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## Mind-body Holism, Paradigm Shifts, and Education

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Citar este artículo como: Scott Kretchmar (2013): Mind-body Holism, Paradigm Shifts, and Education, *Fair Play*. *Revista de Filosofía, Ética y Derecho del Deporte*, vol. 1, núm. 1.

## Mind-body Holism, Paradigm Shifts, and Education<sup>1</sup>

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### Abstract

In this essay, I examine claims made for the significance of mind-body holism. I look for the promised earthquake-like impact of holism on sport pedagogy by reviewing concepts of special education, curriculum development, and assessment. By relying on holistic insights generated by Husserl, Merleau-Ponty, Polanyi, Sheets-Johnstone and others, I attempt to show how traditional pedagogies are turned, as it were, upside down by holism. I discuss play handicaps, the reciprocal process of growing players and playgrounds, and the need for ambiguous, meaning-inclusive play assessments. I conclude by underlining pedagogical ironies generated by an earthquake of holism that many have never experienced.

**Keywords:** holism, education, sport, mind, body

Some philosophers suggested that mind-body holism would have both dramatic and positive effects on how we interpret human existence and see the world. Griffith (1970) was one of those individuals. When holism took root, he argued, the effects would be significant. “The body is at once what man *has* and what he *is*,” he wrote. “The Cartesian chasm is not bridged by that simple sentence; no, not bridged over but closed, by the earthquake of it” (p. 274).

Griffith appears to have seen holism as a stimulus for a kind of Kuhnian (1962) paradigm shift, something that would require us to see the world through a different set of lenses. Just as the Copernican revolution, for instance, turned conceptions of our place in the universe upside down, holism would have similarly dramatic effects on philosophy, our daily lives, and any number of professional pursuits like law, medicine, and education. Arguably however, this holistic earthquake or paradigm shift has gone more slowly and had less impact than Griffith and other holists thought it would.

Possible reasons for this are legion—the inherent difficulty in intellectually grasping counter-intuitive elements in holism, the residual attraction of dualism, the rise of reductive science and the promises of materialism, inertia, a disconnect between ivory tower theory and the marketplace, costs and other pragmatic roadblocks related to holistic interventions, and the like.<sup>2</sup>

But whatever the causes may be, holism does not appear to have had the instantaneous, earthquake-like effects predicted for it.

In this paper, I examine the hypothesis that holistic assumptions and operating principles do, in fact, dramatically change things—specifically, what we see, what is regarded as efficacious, and how we should behave. I will do this in the context of sport education or, more broadly, what is often called “physical education.” I will try to show that holism prompts important reconceptualizations in three areas sport pedagogy—special needs education, curriculum, and assessment. In a sense, this essay provides a litmus test for some of the more aggressive claims made for holism. Does holism provide dramatically new and better visions of pedagogical practice or not?

### **The Nature of Holism**

Much traffics under the name of holism today. Thus, I need to say a few words about what I mean and do not mean when using this term. I am thinking of holism along the lines of certain Continental philosophers, most notably, Husserl, Merleau-Ponty, Polanyi, and Sheets-Johnstone. Regarding the human being and his or her behavior, I accept the basic proposition that the whole is greater than the sum of its parts. I also accept Husserl’s (1931/1967) claim that consciousness is intentional and that it grasps more than it is given. Related to these propositions is my commitment to levels of explanation from micro to macro, the reality of emergent properties and new rules that would explain these properties or how they operate, reciprocal causation between and among levels, and thus, ambiguity when looking at everything from complex human behavior to genetic mechanisms (Merleau-Ponty, 1942/1963). Ideas infiltrate cells, and cells infiltrate ideas. Likewise culture-impacted ideas become encoded chemically and genetically. On the other hand, those constraints and enablers found at more micro levels affect culture-tethered thinking and behavior (Ridley, 2003). Importantly, no parts of the complex system enjoy any independence. Causation is internal, not external.

I agree with McGinn (1999) that holism is difficult to grasp intellectually. The enigmas associated with explaining conscious minds in a material world are numerous. Moreover, we may be better prepared to think dualistically than holistically. McGinn put it this way. “Consciousness is indeed a deep mystery, a phenomenon of nature on which we have virtually no theoretical grip. The reason for this mystery, I maintain, is that our intelligence is wrongly designed for understanding consciousness” (p. xi).

