

## Forging a New Paradigm: On the Structure of the Interdisciplinary and its Application (part 3)

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### Abstract

This article has three sections. In section one, I define my terms which leads to an outline of what this New Paradigm is. In section two, I develop this paradigm and suggest a visualization of it, a structure as it were. This will assist in a more thorough understanding of such a paradigm. Theoretical speculations and modeling aside or rather avoiding a “purely” philosophical bias, I then apply this model to an example culled from art and aesthetics, yet involving, in line with this New Paradigm, other disciplines such as science and sport in order to exemplify or perhaps prove my argument, by virtue of the “mixture” or inter-disciplinary framework as applied to several different variables. This section forms the bulk of the article as such an application concretizes the theoretical framework in specific ways so that the reader will ascertain the usefulness of such a venture, which in turn ought to spur and spawn future research.

**Keywords:** paradigm, inter-disciplinary, framework, practice

### Introduction

The New Paradigm I will argue for is the necessary interrelatedness of knowledge and experience, which at the same time elides an absolute description of reality. This is not simply a case of the limitations of our knowledge and experience or one’s partial grasp of reality, but that the very fact that, to borrow a metaphor<sup>1</sup> from physics, light behaves not simply as a particle, a discrete something, but also flows and vibrates as a wave; it is, as it was spread out and imprecise. It is this nature of nature that precludes a total grasp or elides definitive analysis and understanding. Yet one may experience this interrelatedness or oneness, in the same way our senses conjoin in, say the experience of eating a meal, even if one sense (or discipline within the field of knowledge) may be dominant at any one time.

The central argument of this article on which such a paradigm hinges is that the various branches of what is aptly called the “body of knowledge” – and notwithstanding the evolution and development of this organism if you will – is that each such discipline is both independent and inter-dependent. Insofar as each such branch is independent, each discipline is marked by its own internal coherence or form. It exists as a seemingly self-sufficient, robust system and can be understood in its own terms. In this sense, it constitutes a language. Now, a language has syntax and semantics and can be learned, developed and operates as a system of signification. It is based upon rules, its own internal logic (which could be otherwise) and forms a cultural game, that is to say, one may apply Wittgenstein’s notion here, namely that it is integral to a “form of life” and that its meaning is in its use.

### Sketching the Framework

Insofar as each such branch is inter-dependent, one cannot simply understand the form (of knowledge, of a language...) without reference to something else, whether it is a world; another language; other disciplines or branches of knowledge; other systems of knowing and acting in the context of a certain “form of life.” A game is only a game, insofar as there is that which is not a game. Ideas, definitions and so on are therefore necessarily interdependent in order for there to be a system of signification, even in the instance of one dealing with polar, dualistic oppositions.

Let me make both notions of independence and inter-dependence less abstract and provide a few examples to strengthen this point: One can “do” history of art or, say, pure mathematics without reference to anything outside the system. In the former case, I might analyze the formal changes and shifts in style over a period of time and discern the development of such styles within a given period. I may attribute a certain meaning to these shifts in technique and thus establish a picture of stylistic innovations over time and place, depending on the focus of such a study. In the latter case, I can multiply an unknown variable with the same variable and add the exponents without any reference to what these equations or sums so refer to; it is simply a formal game that follows its own inherent logic or grammar. One can take any discipline and follow the same reasoning – one simply follows the dictates of its own principles and “does it” accordingly, without any such connecting to other domains. History is history. Politics is politics. Biology is biology. And so on. Its meaning is not simply

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<sup>1</sup> Metaphor is a useful concept in the context of this article. Rather than our ability to say what *x* is, what reality really is, and pinpoint a discrete particle with definite properties, the very fluid nature of reality, its wave-function precludes exact description (and knowledge). At best, then one can say what something is like or akin to or approximates – and metaphorical description is the very mechanism by which one can do so. It also allows the borrowing on one system/language/discipline and applying that in another domain or branch of knowledge which is “exactly” what I so conjecture and argue for.

tautological or redundant or simply a formal game bereft of meaning, for within its own ambit of principles, axioms and analysis, one accrues knowledge within that domain and so progress is made. Indeed, in simpler terms: a cricket game, say a test match is a self-enclosed game over 5 days that may be experienced on its own merit – and perhaps in relating to the history of cricket, certainly its rules – without any care or reference to anything beyond or outside those perhaps glorious five days, if one were so inclined.

Yet, there is another way to see knowledge and experience, one which recognizes the necessary unity and inter-relatedness of knowledge, of things. It would appear perhaps more “messy”; on the other hand; it can also yield knowledge and is necessarily a part of each such game, system, language or branch of knowledge at the same time.

If one pier into the “story of art” (to borrow from Gombrich), then one will notice that the unfolding of such a story is not simply a tour de ‘force of stylistic and formal innovations and developments, an arts-for-arts’ sake formalist account, but the mixture of “other”<sup>2</sup> information, such as the artist’s psychology; the historical period of time in terms of its politics, economics, religious outlook, philosophy and so on and so forth in a “dance” that then confers meaning on the art-object and the personality of the artist. That is to say, aesthetic and extra-aesthetic descriptions apply, neither canceling the other, yet neither description sufficient in nor of itself. Similarly, mathematics does not simply “stand-alone” as pure logic or a formal game but is enmeshed in physics and other sciences; follows a history that in turn is co-joined with a very human world, a social order of sorts from whence the fruits of mathematics was born, and it may be argued is relativized according, within a milieu and certain social and cultural conventions and so on. Such an acknowledgment which I have but briefly outlined, can and does factor into to all disciplines within the ambit of knowledge and knowledge claim, now one discipline dominant, now another, yet all-inclusive of the “other”, just as one cannot get a foreground without the concomitant background, as it were.

