

**Peter Lynds
and the Science of Journalism
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*Journalism***

Properly understood, journalism is a science. One might even consider it the most scientific sub-discipline within history. All recorded histories, however erudite, imaginative or philosophical, rest on a foundation of eye-witness accounts: that is to say, the very substance of journalism. The other sciences, though pursued in present time, largely on materials available in present, are not *about* the present . Journalism alone, a descriptive science of the present moment, may perhaps be called *the* science of the *now* . The conception of now, as distinct from not now (before and after), does not enter into the epistemology of any other science. Virtually all that we call scientific truth is cast in the language of "before and after", rarely does it evoke the landscape of "today", and almost never will it be conceived of as of "this moment" only.

This elementary observation sums up much that can be said about the liberties of, and constraints imposed on, the journalist's craft. A reporter appears at the scene of an event-in-progress , one that is presumably important or at least newsworthy (not the same thing). To a degree of accuracy possible under the circumstances he forms a hasty idea of what's happening, which

he will then translate into some sort of verbal account, spoken or written, (or in that modern form of hieroglyphic known as the photograph) . Then , again as quickly as is humanly feasible, he transmits his report to his publication before a pre-assigned deadline.

Journalism is therefore *doubly* present : first in act of witnessing; second, like the personnel of a restaurant who bustle about to ensure that meals are served before they grow cold, in his strict adherence to a deadline. In other words, journalism both *is of* the present and *is done in* the present.

Science

Nothing could be more opposed to the way things are done in the basic sciences! In terms of the relationship to the abstract notion of time, the sciences fall naturally into 4 categories: reconstructive, descriptive, predictive, and atemporal . Physics is a predictive science, yet it is also atemporal, for several reasons: it is atemporal because time *itself* is treated as a physical quantity. *Time* therefore cannot change *through time* without abuse of language. Though physics endeavors to predict how entities in the universe will look, based on present initial conditions, it also purports to explain *why* it has been, is , and will be, what it is. (The old dispute of Newton and Descartes about the *why* versus the *what* of gravitation.)

Mathematics is inherently atemporal - barring the uncovering of evidence indicating the contrary! *Biology* is primarily descriptive. The crisis in classification and nomenclature which threatens to engulf modern biology has its origins in

Aristotle's unique comprehension of the nature of Nature, one might say. Causal mechanisms abound in the living kingdom, but the identification and classification of living forms, living systems and living networks, is still the predominant mode of scientific activity.

Evolution and Natural Selection have imposed a weak, sometimes fabulous, often fatuous teleology on the grand classificatory schemes. Still the laws, theories and causal mechanisms underlying the functioning of living systems are, for the most part, taken from physics and chemistry. There is also an important reconstructive branch of biology known as paleontology, a subject caught between biology proper and geology.

Geology is the very paradigm of a reconstructive science. Reconstructing the past on the basis of evidence lying around in the present is a difficult business. Ever since its creation by Hutton and Lyell in the 18th century, an antinomous debate has raged at the foundations of geology: do the processes at work on the planet today suffice to explain all the processes at work in the past (Uniformitarianism) ? Or is one obliged to invoke the existence of processes in the past to which nothing in our present world corresponds ? (Catastrophism).

Although the traditional sciences relate to time in different ways, they have one common characteristic which sets them completely apart from eye-witness journalism, the science of the now : their subject matter does not disappear with the passing of the moment. A scientist insists on his right to ponder and

meditate on the subject under investigation. He will, if he so desires, take days, weeks, months, even decades to think about his subject until he feels he's come up with something worth saying about it. He is not inhibited from experimenting; in fact he is obliged to do so. He is able to do this, either because the objects under his scrutiny won't go away, or because he can procure identical replacements for them. Investigation then proceeds from many sides, different perspectives adopted, theories proposed, and in fact few things in science are definitively settled, in the sense that they may not be altered or overturned in the future. What the scientist sees in the present is only the seed to be cultivated, to engender the fruits of discovery later. For the journalist, seeing and discovery are synonymous.