We do better with dichotomies than ambiguous complementation. This is as true in quantum physics as holistic philosophy. When asked if the ultimate stuff of reality is a wave or a particle, quantum theorists are inclined to give such disturbing answers as “yes” or “it depends.” Similarly when asked if intentional human behavior is guided by ideas or brain states, holists are inclined to give identical, difficult-to-process answers. “Yes!” or “It depends!”

Quasi- or pseudo-species of holism are not difficult to find. Holism, as I have defined it, is not a product of accretion—of filling in missing parts, of adding pieces to the educational puzzle. Thus, I worry when I see holism defined as an education of the physical, mental, emotional, social, artistic, creative, and spiritual potentials of the child. As well-meaning as this is, it does not produce the earthquake. It trades dualism for a version of pluralism—pieces added to pieces, putative parts of people added to other parts. In order to have our worldview turned, as it were, upside down, we have to quit thinking about pieces of people or their distinct potentials and focus instead on ambiguous, seamless, quirky people themselves.

A second ineffectual attempt at holism focuses on new and reportedly better balances or emphases among pedagogical tendencies. Some self-proclaimed holistic curricula provide different kinds balance or sequencing between, for instance, indigenous and scientific approaches, traditional and modern learning, the individual and community, the intellectual and physical aspects of education. As helpful as a new emphasis or balance may be, these adjustments are still based primarily on dualistic ways of picturing the world and how we educate our children in it. This is a manipulation of putatively discrete parts. Holists do not see such manipulations as possible or, at least, they regard them as far less promising than more integrated modifications would be.

Finally, pseudo-holism can take on an axiological flavor. In contemporary physical education circles, a great deal of excitement has been generated by the proposition that physical activity promotes intellectual development and superior academic performance. This hypothesized, intimate causal connection between moving and thinking is taken to be a consequence of mind-body holism. In truth, however, this can also be explained on materialistic grounds in terms of oxygen transport to the brain or by means of other physiological mechanisms. And it can be acknowledged, if not explained, by dualism. Descartes knew that the mind and body were closely connected. He just had problems describing how such interactions worked.

The point here is that physical-mental interaction does not require holism. Even more importantly, such thinking often puts the physical in service of the mental, heart rates and pushups

in the position of handmaidens to reflection. These dualistic normative claims can be found as far into antiquity as Plato's *Republic* and undoubtedly beyond. Holists are not comfortable separating moving and thinking and even less comfortable making dichotomous value claims about them. Intimacy and other close side-by-side relationships are no substitute for complementation and interpenetration.

### Disabilities and Special Needs Education

It is interesting how habituated we have become in identifying human disabilities or handicaps in dualistic ways. Here is the definition used by many educators in the United States. According to the Americans with Disabilities Act (ADA), a person has a disability if he or she exhibits "a physical or mental impairment that substantially limits one or more major life activities" (Dept of Justice, 1990, sec. 12102). We might notice two things here that would frustrate the development of a holistic special education program.

First, the definition is obviously dualistic. A disability is either physical or mental. Second, it locates the source of the problem in the person—in the individual's mind or brain or in the person's body. Of course, this makes some sense. Damaged or undeveloped brains and defective and missing limbs (or other physical maladies) present significant challenges for those who have them and for teachers who would educate these individuals. So, nothing here should be interpreted as overlooking or underplaying the importance of these issues. Nevertheless, educators who have experienced the holistic earthquake tend to think in different terms—terms that focus on how *people* are disabled, not on parts that may be dysfunctional—and just as importantly in terms that see potential disabilities existing *between* self and world not in the person him or herself.

Here is one possibility for such a conceptualization. One of the most serious human handicaps might be called a "play disability." For purposes here I am defining play much like Huizinga (1950) did—that is, as an attitude or stance of intrinsic interest. We play because we want to, because the world is interesting, not because we have to. Play is autotelic; the doing is its own reward. And as Huizinga reminded us, play is not only light hearted activity or frivolous behavior. It can be (and usually is) done with intensity and seriousness. Stirring literary dramas, religious rituals, and many sporting competitions that "carry us away" from our everyday lives, he reminded us, are like that.