### Visualizing the Structure of the Interdisciplinary New Paradigm

**Theoretical formulation.** What I am proposing is not another discipline (that would just beget yet another and so on and so forth), but rather a theoretical framework in which all disciplines form a coherent unity, even as they develop within themselves and in relation or as overlapping with other disciplines, far and wide, deep and superficial. This then is not a “Theory of Everything” (so named T.O.E. in physics) lodged within a particular discipline for such an explanation is still within the formal language or form of that discipline and therefore, even though in a reductive manner, it may claim supremacy as the basis for all others - in the sense that one might argue that physics leads to chemistry which in turn leads to the life sciences and then at the other end of the spectrum moves towards the humanities – it is expressed and understood within and as physics and therefore cannot contain a world-picture. It is a separate discipline, even as it may act as a backbone for all the others.

Thus, what I am describing is merely like a set that is not a set. The interdisciplinary New Paradigm – the phrase itself implying a distinct and limited entity – is itself not subject to any other set language/form/discipline. It is rather an idea that supervenes within and above the manifestation of knowledge under any one or several or connected branches (of knowledge). It is “new” in the sense that it offers the possibility of oneness and unity rather than divide, separation, and specialization.

It is holistic rather than analytical; it is applicable to all domains while itself not being a domain. Yet, for all its esoteric non-specificity and definition, it has pragmatic value and a contribution to offer. It not so much fills a gap but creates a gap. In metaphysical terms, all systems/ languages/ forms/ branches of knowledge are then contained therein, which itself allows the very enmeshing of such forms to take place. Yet it is not just a “messy muck” but has both analytical and specialist attributes. With such a concept, one can do research that is indeed interdisciplinary and allows anything to be matched and compared, drawing likenesses and connections between seemingly separate research fields. In this way, both new knowledges emerge as well as a deeper appreciation for unity, rather than, or perhaps amidst apparent fragmentation. I am not simply giving another “Kantian” predisposition, an inherent axiomatic structure of the mind or brain; rather, I humbly claim that the Interdisciplinary New Paradigm is even more foundational. It is the need to unify. The need to *see* the big picture. A vision, perhaps of infinity or at least the unity of separate entities, like an abstract device such as a number that enables things to be counted or related. Or like the fusion made by Einstein that links – against the prevailing traditions – both the concept of time and space.

**Diagrammatic explanation.** Consider a single discipline. We can represent that as a point. “Within” this point is all the details of that discipline. It is sub-divided in several ways as the discipline grows and evolves and develops.

In order for it to *be*, it has to be defined in relation to something else (another discipline), that is to say, A is A and A is not A, or B. Once there are two such imaginary “points,” then there is the basis for our conceptual line. For there to be a line or extension, there must be the concept of space, two dimensions. In this sense, though the points are initially defined as distinct, they are related. They form a line. A line in space. The line can be considered horizontal; the points are of equal value in the plane. Or they can be drawn vertical, in which case one is said to be foundational and the other a result of the first. In this sense, space implicates time, a “before” and “after” for to speak of change and development and relationships, is to speak of a sequence and process; matter, space, and time are in motion. One might call it the relationship, dialectic, or oscillation between a positive and negative charge, to draw an analogy or metaphor culled from, say, physics or chemistry. Since there is some notion, the imaginary line itself is not simply either horizontal or vertical but may bend and contort and flow in various ways. One might summon the image of a Pollock “drip painting” to visualize such a dynamic. Such an image follows our simple line of two points that begets enumerable more such points and thence lines and so a complex interaction can assume form within the plane (or canvas surface – to continue the metaphor).

Yet there are many “steps” before a complex web of seeming chaos. A line leads to 3 points, a triangle; four points implicate the square, and this iteration continues so that one gets the basic Platonic-like shapes. Then, a third dimension is added so that there is not simply height and width but also volume or three dimensions. The form it takes can be visualized as chemical bonding and crystalline structures, yet this is so only by way of analogy. The exercise of which I am describing refers to a conceptual realm that can be applied across and between and within disciplines, that is to say, the organic body of knowledge, if you will.

Returning to the initial *point*, one might also envisage a particular discipline as a circle in which are contained further details (circles) and that once again, it is, because it is not something else (another discipline). Paradoxically, in that separation, they are connected; that is to say, the circles overlap (*or bond*). In this hypothetical image, a line barely exists for constituted by circles or points; it is but a useful fiction or mode.

<sup>2</sup> The idea of the “other” as in the “other” of language or that which is beyond the interdependent terms of the text in the Derridean sense, substantiates my argument, wherein, on the one hand language acts as a closed field, and yet on the other, admits an “other”, an “other of...”, a reference if you like. The “language turn” is the equivalent in philosophy of my contention that all branches of knowledge are inter-dependent while reality itself cannot be accurately known (the old epistemological conundrum). The New Paradigm then, in a sense may be subverted, in that there is no ultimate paradigm (no dominant field of knowledge, language, form...), only a shifting “wave”, an indescribable reality that one might metaphorically allude to or hint at, and pragmatically manipulate, while the source of qualia is unknown. Kant then made a brilliant distinction between the noumena and the phenomena.

The image approximates, just as the visual sense of seeing is a partial description of a thing and requires the other senses as well as the assimilation of qualia in terms of rational systems of thought: categorizing, naming, counting and understanding processes and so on.

