its subsequent synthesis, namely modernity. In this instance, the written word leads causally toward modern thought. The tetrad serves to illuminate a different process of change, one that happens simultaneously. In the simplest analysis, the written word *enhances* thought, it *retrieves* story, it *reverses* into forgetfulness, and it *obsolesces* oral traditions.

Modulation 4

Media analyzed by means of the tetrad cannot be said to be philosophically interpreted. Whereas philosophy follows syllogistic thought, the tetrad possesses rhetorical and grammatical properties akin to art, music, and poetry. One medium helps us to understand another, and the rhetorical and grammatical properties of the tetrad refocus our collective perspective by highlighting the interrelationship between figure and ground (i.e., message and context). McLuhan (1994) suggests that this difference between philosopical interpretation and interpretation through the tetrad is sharply illustrated by the manner in which books contrast with television. While both media may entertain and inform, both enlisting the visual, the sense ratio (i.e., the number of senses actively involved in perceptual processes) is limited when the written word is at issue. From a performative perspective, the written word restricts our *physical* capacity to enlist all of the senses for the purpose of interpretation. On the other hand, television is a simultaneous medium that heightens all of the senses at once. Nonetheless, the written word may be used to interpret television, and, likewise, television may be used to interpret the written word, both leading to clarifying the medium.

Tetrads enable us to view the intrinsic message of an artifact or activity and to view a medium (i.e., the figure and ground) simultaneously. To some the tetrad may appear to exploit ambiguities of language to circumvent a process of logical reasoning, the position that may be ascribed to Sophists. Mitigating the relativist nature of the tetrad, however, a stronger tetrad is achieved when an individual's familiarity with a medium is greater (e.g., the photographer's camera). Through that familiarity with the medium in question, one can be concise and insightful when identifying one's tetradic views. Conversely, the less a medium is understood, the weaker the rhetoric.

Modulation 5

The tetrad's four actions are revealed by posing four questions: What does the medium enhance? What does it retrieve from the past? What does it reverse into? What does it obsolesce? The following quadrants may be used to capture the four questions simultaneously.

(Enchancement)
What does it amplify or enhance?

(Transformation or Reversal into)
What does it turn on its head?

E T
R O

What does it retrieve from the past?
(e.g., the retro feature of a medium long believed to be obsolete.
(Retrieval)

What does it erode, replace, or obsolesce?

(Obsolescence)

Conceptually, therefore, tetrads are harmoniously intertwined into four parts, and all four parts are engaged in an interplay of events, or outcomes, to ascertain the properties of any artifact. While McLuhan & McLuhan (1988) arranged tetrads to highlight the dynamic processes and relationships, the written word cannot draw upon the simultaneous nature of each component since each quadrant must be read in some sequential manner. The McLuhans expressed tetrads as

analogies, e.g., Enhance:Retrieve :: Transform:Obsolesce (E:R :: T:O) or Enhance:Transform :: Retrieve:Obsolesce (E:T :: R:O). A more effective approach to the use of tetrads that engages the senses beyond the written word would be to harness the multidimensional qualities of digital images, including animations, and sound—bringing virtual visual and aural perceptions together through their simultaneous properties. In this paper, we will limit our examples to analysis of two arts-based media that we express in two-dimensional print form, working in a way similar to the fashion McLuhan established.

Recapitulation

ELECTRIC GUITAR

Enhances "amplitude" so crank up the volume dude. Crank out distortion!

Transforms acoustic into electric . . . The Byrds electrocute Dylan

E T
R O

Revived music in a new way
The birth of the age of rock and roll and creation of a global pop music

Pushes aside the folk guitar . . . "Roll over Beethoven" and new notions of "long hair music"

CINEMA

Enhances the art of the novel through photography and sound

Transforms abstract narrative into virtual reality – like being there!

E T
R O

Retrieves oral storytelling – drama, dance, and song

The birth of recounting through gesture, movement, posture . . .

Pushes aside the novel . . . Who needs weeks of suspense?

Watch a ninety-minute movie instead!

As with any tetrad, these examples explore possible responses to the questions posed of the figure. Depending on the subject, or specific figure, studied (e.g., electric guitar), one can arrive at different grounds, or contexts, to the four fields—reflecting the notion that the ground of any figure is the figure of yet another ground. One can re-pose the questions to reveal additional physical, psychic, and social dimensions of the medium at hand. For this reason, McLuhan and McLuhan (1988, pp. 196-207) provided multiple examples of tetrads for the same media.

Individual tetrads are neither exclusive nor definitive. They are inclusive, interpretive, and performative, in that many guitarists, for example, may compose any number of tetrads with similar

and dissimilar conceptual components. Within the example of tetrads analyzing electric guitar as a medium, the electric guitar does more than obsolesce the folk guitar. As a medium of expression, it attempts to push aside all forms of music performed with unplugged instruments (e.g., in various folk musics and Western classical music), as well as eradicate the musicians and skills that are part of those music forms and traditions. Moreover, one can imagine numerous instances and elaborate on the emotional, physical, and social strains related to the erosion that electric guitars created.