Unfortunately, the Americans with Disabilities Act does not acknowledge the existence, let alone the seriousness, of anything like a play handicap. But sport educators meet it every day in

their kids who are frightened or depressed and in their adult friends who have grown cynical. I once described the condition of being play disabled as follows (Kretchmar, 2012):

The handicap is like a chronic estrangement. For those who are play handicapped, self and environment do not connect in any special way beyond utility. By that I mean that play-challenged folks may be able to manage the world successfully—build houses, fix computers, cut grass, raise children—but not have the wherewithal to go beyond that. They cannot sustain relationships with the world that are exciting, lovely, challenging, intriguing, beautiful. For the play handicapped individual the world is something to act on, bargain with, and manipulate rather than trust and surrender to. (p. 81)

What causes a play disability? Chronic fear, distrust, depression, sexism, racism, poverty, a brain missing certain chemicals, parents who never played with their children, and many other possibilities deserve mention. Surely the disability's roots lie in both nature and nurture. However that may be, some children who come to their physical education classes are so play averse that it may be almost impossible for teachers to light that spark that would brighten up their world, that would let them know that life is not just a perpetual exercise in striving, that we are called from time to time—even when life is difficult—to dance. Other students are play-prone, play-ready. With the least bit of stimulation on the part of the instructor, they are off and running.

We know too that the disability may vary by age. In elementary settings when balls are bouncing around, there is usually much laughter, much play energy in the air. In the higher grades, we see the play flame flickering out for some--perhaps do to the pressures of approaching adulthood, increasing self-consciousness, raging hormones, and who knows what else.

Play disabilities are not limited to sport and physical education. They affect children wherever they are in our schools – in math, science, language, and social studies. This is most unfortunate for, while sport, games, and dance embody particularly rich playground potential, each domain of learning has its charm, its surprises, its beauty. The whole academy, according to the Catholic theologian and philosopher Josef Pieper (1952), is (or at least should be) a playground. But in spite of our best play-promoting efforts, those children who are play challenged will likely never experience much of their school day as play.

And what about those who are play gifted? These are the rare individuals in our classes who are interested in everything, who look at something the world regards as plain and instead see

something unique, complex, or challenging. Some of them are artistic, some are unusually demanding, some surprisingly inventive. All of them are incurably curious. These are special needs children. What do we do for them? Do we adjust our curriculum to satisfy their play talents and demands? Have any of us ever sat down and examined, for instance, what a curriculum for advance joy or “serendipity,” as Sam Keen (1970) once called it, would look like? And what would a curriculum for play remediation look like? Would it not be fun to collaborate with some holistic educators to see where these thoughts would lead us? This is the stuff of educational earthquakes.

If we are not yet convinced of the power of holism to help us see things differently, we might ask ourselves another question. Who is really handicapped? I once knew a gentleman – (Emil Dannenberg, by name) – who lived the majority of his life with a severe physical handicap. Due to a gymnastics accident incurred when he was a young man, doctors had to fuse his cervical vertebrae. They assumed that Dannenberg would want his neck to be straight and his head upright. Remarkably enough, he chose the opposite—to have his head forever tilted downward, with his chin virtually affixed to his chest. He made that choice because he was a concert pianist, and he couldn’t see the keys unless his head was slanted forward. Cynics would say he made the choice in order to preserve his livelihood.

I would disagree. When sitting at the keyboard, Dannenberg was in his favorite playground. He made his unusual choice because he could not give that up. Dannenberg had a lovely play spirit and lived a long, productive, and happy life. He married, had children, and became president of Oberlin College. He found play in a lot of different places, not just the piano. Interestingly, those with whom he regularly interacted never thought of him as handicapped in spite of his very odd appearance. To be sure, his neck was disfigured, but the handicap wasn’t in him. And neither was it to be found between him and the world because he was still able to access his favorite playgrounds.

We might ask if this analysis holds true for those with cognitive impairments. Surely, we could surmise, they have a disability that is *in* them. But is that true? Without downplaying the significance of mental disability, we still need to ask the same question. Do they have access to any playgrounds? Can they laugh and find joy and meaning in life? If the answer is yes, or if skilled educators can lead them to their special playgrounds, then in an important sense, they (just like a disfigured pianist who can still play) are not so handicapped after all. When we picture the joy seen on the many faces of those who participate in the Special Olympics, we have to wonder just wherein the handicap lies. It would appear that a great deal of robust play is alive and well in such

settings. Thus, quite ironically, it could be that some youngsters who go to these so-called “alternate games” are actually very special indeed, but not in the way commonly meant by those terms. They may special because they are more play gifted than most everyone else there, including many of the “intellectually normal” people running the event!