To render this less abstract, I can draw from exemplar cases in various domains or disciplines: In physics, one might say particles are “pulled together” via the strong force; in cosmological terms, masses are attracted via gravity; in chemistry, the charges create bonded structures; in the life sciences, organic bodies “eat,” “replicate,” dispose of waste and so on – and in the humanities one can speak of the *overlap* of saying art and history, which one might then call “the history of art” and so on.

The upshot of all this is the inter-relatedness of all such branches of knowledge. The humanities and the sciences as the apparent furthest ends of the spectrum or line or form or body of knowledge are connected insofar as science is necessarily human science, not so much that reality “in itself,” but our mediation structures<sup>3</sup>, namely our means of understanding it (reality), limited by our senses, categories of thought or methods and perhaps, whether the cup of coffee this morning has rendered me alert enough to pen this down.

With these images and abstractions in mind, I will now develop a practical example of how this interdisciplinary nexus can be applied. This will substantiate my argument and convey one way wherein aesthetics, art history, science and sport – apparently disparate and unrelated fields (points or circles) – might be connected. If this is sound, then indeed, one can see the explanatory and pragmatic power of the idea that I propose. Admittedly, even if valid, this is but one example and “purists” may dissent and argue for the formal coherence and separation of fields of knowledge; that this isolated example is random, a chance event – and that in the main, one cannot confuse A and B. Fiction is fiction. Non-fiction is non-fiction. My idea (somewhat) equates to fiction and non-fiction and that sounds non-sensical. Yet, on close inspection, it is not. As the poet is wont to say, the reality is a dream. And the physicist might quip, some particles appear to not exist and do not even possess mass.

#### One Possible Application: “Mixing” Art, Aesthetics, Science and Sport

**Two observations: How does this comparison enrich our understanding of both art and sport (read: science)?** The “world of art” and one might say, the “world of sport” or, for that matter, “the world of science” are what they are as a result of the institutions that make them part of a particular society. These institutions extend from within the art circle and sports circle (read: science circle) and relate to economic, political, philosophical and religious institutions, each incommensurate and none all-encompassing. Integral to this is the concept of “the body,” or rather the construction of the body image. The analyses below links the image of “the body” to the canon or paradigm of a particular society at a certain time. This is “advertised” by the institution of art.

The first observation, then, “the institutional body,” puts forward, albeit briefly, the notion of how art represents “the body” in accordance with institutions with a religious, political and philosophical outlook. One might thence infer that style in art is dictated by such institutions, the result of which is the “institutionalized body.” Demonstrating a confluence, sports imagery and scientific investigation similarly use “the body” to express its vision of what the athlete can be and by extension, ordinary mortals, as these athletes are a kind of imaginary reflection of society as a whole. Science, however more concerned with the very “picture” of what the human body (or the natural

world in general) is constructed, whether or not such a human is at the pinnacle. However, such images also reflect the political, economic and disciplining forces of society as a whole.

In all these respects, the power of Ancient Greek culture and the “culture” of Nazi Germany concretize these concerns reflecting a symbiotic relationship between art and sport (read: science). The second observation links the “world of art” and “the world of sport” with a particular language construction. This linguistic function makes art and sport (read: science) cultural artifacts that have a certain positive effect on a given society.

I take as my point of departure Wittgenstein’s (1953) language game thesis to argue for the observation that institutions govern the way we form communities around art and sport (read: science), which may or may not reflect other institutions. I conclude with an artwork that reflects on the power of institutions as a kind of game and more specifically, the sport of chess. This work will be described as a thoughtful reflection on the past and the amalgamation of the “institutionalized body” and aesthetic experience offering hermeneutic “play.”

**Observation 1: The institutionalized body through art and sport (read: science).**—The Ancient Greek example serves to illustrate the blend of the conscious and the unconscious, of mind and body in a dynamic unity that demands not only reason but the primal urge of the pre-discursive body. A quote by Rowe (2004:118) eloquently expresses the relationship between imagery, language and politics: “...sport (art, science) incorporates elements of external discourses in interpreting events in the sports world (or “art world” or “science world”). In this way, sport texts (art-texts) and social ideologies, mediated through different institutions and discourses, can be in constant interaction, each appropriating and relinquishing imagery and language in the unending process of representing the social world” (brackets my inclusion). In a sense, the individual gets “lost” in the aesthetics of her culture, without knowing the truth, the facts of the matter, as it were.

Classical Greek sculpture as a representation of athletic nudity provided the opportunity for the exploration of the beauty of a well-conditioned body. It also promoted the development of the artistic portrayal of “accurately” carved figures, what we might now refer to as “classic naturalism” – a model that was instituted on the Greek standard and harks back to the idea of “man is the measure of all things”. This standard was greatly enhanced by the proliferation of setting up victory statues at Olympia and other game sites. But these artists sought more than simply rendering the form as it apparently appears to the eye. They wished to convey the inherent beauty in action and the refinement of the person who achieves excellence and *arête*. For example, the discus thrower steps towards the line, preparing to cock his arm and twist his body into the corkscrew position that will help his throw. The *Diskobolos* by Myron of which copies survive is such that “the body is twisted, the diskos raised at the top of the backswing, the arms and legs balanced in untenable positions – the athlete must spin forward or fall, and the viewer mentally completes the motion” (Miller 2004: 229). In this sense, the human figure perhaps becomes a metaphor of both flux, as time moves inexorably forward, and stasis, wherein the body is stable and balanced, a link to both the temporal world of humans and the immortality of the gods. The human form, in its aesthetic beauty, perhaps links this chasm between the finite and the infinite.