The proof of *Fermat's Last Theorem* by Andrew Wiles, announced in its corrected form in 1995, called upon the best efforts of hundreds of mathematicians over a period of 365 years. Returning home in 1832 from the historic naturalist expedition of the Beagle, Charles Darwin, pleading invalid status, retired to his bed. This allowed him, as a self-styled valetudinarian, to ruminate for 20 years on the data he'd mined, and its interpretation. It was through this seemingly passive yet in fact intensively active process of cogitation that the basic principles of evolution were elaborated in the *Origin of Species* published in 1859. As with all human beings, Charles Darwin was under many constraints; however he was not under the constraint of having to get his findings into the late edition of the evening news.

After studying in Italy for many years, principally at the University of Bologna, Copernicus returned to Cracow in 1503 to commence a busy life as scientist, priest, military officer and political figure. The heliocentric model for the solar system emerged a piece at a time. The final details were not in place until the publication of his magnum opus, *De Revolutionibus Orbium* in the week of his death in 1543.

Following the publication of his original papers on Special Relativity in 1905, Albert Einstein worked for another 10 years on the ideas of General Relativity. He had to teach himself Differential Geometry, a difficult area of mathematics foreign to his training as a physicist. Many models were tried, enormous calculations undertaken. The intensity of his labor, combined with the breakup of his marriage and the stress of World War I, led to his nervous breakdown in 1917.

Immanuel Kant mulled over his ideas about the relationship of Mind to Nature for many decades before putting them into a form suitable for publication, in his 80's, in *The Critique of Pure Reason* .

The luxuries scientists take for granted are not accessible to journalists. At stake is an even more serious issue: the temporal paradoxes inherent in journalism as the science of the "now", make it impossible for a reporter to attain his professional objectives by the methods of pure science. In common with the rest of mankind, reporters are caught up in the temporal flow they seek to capture. Even as they labor to encode a permanent record

of what they've witnessed , their subject of observation is disappearing before their very eyes.

The present moment, the "now", cannot be grasped, it cannot be captured. It cannot, like a biological specimen, be killed, stained, put under a microscope for others to examine at leisure. It cannot, like a mathematical equation, be permuted, its component parts replaced with substitutions, given diverse interpretations, be incorporated within a larger scheme. The *now* quite simply *is* . A responsible witness can do little more than note its passing, like a poet writing its elegy, like a Milton in composing *Lycidas* . Succinctly, a good journalist is someone who has committed himself to performing, as scientifically as possible, a scientifically impossible task: pinning down, staining and inspecting an instant of time, evanescent in its very nature.

Peter Lynds

These reflections came to my mind as I was learning about the controversy surrounding Peter Lynds' alleged 'solution' to Zeno's Paradoxes. Lynds is a 27-year old tutor at a college for radio broadcasters in New Zealand. In August 2003 he wrote a paper

"Time and Classical and Quantum Mechanics: Indeterminacy vs. Discontinuity " . The central thesis of this paper is that the essence of the paradoxes of Zeno lies in the fact that an "instant" cannot be captured. One cannot examine an instant as one might an equation or an ancient fossil. All one can do is witness its' passing away. Lynds expresses this observation in the form of a

postulate: "*There is not a precise static instant in time underlying a dynamical physical process.* " Lynds' paper may be read at <http://cdsweb.cern.ch/search.py?recid=622019> .

The reasoning in this paper is flawed from beginning to end. The phrase "*precise static instant in time* " in his postulate doesn't mean anything: at best it is a pun derived from the confusion inherent in the idiomatic expression, "time flows". A *static instant* is an oxymoron: time is the dimension in which change occurs. An instant of time is a location in time; it can no more be static than an object can be located within itself without reference to any external location. However the fact that a static instant is comparable to a round square, does not mean that a precise instant cannot be measured, provided that one understands that it is measured relative to an event , assumed given , by a clock , that is to say , a periodically recycling dynamical system. The fact that the instant at which Achilles overtakes the hare exists "only for an instant", does not mean that it *doesn't* exist. Ask Achilles.

Lynds' paper was accepted for publication by *Foundation of Physics Letters* . It survived a trial by peer review , and is now available at many locations on the Internet. Presumably it is being read by physicists and others who are forming their own opinions, perhaps quite different from mine. So far so good. There's nothing wrong in any of this.