### **Curriculum: Playground Development**

If our understanding of disabilities and special needs education is compromised by dualistic thinking and by locating both gifts and problems in the learner, so too is our understanding of curriculum—in particular, the kinds of exercise, sport, and dance experiences we provide for youngsters in physical education programs. Educators tend to think of learners and activities as separate and independent entities. They get new students each year. They introduce these students to new activities. They teach the skills required by the activities to the learners. In a sense, they are the middle people, the matchmakers, those who would solidify a relationship between fixed realities—the learner, on the one hand, and the educational content or activity, on the other.

They work hard at developing this relationship so that the outcomes are children who will “continue to participate in healthful activities for a lifetime,” as indeed many physical education goal statements put it. But this more or less traditional view that would separate learners from educational content misses much of the point of holism.

For holists, would be players and would be playgrounds are not independent. As strange as it sounds, the playground is expected to infiltrate the player and the player will infiltrate the playground. Like two sides of a single coin, the two develop together, seamlessly, as one whole. In terms of Husserl’s theory of intentionality, intending consciousness, on the one hand, and the object intended, on the other, are correlates not independent phenomena. The act of playing presents the world-as-played. The world-as-played, in turn, affects future acts of playing—back and forth, each side of the equation affecting the other.

Thus, we do not find or discover playgrounds as if they were fixed locations or activities. We grow them (Torres, 2002). And we do not so much find and teach players. We grow them too. Because growing takes time, we do not so much provide a finder’s service and introduce clients to a would-be playground as we initiate and cultivate a two-sided transformative relationship. And we do not teach as much as we show and lead.



I once described this process as one of “beginning the dance” where eventually the connected dancers—the player and the playground—have no idea who is in the lead. They are too much part of one another to tell. Most of us know this experience very well. When we are seduced yet again by a favorite playground, we can ask ourselves: did I choose play or did play choose me? It is hard to say who is in lead when we are with one of our favorite, long-time dancing partners.

To my way of thinking holism leans heavily the master teacher-apprentice model of pedagogy. This is so, because the teacher needs to be a resident of the playground in question, someone who knows the activity or content, respects it, and actually still likes to spend time in its presence. This has significant implications for who is best able to serve as a holistic teacher.

At Penn State, we unfortunately do relatively little to locate these special teachers. We require our students to have a good academic record (a 3.0 grade point average) in order to certify as a physical education teacher. While there is nothing wrong with this, it is not sufficient. A good grade point average in largely verbal, scientific, and mathematical subjects is probably not a good predictor of who will be able to grow players and playgrounds. I would place greater emphasis on two entrance preconditions—1) a history of involvement with sport, dance, exercise or other movement forms; 2) a personality, demeanor, or spirit that exhibits “excessive happiness.” Students, in short, cannot be expected to follow teachers because they had good grade point averages or know the theory of play. They follow master teachers who are the play-infected Pied Pipers of the world—that is, instructors who know the playgrounds to which they are leading the students and who show the kind of affective excitement the journey deserves.

Students are correspondingly better conceptualized as apprentices than recipients. Memberships in playgrounds are earned not granted. Skill development is an essential, but so too is a respect and appreciation for the craft, the sport, the exercise. Thus, the master teacher leads the apprentice student into the sub-culture of the craft—its techniques, values, ethics, its honored traditions. Slowly the charms of playground begin to reveal themselves. Slowly the player gets “play-grounded” as skills and values required by it seemingly cross permeable membranes and seep into him or her. And reciprocally, the playground gets “played” as the individual’s own story, habits, and traits shape the playground in question. Interestingly, we do not even have a ready vocabulary that would allow us to talk about this. “Play-grounded?” “Played?” It would appear that pedagogical earthquakes caused by holism require not only new thinking and behavior but a new lexicon too.