Art is the vehicle through which the body becomes a source of physical achievement and divine grace, of a kind of perfection. At least that was the image that the institution of art, using athletics as a model as well as the science of measurement, proportion and empirical investigation of observation, attempted to depict and further reflect the Ancient Greek belief in harmonious balance. The facial features of such classical statues, as a result, are not overtly

<sup>3</sup> It is useful at this juncture to make the distinction between “lights” (light) and “vessels” (matter). The light is the “in itself”, the point of origin, while the “vessel” is our mode of apprehending it or categorizing it in some or other way or form or language or discipline. The point is that the New Paradigm of the interdisciplinary suggests that the light is one and infinite, while the vessels are of perhaps finite measure. Since the vessel “houses” the light, each vessel (discipline) still is essentially that light, though as distinct forms, may appear different. *Our lens is limited, while the light is not*. Yet such a distinction is necessary for the purposes of definition. Essentially what my argument points to is the dissolution of the vessel/s and the perception of light. Of course, this is an impossibility and simply a logical and imaginary hypothesis.

emotional but portray calmness and modesty and are “serenely detached” (Cook 1972:15). Sometimes though, the scars of battle are visible, but even then, the image is suffused with a kind of pensive and philosophical outlook, as is evidenced in the *Boxer of Apollonius*<sup>4</sup>. Although the body appears resigned, its obvious musculature and strength indicate the power of the individual athlete, which is further emphasized by the head that tilts upwards, perhaps implying that his spirit is not beaten even as his body is at rest. One could compare this sculpture to the many bronze statues of a god (for example, Zeus) where the god strides forward, his face bearded and forceful like the boxer. Both are in their prime; both seem to look towards the future. Even as the god is upright and active, one gets the impression that the boxer is merely at rest and contemplating, soon to take up the fight. Both god and athlete are idealized forms, expressing the concept that beauty reveals the divine in man and the humanity of the gods.

Thus, this would serve as a visual depiction of the amalgamation of intellect and athletic prowess that served the classical institutional model. Having said that, the presumed ideal aesthetic form, the outcome of reason and imagination and its convergence with sport, philosophy and what we now call science, does not necessarily entail a moral and intellectually broad and healthy skeptical attitude. This will become clearer in the following brief analysis in which I look at the uses and abuses of sport as well as science and art in Nazi Germany, wherein certain stylistic forms were borrowed, in an ironic twist, from the classical Greek ideal.

Sport is, to a certain extent, a bodily art. The Volk was identified with the deep well-springs of nature, a Romantic spirit, so that “the (sporting) body” was conceived as the muscular strength of the Volk that linked the nation to its beginnings in antiquity towards the collective organic “body,” the unified Reich of modern times. In this sense, sport embodied principles of German solidarity, discipline and racial purity. In order to depict that “strength” in artistic form and in a language understandable by the majority, classical realism was used as is evident in the work of the official sculptor, Brecker. In his work, we see that the body, while exemplifying classical standards of beauty, does not invite dialogue and relationship: they are “ideals” abstracted from sensual, vulnerable beauty. The strong “impenetrable” solitary “athlete” often carries a torch or sword. To further the aims of the Nazi political institution, popular media such as film was used, evident in Riefenstahl’s infamous *Olympia*. In the process, the sport was aestheticized. Roche (2000:122) puts it like this: “...sport culture became part of an aestheticization of “everyday” life and mega-events became elements in a theatre of power.” It is the numbing effect of the sensual and aesthetic that allows propaganda (extra aesthetic ideology) to weave its spell unchecked. One could thus argue that the racial and ethnic nation as a kind of organism represented an “institutionalized body” that needed to flourish and weed out undesirables to make a glorification over others possible. The victory was seen as but protection of the groups’ health, the hallmark of the stronger and superior race that had the right to expand against the weaker in order that the German “body” should thrive. This philosophy is also evident in the science of that time with the spawning of eugenics, racial theory and evolution as the scientific evidence to corroborate such a notion of racial separation purity and dominance or superiority. In other words: the way to the mind is through the control of “the body,” even if its presence is marked by “play” and the aesthetic and apparently the intellect too. The classic *Olympia* by Riefenstahl, while pioneering in sports “documentary” and artistic subtlety, conceal the political overtones, ironically through its artistic use of montage and its introduction linking Nazi Germany to a pagan, Greek example, wherein artistic effects appear beautiful, innocent and natural. In this respect, the Berlin Olympic games of 1936, the festival of youth and seeming aesthetic play, have rather sinister connotations.

Both Ancient Greece and Nazi Germany serve as examples where “aesthetic considerations” led to the confluence between art and sport (read: science) so that imagery became the means for institutional control, specifically what might be termed the “institutionalized body.” As a result, aesthetic “beauty” either

appears to lose its definition or it includes everything. Or rather, we should say, paradoxically, that the aesthetic both loses definition and yet, embraces all aspects of “everyday” life. This is when a specific aesthetic has come to assume a singular extra-aesthetic meaning rather than a playful, open one.

**Observation 2: Art and sport (read: science) as culture.** In this section, I argue that to see art and sport (read: science) primarily in terms of institutions is to say that art and sport are the primary means through which a culture is created and enhanced. I begin with Wittgenstein’s (1953) notion of language games and based on that, describe art and sport (read: science) as forms of communication and contact between people – a social nexus or culture. Wittgenstein says that when we “look” at how a word is used, that “...to obey a rule, to make a report, to give an order, to play a game of chess are customs (uses, institutions) ... to understand a sentence means to master a technique” (Wittgenstein 1958:81), we see that we cannot understand a term in a vacuum. Therefore, one may extrapolate the terms “art” and “sport” are part of a public system of communication that is relative to a particular time and place; a language game that assumes meaning not defined by reference to the objects and things which they designate in the external world, nor by the thoughts, ideas or mental representations that one might associate with them, but rather by how they are used in effective, ordinary communication. For example, we need not postulate that there is something called “good” that exists independently of a “good deed.”