Unfortunately, one of the reports written up in the peer review process stated that the kinds of questions Lynds was asking were of a piece with Einstein's preoccupations while he

was writing his 1905 paper on Special Relativity. Some newspaperman picked up on this comment and transmogrified it into a headline on a lead article claiming that Lynds, a 27-year old college dropout, was being hailed as another Einstein for having solved the Paradoxes of Zeno, conundrums that have stumped philosophers and scientists for 2500 years!

Ignorance feeds on itself. In a matter of days the name of "Peter Lynds" was echoed around the world, in columns on the front pages of hundreds of newspapers, as the brilliant young successor to Einstein! Ere the completion of its dying away, the Lynds phenomenon flared up like a supernova for 2 weeks. The name "Peter Lynds" and the "Lynds postulate" are destined to rest in peace for some time, perhaps forever. Who knows? He may return to college, study some physics, and make notable contribution later on. One must never lose sight of the fact that reputation, time, eternity, posterity, immortality, all the things in this category are fairly quirky, not easily grasped, guaranteed only to defeat, if not to disappoint, expectations.

"When I do count the clock that tells the time"

Yet for me the story doesn't end there. It is intriguing to speculate that Peter Lynds may have come upon his intuition, and his postulate, in the course of his work as a journalist. Journalism being engaged in the capture of the momentary, Lynds had discovered on a great many occasions that the task of recording the salient facts of a momentary event may be intrinsically impossible for a mind caught up in the temporal flow. This impossibility is the quotidian fate of every working

journalist, and may well be the phenomenon that Lynds wishes to make tangible by the oxymoronic expression, "the static instant". Had he been a physicist rather than a journalist, he might not have been led to speculations along these lines. Yet the observation that an eye-witness to an event witnesses its passing away in the very act of recording it, cannot be equated with the observation that two events (the arrival of Achilles and the hare at the same place) cannot take place at the same time.

Time in Physics and Philosophy

Frankly speaking the time concept employed in physics research is as barren as Lynds' static instant of time is erroneous. Physics can't deal with any of the aspects of experienced time which are not numerically quantifiable by means of some measuring instrument. The very mandate of physics guarantees that it is unable to make anything of Parmenidian time, Hindu cosmological time, Bergsonian time, Proustian time, Bachelardian time, time as meditated upon in Mann's "Magic Mountain", or in TS Eliot's "Four Quartets", Nietzsche's "Eternal Return", Hegelian Dialectical Time , McTaggart's time paradoxes, Berdyaev's evolving time, Teilhard's omega point, or the Intuitionist Luitzen Egbertus Jan Brouwer's time that he identifies with the pure intuition of number.

Some physicists, (all too many, alas), may insist that these philosophical perspectives on time are superstitious, or fatuous, or irrelevant, or superceded, or nonsense. Such assertions are uninformed at best and philistine at worst.

One need not cast so far afield: within physics itself there are serious disagreements over the nature of even that aspect of time which is capable of being treated as a measurable magnitude, what in Quantum Theory is called an Observable. The identification of time as geometrical dimension on a par with space, as enunciated in Einstein's Relativity theories, is one of the enduring monuments to the human spirit. Still, no theoretical physicist seriously involved in work on the foundations of physics would claim to understand how time works in the various forms of Quantum Theory. Operationally, one cannot speak about "time" as an observable, (or a "parameter": even the language is confused) unless there is some way of measuring it. One measures time by clocks. Clocks are dynamical systems, that is to say, the description of their behavior is part position, part velocity, thereby subject to Heisenberg's Uncertainty Principle.

Thus, uncertainty is inherent in the very mensuration of time. The problems begin but do not even begin to end there. They've been around since the Archons of Athens in the Socratic century quarreled over the structure of the civil calendar.

One may cautiously advance the hypothesis that Peter Lynds was led, from his experience as a working journalist (therefore dedicated to the accurate description of the momentary) to project his reflections upon his own discipline onto the fundamental concerns of another, physics, the science of that which has been, is, and will always be. Though in a strict sense his arguments must be deemed specious, there must be something in his basic intuition to have aroused enough interest in

scientists and the editors of scientific journals to give him the floor space to hear him out.