When I taught table tennis, I would stand on the first day of class in front of my students . . . I mean my apprentices . . . and warn them that the activity they were about to learn would change them. Or, to borrow from Plato's allegory of the cave, it would turn them. It might even become habit forming, I said.

They would laugh. After all, these college-age kids had taken classes before. They were just learning another game, or so they thought. But then I would begin the master teacher-apprentice journey. Skill development, habit development, hitting and then more hitting, push shots, topspin and backspin, forehand, backhand, learning to respect the game, learning how to be an umpire, learning why players say "I'm sorry" when their winning shot hits the edge of the table, learning how to change rubber on the bat, how to protect this sensitive rubber from sun and air, how to play a blocker, how to play an attacker, how to prepare for tournaments, how to get a national ranking, . . . day by day, little by little, they and their playground were changing, neither one the same as when the journey began.

The outcome was predictable. They became play-grounded. In this case, they were literally table-tennised. The game had invaded their persons. And, in turn, they had invaded the game. Their shots, the quality of their game, had become Williamed, Franciscoed, Sallyed, and Mariaed—shaped by them, their unique talents, genders, handedness, their personalities, the things they alone wanted to say through this game.

This is a high-demand curriculum and, I suppose, I was a high-demand teacher. But holists know that teaching acts of merely telling, showing, and introducing are often not sufficient to get under the skin of those who, deep in their hearts, want to be changed or turned, not just acquainted or informed. For holists, there is nothing wrong with being informed, but there is everything wrong with stopping there. There is nothing wrong with introducing kids to a number of potential playgrounds, and there is nothing wrong with a desire to use exercise to promote better thinking in the classroom or a higher IQ, but there is everything wrong with stopping there. Holists are not comfortable with merely informing the mind and using the body—whatever shape that may take in our schools. They know this kind of pedagogical behavior underplays the power of education as much as it misunderstands the nature of human intelligence.

I am a fan of Howard Gardner's (1983/1985) theory of multiple intelligences. I like it because it redefines what it is to be smart. It places an emphasis on effective and creative problem solving more so than where or how that problem solving takes place. Some problem solving occurs

with words and numbers. In fact, our academic biases may well place an unwarranted emphasis, according to Gardner, on these two ways of thinking and equate all of intelligence with acumen related to their particular demands. This bias helps us understand why sporting skills and exercise benefits are often seen as servants for “real learning”—that is, verbal and numerical education. But Gardner reminds us that our ancestors solved problems in many different contexts—most of them neither verbal nor numerical. Even today, we have capacities to solve problems musically, spatially, kinesthetically, socially, and so on. In short, we still need to be smart, clever, insightful, creative—describe it as we might—in many places.

The playgrounds I described above are largely non-verbal and non-numerical places. But the problems encountered there can be every bit as daunting as those found in abstract literature, poetry, inductive science, or the quadratic equations of math. The effectiveness of using one’s imagination, seeing connections, reconciling apparent incompatibles, and other intellectual feats are not limited to domains of verbal and numerical symbols systems (Polanyi & Prosch, 1975). So, holists who follow Gardner make no apologies for cultivating non-verbal insight, creativity on soccer pitches, freedom in cycling, insight in solving a pressing defense. Such intuitive insight, such know-how, is actually what gets us through our days whether talking with a friend, preparing dinner in the kitchen, or making a decision at work. Intuitive knowing, know-how, tacit understanding, procedural knowledge—call it what we will—is not the whole of our intellectual capability, but it is certainly much of it. And the really important thing is that it works everywhere.

Sport philosophers can underline this fact in the following way: There are only two places in the world, we could say, where students need to be free, insightful, and creative—in chairs and . . . everywhere else! Of course, social and historical contexts need to play roles in which places we choose. For instance, today we certainly need to emphasize high technology places and the kind of problem solving that goes on there. But the holistic point remains. Intelligence is better conceptualized as a power to solve problems in certain places, as a potential that works between the self and the world, rather than a uniform capacity that resides in the person. And importantly, this problem solving occurs both verbally and nonverbally, both reflectively and intuitively, both explicitly and tacitly.

Thus, what counts as smart is, in a sense, turned upside down by the earthquake of holism. Intelligence is employed and cultivated on the many playgrounds of education—in front of computers and oncoming soccer balls, between the meanings of two verbal metaphors, and between the space provided by two opponents on a basketball court. Smart works at once on the player and

the playground. Both are changed by insight. . . at once, together. Smart allows the playground to infiltrate the player, and smart allows the player to infiltrate the playground.