Thus, definitions emerge from a “form of life” or the culture and society in which they are used. Therefore, there is a social aspect to cognition. To reiterate: A word carries meaning in relation to context, which defines a certain language game, and this is how Wittgenstein deflects his own proposed rule-following paradox. In the *Philosophical Investigations*, Wittgenstein (1958:201) states the rule-following paradox: “this was our paradox: no course of action could be determined by a rule because any course of action can be made to accord with the rule.” The rule-following paradox threatens our ordinary beliefs and practices concerning meaning because it implies that there is no such thing as meaning something by an expression or sentence. If there cannot be rules governing the use of words, as the rule-following paradox apparently shows, this intuitive notion of meaning is utterly undermined. Kripke (1982:60) writes that this paradox is “the most radical and original skeptical problem that philosophy has seen to date.”

Wittgenstein proposes that meaning and rule-following necessarily belong to a practice. This suggests that the phenomena of following a rule are basically patterns of activity in human life and that there are no further grounds for these patterns. He rejects a private usage, but rather one that is community-based or a “form of life” (Wittgenstein 1958:44), in that there is nothing detached from a “form of life” or that is “ultimate”. Sport can be construed as one such language game, art another and by “grammar,” Wittgenstein means the possible condition for the “moves” made in the language game within its prescribed set of rules. Or, in its strongest form, Wittgenstein holds that “aesthetic positions are an indication of how well you have learned your cultural tastes and prescriptions” (Paskow 2004:55). Or, in other words, whether the institutions that define art or sport (read: science) have been effective in teaching and communicating the subtleties of art or sport (read: science).

I am suggesting that there is a further subtlety “between” art and sport. While Wittgenstein rejects an ontological essence and by implication an aesthetic “depth” that we could ascribe to the term “art” or “sport” or “science,” preferring the subtler “family resemblance,” he does allow us to appreciate art and sport without theoretical groping for definitions and paves the way for the necessity of social and public use of such terms: he implores us to recognize that the game of sport and the game of art and the games of science is embedded in our culture – and thus relative – human practices. At this point, it becomes equally clear that art and sport (read: science) are communal activities that are understood, appreciated and meaningful within the context constructed by culture and engaged in by language users who speak the speak of

<sup>4</sup> Boxer of Apollonius, Deutsche Fotothele, Dresden in Schobel (1965), 73

sport or the discourse of art or the language of science. And how do we language users held within a culture speak of our sport and art and science? What do the institution of sport (read: science) and art consist of?

Schall (2003) observes that when we are playing and watching sport or making and viewing art, we are outside of ordinary time, the time we measure on our watches. Indeed, Aristotle asks us to notice that when we are wholly interested in something, be it writing, playing, or loving; we do not notice the passage of time. Aristotle goes further and says "game" time is closer to eternity, "not the complete evaporation of time or its complete denial" (Schall 2003:304). The sport tests our human limits such that when we play and watch a sporting play, we live more truly and get beyond mundane life. I would claim the same for scientific research, especially when months of such research lead to a breakthrough of some kind. Schall (2003:314), in contrast to Brohm (1989), goes so far as to claim that "sports are the last bastion of clarity in morals." Furthermore, our games and sports are played for their own sake and thus, as things beyond use is analogous to our absorption in art and science – as in a good symphony, painting, dancing, liturgy or play; a discovery; a proven hypothesis, a new technology that alters our very culture and system of communications and so on.

In art and sport (read: science), we are taken out of our time to behold something for its own sake or, as Nietzsche would have us believe, to reinvigorate life itself! Therefore, it is not clear whether we can distinguish between art and "everyday" life. The institution, ironically, provides the framework in which to think, speak and act in accordance with sensible language, namely one that we call art or a specific art form or sport or a specific sport (read: science). We may describe such play ontologically as "beyond time" or the mundane, yet at the same time, I have argued that such descriptions are not entirely accurate and that sport (read: science) and art are not innocent: its institutions may be embedded in a theory of alienation, ideology and manipulation. In this sense, the notion of aesthetic "beauty" was not clear.

The above point notwithstanding, Courbetin's vision of a "healthy body, healthy mind" is the Olympic maxim that sought to embrace a culture of international understanding and made military combat less likely, just as the project of science was invigorated with the Enlightenment and promised great progress. Sport (read: science) is communication and contact via the "body," via games; art in a subtler sense is also "bodily contact." Both may have as their objectives a kind of "collective consciousness," transcending class, gender, ethnic, religious, and regional distinctions. As far as the institution of sport is concerned, one may observe that the deepest appeal of a game like soccer, for example, lies not in its undeniable moments of beauty but in its capacity to act as a "vehicle for fans to express an ongoing, intergenerational discourse that takes as its starting point familial ties – ethnicity, nationality, history – as determined by such factors" (Efron 2008:42). One acts as participants in the creation of a "continuous narrative..." (Efron 2008:126) with a particular type of discourse, for example, written texts, sacred canons of rules and official histories, pure ephemeral materials such as match-day programs, radio and television commentaries and journalistic summaries of games. Fans generate an oral tradition passed on through the generations, which creates a community and relationships. I would claim that our present generation and culture are very much taken by the ideology of what science has to offer and the narrative it conveys.