In the case of the cinema, the cinephile's perspective and that of the filmmaker may diverge widely. Audiences who possess only viewing skills become more seduced by moving images and sound than the filmmaker. The ability to become as film literate as one may become with the written word, however, has been realized with the advent of iMovie, simple digital film editing software that seemingly places the power of movie making into anyone's hands. From an analytical perspective, the more film audiences play with the cinematic medium and create movies on their own, the more strongly the tetrad will be affected. One may well imagine that at some juncture filmmaking skills will necessarily demand more artistry when moviegoers demand more of the art of narrative (i.e., storytelling) than sleight of hand (i.e., technique), not unlike the art of the novel (Kundera, 1988).

Coda

Arts-based educational research has evolved over the past decade into an effective approach in the study of educational phenomena (Barone & Eisner, 1997). Arts-based researchers employ artistic forms of data representation in response to the limitations of conventional forms of research on education (Eisner, 2000). The issue of representation raises questions about the nature of educational research and postmodern inquiry (Irwin & de Cosson, 2004). We believe that a musical form (i.e., the sonata) can inform and shape educational research and that research can shape and inform musical form; the tetrad operates in a similar manner. Though tetrads have existed for over 25 years, tetrads are a new analytic method and a new form of representation for arts-based researchers. Tetrads offer arts-based educational researchers and arts educators a powerful methodological tool for deepening their understanding of educational phenomena and arts-based media. Given the role of metaphor in tetradic analyses and the centrality of metaphor and metonymy to a/r/tography—enacted living inquiry of artists/researchers/teachers and written documentation (i.e., graphy) of that inquiry—further work may employ tetrads as a provocative exploratory tool in a/r/tographic research (Springgay, Irwin, & Kind, in press).

McLuhan's ideas are timely and apropos, given the advent of digital technologies. His ideas permeate most contemporary texts—from journal and magazine articles to books—and influence the creators of all forms of new media (Wolf, 1995; Horrocks, 2000; McLuhan, 1996). Moreover, his conceptual analyses of media have been acknowledged by consulting firms and coaching associations (Marchand, 1989; Gordon, 1997; Cavell, 2002) and have become a means to systems thinking. A simple web search with the words "McLuhan" and "systems thinking" reveals 56, 800 hits on the topic. Nonetheless, with few exceptions, McLuhan's views continue to be ignored in many educational circles. Neil Postman, the founder of media studies and author of *Teaching as a Subversive Activity* (1969) and 19 other books, acknowledged that "I can't think of a book that I've written, that I could have written, if not for McLuhan" (McLuhan, 1996, p. 188). The rapid development and implementation of digital technologies create an imperative to translate McLuhan's word play and aphorisms into research methods and forms of representation of research.

Despite many criticisms put forward by his academic colleagues (Cavell, 2002; Miller, 1971; Marchand, 1989), McLuhan remains a significant and powerful voice among artists. His ideas resonate with artistic sensibilities. They encourage arts-based researchers to embrace his ideas as

complementary to research efforts already in action. Artists may also be mindful of the importance of their role in research insofar as McLuhan proposed that "Without the artist's intervention, man merely adapts to his technologies and becomes their servo-mechanism" (McLuhan & McLuhan, 1988, p. 98). Humans have "groped toward the arts in hope of increased sensory awareness," McLuhan wrote, and "[t]he artist has the power to discern the current environment created by the latest technology" (McLuhan and Parker, 1968, p. xxiii). If it is possible to achieve an awareness of "the entire environment as a work of art" (p. 7), then the role of tetradic analysis in educational research is magnified for arts-based educational researchers.

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About the Authors

Peter Gouzouasis is a lifelong learner of music, and still pursues serious studies, studio work, and performance of guitar and other fretted instruments in jazz, North American folk, Celtic, and Greek music contexts. At UBC, he teaches courses in music education, research methodologies, and curriculum. His amodernist perspectives on music acquisition and music learning and his work as a studio musician have led him to explore research in both traditional and new media contexts. Peter is the former music director of WRTI, JAZZ 90 in Philadelphia (1983-1988), which was the most listened to 24 hour jazz radio station in North America during the 1980s, and is also recognized for his work in writing television and radio commercials that have been broadcast across North America. He actively promotes arts-based educational researcher with the A/r/t/ography Research Group at UBC.

Anne-Marie LaMonde is a dancer, actor, musician and filmmaker. Breathing her art forms intermittently for more than 35 years as performer, choreographer, director, composer, and educator, Anne-Marie spent 10 years teaching in elementary and middle schools for the Calgary School Board (CSB) and 7 years as Music Education instructor at UBC. Soon to be undertaking her

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