### **Educational Assessment: Playground Measures of Success**

Teachers around the world are being held more accountable for showing success in meeting their educational objectives. For better or worse, physical educators are being held responsible for addressing a variety of problems ranging from obesity to chronic diseases related to sedentary living. Because of this, assessment seems to be focused on heart rates, caloric expenditures, or a metric known as MVPA—that is total minutes in Moderate to Vigorous Physical Activity. The more minutes produced, the better. The more often target heart rates reached, the better. Consequently, sports like softball are discouraged because they do not produce sufficient MVPA. Others like soccer are supported because teachers can see the children sweat. Walking with pedometers has, in some educational settings, replaced indigenous games and dance. Total steps taken, as measured by pedometers, stand as surrogates for progress in promoting well-being. Awards are handed out for unusually high step totals. Even the popular and well-publicized HOPE model advocates (Health Optimizing Physical Education), while endorsing quality of life and “promoting physical activity for a lifetime,” have gotten caught up in this numbers game. Holism cannot flourish in this kind of reductionist pedagogical environment.

Neither can it breathe and grow in medical models for sport curricula. The American College for Sports Medicine promotes the active lifestyle under the slogan “Exercise is Medicine!” Presumably they mean “preventive medicine,” but even with that clarification, youngsters are now implicitly encouraged to conceptualize moving as equivalent to swallowing a pill or becoming immunized. So teachers, under this framework, now administer doses of exercises and measure success in terms of dose-response. The less costly the dose and the greater or more rapid the medicinal response, the better!

As noted, a similar move is now afoot on the intellectual front. Exercise is being advertised as an “academic supplement,” “an intellectual elixir.” Once again, assessment is conducted on the basis of data—for instance, statistically significant differences in academic performance between those who are physically active and those who are not, between the IQ scores produced by those who are physically healthy and those who are not, between rates of intellectual decline shown by the elderly who are physically active and those who are not.

Holistic sport educators are not be surprised by these claims. We humans are physical creatures who need to exercise our muscles in order to prevent atrophy. Our brains are oxygen-using organs. It stands to reason that health, good body chemistry, and the effective delivery of oxygen would have some effect on thinking and overall health. If our scientific colleagues are able to nail down these friendly causal relationships between exercise and a variety of benefits, educators should take notice.

For holists, however, this emphasis on health and intellectual products of education is to miss the educational forest for the assessment trees. Holists are more interested in how people are turned than in how a machine is improved. If our sport and physical activity students are turned—not just informed or introduced, if they are infected by our playgrounds—the health benefits will follow along too. But holists are more aggressive than that. Meaning and joy, they argue, are integral elements in well-being. They add health benefits. In fact, meaning may be one of the most powerful “medicines” known to human kind. So we holists unabashedly pursue meaning. It is one of our calling cards.

I have challenged my physiology colleagues to do the following study. I asked them to identify two groups of runners—one that hates running and one that loves it—and then put them through identical physiological regimens. The one group that hates running is required to work out on a treadmill. The other group that loves running is asked to run wherever they normally work out. Each group, however, would experience identical workouts over, say, several months, the same distances or the same caloric expenditures, however the physiologists can best assure commonality between the interventions. Then they would measure the effects—all of them, genetic, chemical, biological, psychological, spiritual. The holist would predict greater health benefits for the meaning-motivated group . . . even though the physiological workouts were identical between the two. This is so because we would expect what might be called “playouts” to have more beneficial human effects than “workouts.” Meaningful movement, we believe, trumps meaningless or duty-driven movement. We would expect play-meanings to mingle with play-physiologies, play-chemicals, and play-genes.

I am personally intrigued by the research now underway that tethers happiness to longevity. Those who are optimistic, who find life meaningful, or those who are hopeful seem to do better than those who tend to see the glass as half empty rather than half full. Some of this research is even examining traditional religious commitments as well as a variety of other spiritual practices. This is

yet another step toward getting emotion, affect, and meaning on the educational table as an ambiguously causative reality rather than a mere epiphenomenon.