As I mentioned in the section on the "art world," art too is social and involves a particular discourse. My attraction to the institutional theory of art is that it "forces" one to see that it is the artists' community, like a scientific community or sporting community for that matter, that is entrusted with the task of navigating art, experimenting, theorizing art and forging a paradigm. The paradigm necessarily entails change, and thus in different societies, the creative energy of the individual artist is in a state of flux and redefines itself. So, while we can't pin down art, it remains an "open concept" (Wertz 1993), which is perhaps closest to its alive nature. I venture to say that it is art's "openness"

that allows for its challenging nature, in that the public is not always cognizant of what to look for, whereas in sport, the public is generally there to be entertained. In this respect, science is perhaps "closer" to art.

It is no wonder then that the institutions of sport (read: the institution of science) carry such economic weight and media coverage. Here one can derive aesthetic pleasure in consumption. My project is concerned with also recognizing the extra-aesthetic "surfaces" of the aesthetic. At its best, it seems that institutions function in order to satisfy cultural needs. Blanchard (1995:36) defines society as the fact of people and relationships, while "culture is the character, quality and abstract nature of those patterned interrelationships." He analyses culture further and describes it as universal, that all participate in it in that it is a learned behavior. In this sense, we are said to be "acculturated" (Blanchard 1995:39) – a process whereby one internalizes a particular tradition and gradually develops behavior patterns consistent with those manifested by other members of his group. In addition, culture is adaptive to the environment and a form of survival; it is an integrated whole, symbolic and a guide for behavior. These "cultural needs" are learned. We learn "to appreciate performances more deeply" (Cashmore 1990:26). In other words: "the sports fan like the art critic who acquires a knowledge of what to look for, knows how to evaluate, the meaning of a specific move" (Cashmore 1990:27). Certain cultures equate acculturation with a – or as an – aesthetic sensibility.

Combining both observations, art and sport (read: science) as institutional and art and sport (read: science) as cultural, we may assert that cultural institutions may be ways of imposing order, with a particular aesthetic endorsed. The relationship between art, sport, science and aesthetics is "expressed" by Herz's *Zugzwang*<sup>5</sup>, a juxtaposition of seemingly "impossible bedfellows." He wallpapered the gallery space from floor to ceiling with juxtaposed portrait images of Hitler and Duchamp. There is the paradoxical fact that the greatest terrorist of the twentieth century and the hero of the twentieth-century avant-garde were photographed by the same cameraman (Hitler in 1932, Duchamp in 1912), referring to Hitler's beloved photographer and the mastermind of his public image – Heinrich Hoffmann. The alternating images of Hitler and Duchamp appear to embroil them in some sort of game or sport, like chess, while both were artists and so, their proximity, seemingly ludicrous, transcends both art and sport, or is philosophically wedged between art and sport, as the work asks questions relating to the proper ethical, cultural "game." The science here would refer to the technology of photomontage that provides the possibility of actually making such work, making the idea visible.

The artist questions whether Duchamp somehow killed art or opened it up to such a degree that one cannot discern an ontology of art. But, at the same time, it seems the artist is comparing this "destruction" to Hitler's violence, which is a curious comparison. The layout suggests a chess match, a sport of wits: Duchamp, one may argue, is trying to outwit Hitler in his broad-minded modern vision of art, so hated by the dictator. Perhaps the art of Duchamp kills megalomania. Artists also seem to assert through repetition that we forget who they are, and therefore the viewer transcends philosophy, politics and history, or that they are reinforced and replayed. Kleeblatt (2001:118) suggests an approach towards understanding when he says that the piece is "conceptually calculated, *Zugzwang* refracts both the historical and the art historical in an installation that is at once physically empty and visually saturated. Its restrained form straddles a rapid-fire trajectory of references from Dada to Pop, collage to montage, Minimalism to Conceptualism to installation art". In this way, modern art, the seer of which is Duchamp, seems to outmaneuver the deplorable of modern "degenerate" art, so that the "cultural war" Hitler was said to have won, has not materialized.

Yet, perhaps, as the title suggests, namely a chess term that refers to a player who is limited to moves that will have a damaging effect on his or her position, neither can claim victory as there are

<sup>5</sup> *Zugzwang*, 1995 by Rudolf Herz. Photographic reproduction. Installation in the National Gallery, Berlin, 1999 in *Mirroring Evil: Nazi Imagery/Recent Art* by Kleeblatt (ed), 2001, p 102.

points of similarity: Both were born only two years apart, both images show them dressed in a bourgeois manner, both are artists, both debunked aura and originality. The interpretation I favor is that the chess match is a fight between Nazism and Dadaism, “contrasting notions of nihilism” (Kleeblatt 2001:119), and the repetition of the two is distinct in that for the Nazi’s, repetition was a show of power, of dehumanizing multiplication and the Messianic image of the Fuhrer, whereas Duchamp uses repetition to “dispel notions of power, originality and genius” (Kleeblatt 2001:119).

The work above asks questions about the relationship between culture and politics in the form of a game, the sport of chess in the context of art made visible of science and its technological applications. It is probably best to remain critical when blandishing the word “culture” as Robert Cecil (in Petrouopoulos [1996:309]) says: “...[there is the] vexed problem [of] how the people of thinkers and poets had temporarily become transformed into the people of judges and executioners.” There is something clinical, even violent and final about reason or necessary logical thoughts – a “beauty” that is uncompromising as in chess, military strategy, scientific exploration, sports tactics – which is emotionally augmented by the “depth” of feeling and emotion derived from art. In this sense, “aesthetics” or “culture” are alarmingly powerful; culture is a muscular aesthetics.