Thus under the hypothesis that meaning is effectual, we need an assessment of human turning—maybe something like a HFQ—a “happiness and freedom quotient.” I just made that up, and I’m not sure how all the measurements would be taken, but I can provide a brief outline of how it would look. It would have scores related to cultural fit, scores that indicate whether the physical education program takes advantage of the history and values of the place in which it is taught. It would measure symbolic potentials and realizations. It would also have scores related to learner competence and freedom. After all, holistic education and the turning it promotes is a liberal and liberating education, and there is very little liberation without competence. Finally, it would have scores related to personal meaning, to whether or not the activities taught and learned matter in a personal way to the learner. One could picture a self-reporting scale related to, say, a cycling curriculum as follows:

- I don’t know cycling
- Cycling means little or nothing to me
- I hate cycling
- I tolerate cycling
- I find cycling useful
- I look forward to cycling
- Cycling means a great deal to me
- I love cycling
- I am a cyclist

Education that culminates in a student *being* a cyclist--that is the epiphany for the cycling teacher! That is an indication that full turning has taken place. Having our students show us by action and attitude that they *are* bikers, readers, creative at the computer, lovers of politics and political discourse, intrigued by the complexity of plant and animal biology is perhaps the ultimate assessment of educational growth.

At the same time, sport educators have to be careful not to fall into the assessment traps from which they emerged. They should not divide the subjective from the objective, the medicinal from the human, sport as a means from sport as an end. Holistic sport educational gains should be

assessed on ambiguous objectives like meaningful heart rates, fascinating motor skills, and delightful caloric expenditures.

Once again, however, we have run into trouble trying to explain what holism means and implies. But apparently, so it must be after we have experienced the earthquake of pedagogical holism. Old roadmaps, linguistic and otherwise, no longer serve as well as they once did.

### **A Brief Philosophical Postscript**

This discussion was presented as a litmus test of sorts for the significance of holism in a sport education context. Arguments for addressing play handicaps and special needs education, growing playgrounds and players through a process of reciprocal infiltration, and conducting assessments through subjective/objective measures of human turning were designed to demonstrate such significance and to show the unmistakable kind of philosophical paradigm shift that holism requires. All three exemplars provided alternative educational frameworks to those offered by dualism and materialism. All three, if my analyses were at all on target, would suggest that Griffith was right—that indeed, holism has impacts that are far more like earthquakes than tremors.

This conclusion can be reinforced by speculating on some possibilities that are even more fundamental. Sheets-Johnstone (1999) arguably eclipsed the so-called “body philosophers” (frequently identified as Sartre, Merleau-Ponty, and Marcel) by claiming that human thinking is more a function of *movement* than mere embodiment. She argued that we grew up intellectually as a species by moving, pushing, pulling, and the like. Here is how she put it.

“It (the book) is about learning to move ourselves. It is about how movement is at the root of our sense of agency and how it is the generative source of our notions of space and time. It is about how self-movement structures knowledge of the world—how moving is a way of knowing and how thinking in movement is foundational to the lives of animate forms . . . [It is about] those cognitivist accounts of mind—or consciousness—that bypass an understanding of actual living bodies . . . (pp. xv).

There is more than a little irony here. Much of modern science and many kinds of contemporary education distance the body and movement from those things that are seen to be most valuable. Moving is advertised as less intellectually impressive than thinking . . . as if the two could so easily be separated. Thinking is seen to operate on its own rules, its own logic, its own

special access to the world . . . as if our powers of intellection dropped out of the clouds fully-formed and fully-functional. Whether because of hubris, ignorance, socialization that favors rationalism, McGinn's claim that our intelligence has been "wrongly designed," or something else, many refuse to acknowledge movement as a "generative source" (perhaps *the* generative source) of our intellectual capabilities. How ironic that intellectualist attempts to distance humanity from physical activity are likely made possible by that very physical activity itself.

## Notes

<sup>1</sup>A previous version of this paper was read at a conference on the Pedagogy of Sport, Ministry of Knowledge and Human Talent, Guayaquil, Ecuador, March 8, 2013.

<sup>2</sup>John Dewey, for instance, advanced many promising holistic strategies that captured the imagination of many during the progressive education era. However, the sheer difficulty in employing many of his ideas contributed to its relatively short life and limited popularity. See, e.g., Cremin, 1961.

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