**On Wittgenstein and intransitive knowledge.** We may deepen our understanding of the above two observations, namely the institutionalized body and art and sport as culture, by applying Wittgenstein’s philosophical investigations. The implications are that his aesthetic considerations naturally lead to analysis and inclusion of different aspects of “everyday,” cultural life such as sport as well as an understanding of the accrual of knowledge through science as aesthetic, rather than only discursive. This is argued on the basis that there is a kind of knowing/knowledge not amenable to verbal articulation (which is not to say that it cannot be articulated); in fact, it may even form the basis of verbal language itself namely intransitive knowledge or tacit knowledge.

Aesthetics, that is, ideally first-hand experience of pictures, music, poems, scientific papers ...the skill in craft and attunement to the specifics of the senses all require this kind of knowing/knowledge which finds resonance in the ineffable, non-verbal language of games, particularly sports-games. This upshot epistemologically is a pragmatic conception of knowledge in forming a discursive understanding of aesthetics.

Wittgenstein’s forays into art are well-known and like his philosophical writings in which form was as significant as content, reveals that his philosophical views draw from aesthetic considerations. One reason why this is so, as Escalera (2012) observes, is that it reveals basic aspects of human knowledge; they lead to what he termed intransitive understanding. By this term, Wittgenstein wishes to convey that we cannot approach the world conceptually as “a large part of human knowledge does not have a propositional character” (in Escalera 2012:55). Wittgenstein also referred to this as “experience” (in Escalera 2013:56). Such knowledge requires following a rule where there are no explicit rules for following it, just examples to learn from. So, for example, in art, if one wants to understand a picture, it requires one to understand it as it is, given that it cannot be substituted by another one. It depends directly on the work we appreciate. It requires engaging directly with it and participating in aesthetic inquiries. One must learn from those already steeped in such inquiries, but one should also apply what we go on learning, for this one would need many other painting examples and be aware of the issues discussed in aesthetic discussions of paintings. Furthermore, one would need to learn about the painter and the rest of his or her oeuvre, considering other paintings by other painters (adapted from Escalera 2013). In short: learning has been practiced at its base, rather than mere description. The same process inheres in the sciences. Or as a Marxist may put it: philosophizing alone does not change the world. What Wittgenstein is saying is that practice shows us the way and shows us our understanding, similar to using a word correctly by paying attention to how other people use it and then applying it correctly in context. Following a rule (how to use a word, how to understand a painting...a scientific formulation...) is praxis. This is how “concepts (rules) are inscribed in established ways of acting” (Wittgenstein 1958:34, brackets my addition).

In this sense, Wittgenstein privileges practical over theoretical knowledge. For Wittgenstein, art aesthetics became the model for intransitive understanding as it is the kind of experience that is not simply verbal language. Often, we do not know what we understand or even how we may understand, and we may be unable to articulate our perceptions. It is a non-propositional dimension of knowledge. It is often a spontaneous reaction. Wittgenstein wishes to expand the horizons of aesthetic education, drawing on the fact that much understanding is acquired in practice and copying, and not conceptually reflective verbalization, for there is a kind of ineffability to art (life). For example – do we learn a dance by copying the choreographer or verbally reflecting on each move? Obviously, the former. This should, in fact, be humbling as it implies that one cannot control one’s understanding and that art (life) escapes our reasoning processes. Does the scientist investigate a certain phenomenon know how it is her brain and senses are functioning as she “does” the research?

Though art may not deliver facts as such, it does “speak” to our values. Aesthetic education has the potential of changing our attitudes to life for the better, while a scientist may be unaware of the qualitative and values his art entails. Applied to sport, we may say that sport too exemplifies the “non-propositional” – as emotive, imaginative and beautiful. The sport requires one to put into action what we can conceive. It spurs us to be active rather than passive, to motivate contemplation towards deed. Though one might not have certainty that the action is right, it would be unreasonable to only act only when completely certain – a near impossibility. Stickney (2008) offers a solution (to a lack of certainty) by noting that one can still speak of degrees of certainty, which are relative to various language games played. These are based on participation within a form of life. A new theory, accordingly, is just a new point of view, not an unveiling of objective fact.

Furthermore, one cannot undermine other forms of life – “truths” – using one language game to refute another. Training in language games (and not correspondence) tells us what they are, such that together we act in ways that become for us “natural.” As such, there is no ultimate game. Sport (read: science) offers us a metaphor of this in its variation of the number and type of games played and indeed that it is but a game. Moreover, games are complete in themselves, incommensurate and thus, action is deemed “right” in relation to the game being played. Wittgenstein’s theoretical position thus not only has an application to sport but the sport itself (read: science) is a kind of material embodiment of his philosophical musings.

Another aspect of Wittgenstein’s aesthetic philosophy that may be applied to sport (read: science) is that the primitive form of the language game, in contrast to the argument above, is a certainty, not uncertainty. As Wittgenstein states: “for uncertainty could never lead to action. I want to say: it is characteristic of our language that the foundation on which it grows consists of steady ways of living (feste Lebensformen), regular ways of acting” (in Stickney 2008:623). So, sport (read: science) again can be seen as a paradigmatic example of “certainty in action,” something often lacking in “everyday” life, and therefore as an ideal to which one can strive. Wittgenstein avoids metaphysical assumptions about this certainty, instead preferring to suggest ways in which we grope for certainty. In other words, we do not need a complete picture to then act appropriately. In the same way, one need not know all sports (read: science) to play a particular sport (read: science). The correct course of action, therefore, does not entail a metaphysical and epistemological “grand narrative,” but the more modest “correctness” within a particular set of circumstances. And that is precisely what we mean to say when there is, for instance, a “good movie” in a particular sport (and perhaps less clearly in art and science). In a sense, we can say that we are trained into ways of thinking and seeing, such that these become for us a world-picture that seems to hold itself up before us inexorably (Stickney 2008:625).

The philosopher cannot dispel pictures that captivate us; only changes in practice can free us from negative patterns of behavior. Sport (read: science) then may be understood as a kind of healthy deed, offering us alternative ways via games, of acting and practicing. This in turn, affects our philosophizing, our “picturing of the world.” Applying Wittgenstein’s views to sport (and science)

suggests an account of sport (and science) as offering kinds of active freedom that in turn may affect the way we think (philosophize) about the world. In my estimation, this inverts the gap between thought and action and suggests changing behavior, being involved in games, affects how we see the world, rather than the opposite, which is a common, but perhaps mistaken, assumption. In this sense, the institution of sport (of art, of science...) both creates a space in which to "play" and, in itself, needs to evolve.

It is worth noting that there may be a useful oscillation between verbal and non-verbal language. For example, the sports commentator, like the wine connoisseur, aids one in finding a kind of equivalent in verbal terms for the action or taste experienced – to an extent. At any rate, the vacillation between the "poles" of aesthetic sensibility and "named" experience, I believe, enriches one's attachment to such experiences. However, in some sense, the two language games do not correspond; they appear to match but actually do not. One may say the "experience" itself is primary for the one that experiences, but commentary, like wine connoisseurship, may, in fact, help one see/taste more and in that sense, primary and secondary experience may reinforce one another and develop one's sensual and analytical grasp, neither exhausted by the other. In this sense, (aesthetic) experience is mediated (extra-aesthetic). Seeing a painting and reading the text "about" it; tasting wine and articulating in verbal language some kind of description; watching a soccer match and listening to the commentators' description, discovering something in the laboratory and lecturing on it...yields a kind of knowing wherein we only tacitly grasp what we see or hear or taste, with or without the verbal language. But this still amounts to a kind of knowledge in a pragmatic sense. This is meant that our conceptual hold on the world is not exclusively revealed in our ability to formulate clear propositions about reality. It is anchored in certain forms of action/practice: looking at paintings, tasting wine, playing soccer, doing lab work/play – knowledge thus conceived is not purely intellectual. Wittgenstein (1958:150) himself had this to say: "the grammar of the word 'knows' is evidently closely related to that of 'can,' 'is able to.'" But also closely related to "understand" (mastery of a technique), and later he writes "...but there is also this use of the word 'to know: we say 'now I know – and similarly 'Now I can do it' and 'now I understand!' (Wittgenstein 1958: 151). In my estimation, the correlation here between knowing and doing is significant and allows me to argue that the intransitive nature of aesthetics applied to art applies equally well to sport and science because in these cases, certain practices and actions are required in order to say that one knows how to or more to the point that one can do it (paint a picture, play a game of chess, improve one's soccer, prove a hypothesis and so on).

Conceived in this light, metaphysics as a grounding for art and science and the castigating of sport as simply "low culture" may well be unfounded. Knowledge as practice, knowledge as not propositional in all respects, however, may give one the latitude and freedom to "play," to struggle nobly whether in art or sport or as something "in between."

### Conclusion

Two observations were then proposed indicating confluences between art, sport and science. The first argued that given the institutional nature of both art and sport (read: science), there is a mechanism in a particular culture and world view that presents and views "the body" in a particular way, reflected in a kind of marriage between art and sport as in the case of Ancient Greece and Nazi Germany. The second observation, using Wittgenstein's (1953) notion of "language games" and "forms of life," argues that art and sport (read: science) are cultural manifestations and culture is augmented and concretized by the institutions of the day. A further application of Wittgenstein to the sport was then briefly analyzed in the concept of intransitive (tacit) knowledge and the power of action (in games) towards a pragmatic conception of knowledge. In these respects, aesthetics become somewhat wedded to particular extra-aesthetic meanings/content (institutions make knowledge). One might conclude that insofar as art and sport (read: science) are institutions and that these

institutions are married to larger institutions, the meaning of art and sport (and science) is not to be located simply in the individual artist and sportsperson and scientist or art object and sports act and scientific technology and proposition, but as a total "act" of a society. This one can deduce from the fact that art and sport and science are historically located or defined. This then is an application of the New Paradigm I advocate, an interdisciplinary nexus that sees unity and coherence between different branches of knowledge or knowing a "holistic epistemology," though I do not claim an overarching "world picture" or any dominant system or branch of knowledge as such.

### A Qualifying Note

Notwithstanding my argument regarding a unifying and connecting stratum – a New Paradigm – that suggests the "mixing" and interdisciplinary nature of all things and all modes of comprehension, this is not a totalizing and ultimate system of thought. For the "epistemological unity" is itself and necessarily predicated on difference, singularity, identity, separation, and divide.

Just as each person is an individual, each thing is a thing; A is A and not A or B and so on, so individuals, things, languages, branches of knowledge and words form a separate and not an inter-related dimension of being. Even though such entities are not simple and are composed of parts, nevertheless, it is a singular, separate, and individual identity.

In conclusion, then, my argument entails a necessary dualism: on the one hand, there is separation and divide, each entity being/language/discipline and so on unrelated to the next and a world in itself and each such entity forms part of a larger whole which in academia vacates a space for the so-named interdisciplinary.

Thus, this note should be considered in conjunction with my project – at once seeking oneness and at the same time, the impossibility of such a task, that each "thing" is one and separate in itself, identical to itself and unlike any other "thing." In this respect, the vessel, the body, is singular – an individual instantiation of the light – while the light itself pervades all things.

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