"the ultimate purpose of technology is to 'transport' its patrons to other realms of existence."

PREFACE

HISTORY IS SIMPLY OUR FUTURE IN REVERSE

History is our collective memory. History mirrors our own personal memory in that it is selective, fallible, and perishable [1]. Like our individual memory, history acts to record, highlight and recall events that are especially intense, unusual, or meaningful to those who witness them [2]. In this way, history proves to be a flawed and subjective record that omits much of what is seen and heard in favor of recalling the striking patterns found in the few 'unforgettable' events. Efforts to capture history as an extended stream of consciousness are well-meaning and well-intentioned. They recognize that the vast majority of the past is made up of mundane everyday happenings that compose the basic fabric of existence. However, like the mundane in each of our own personal lives, the lives of the mundane are, sadly, largely consigned to the corridors of forgotten time. All the insistence in the world on the vitality of each and every individual does not render our own personal memory, or indeed our history, any different. We are what we remember. As the totality of collective memory, history is composed then of a few brief shining moments. This book tells a story which weaves the threads that tie some of those very special moments together.

Some have argued that there is no such thing as history, only biography. History, from this perspective, represents a collection of the stories of people scattered across time. By this measure, geography would represent those self-same stories distributed across space [3]. Interestingly, the basic concepts of space and

time are themselves truly indivisible; that is, as opposed to the way we commonly perceive them and formally parse them on a day to day basis. In commenting on the inseparability of space and time at the turn of the twentieth century, the German physicist Herman Minkowski asked, "*who has been at a place except at a time, and who has experienced time except at a place?*' He predicted that: "*Henceforth, space by itself and time by itself are doomed to fade away into mere shadows and only a union of the two will preserve an independent reality*" [4]. The nominal division then between human history and human geography should, from Minkowski's perspective, gradually dissolve. In the future we will perhaps not even use separate names for such studies. What we see are visions across a time-scape. I want to present and articulate such vision here.

One of the most basic functions of the human mind is to distill patterns from, and/or impose patterns upon, these respective visions [5]. Sometimes the framing pattern is supposedly 'obvious' and results directly from the way we are genetically wired to perceive objects in space and acknowledge their continued existence in time. The marvelous insight of the theory of evolution for example, was to see that entities which previously we had been calling by different names could actually change or transform into each other on a time scale which far exceeded the lifetime of any single human observer [6]. Thus, it was Darwin who was truly '*the man who saw through time*.' [7] This insight, which represents Darwin's personal act of imagination,



Figure P-1: *The descendant of the tree under which Newton is purported to have been struck by the 'apple' of gravity. Woolthorpe Manor (Photograph by the Author).*

was itself spread across a span of years unlike that of Wallace to whom the same vision was vouchsafed in an episode of acute fever. Yet each of us could have envisaged same process of change. For example, we see our own children change from newborn to infant, and then mature from adolescent into adult. There was no apparent mystery in this directly perceived process. But in western society, we do not call an adult by a different name from when they were a child. [8] Darwin's insight was to 'envision' this same evolving pattern in a landscape of change across nominally different organisms and resultant species, on a time scale that no one human could ever directly 'see' happening. This was his 'unique' vision and was one, I have argued, that was based upon a different cultural perspective of time [9]. Isaac Newton had also previously experienced the self-same brisance of

insight. The commonplace anecdote is that Newton saw a common influence on a falling apple (from his own apple tree and see Figure P-1), and the comparable effect on an ever-falling (i.e., orbiting) moon [10]. By understanding this commonalty, Newton was subsequently able to provide a mathematical description of ubiquitous gravitational effects. While perhaps doubting the veracity of this particular story, we rightly applaud Newton for his staggering and illuminating revelation.

The same type of insight had previously been rendered to Johannes Kepler who, convinced of God's perfection, sought the mathematical simplicity which he "knew" must underpin the orbits of the so-called 'wandering stars,' (the Planets) [11]. When he at last found and articulated the elliptical key to the paths of the orbits of the planets, it was for him very much a 'Eureka' moment of spiritual fulfillment, as all such moments necessarily are [12]. A profound vision induces transcendence by definition – they transcend. Any such moment of vision is always a very special occasion [13]. In a similar manner, we can identify circumstances in which we recognize the special insights of poets and artists, as well as philosophers and scientists, who take an unusual concatenation of conditions (or views across the landscape of space-time) and articulate what they see or feel into larger principles [14]. Such moments of cognitive ecstasy literally elucidate our collective understanding of our world and our place within it.

The overarching question with respect to the "landscape" itself then is this: how far are all things different and how far are all things the same? Are things actually random and we humans only impose our patterns upon such randomness? Or, in contrast, are all things connected and our limited powers of perception only slowly and haphazardly reveal the full articulations of these reticulated connections? Or could it be that this is actually a false

division, splitting apart a person from their environment which happens only because humans are so uniquely self-centered? To some extent, of course, we are also constrained to see this as a question of how far any fracturing of common perception or received wisdom is the act of genius or the product of insanity. For, of course, both genius and insanity are necessarily similar in being so profoundly far from that which is 'normal' [15].

Coherent visions (one might even say theories of being) necessarily represent links between known things. One cannot experience such a vision on the basis of what one doesn't know (i.e., that which is understood either explicitly or implicitly). However, when such a vision strikes, its power is assessed by the way it illuminates whole vistas at the boundary between our knowledge and our ignorance. Newton's insight was so profound that much of the then known universe was exposed by the lighting of his conception [16]. Rarely do illuminations of such an elemental nature and order of magnitude occur. Yet all of us, in individual ways accomplish this selfsame process of illumination everyday of our lives.

For children the process of, and instances of, wonder happen frequently because of the range of things they are coming to know but have not yet connected together. Even the most jaded pedagogue can communicate staggering visions to children simply through reference to already established insights that the child has yet to grasp. [17]. Unfortunately, for most adults these moments of wonder occur progressively less frequently. This effect results largely from the range of things that they think they already understand! It seems that most people get to a point in their life where they believe they know enough to conduct their lives satisfactorily and then tragically, venture no further [18]. Few people are fortunate enough professionally to pursue such wonder on a daily basis. It's not that our capacity for wonder is ever

totally extinguished; it is simply that like any other capability, it becomes dormant and atrophies with lack of use.

To be truly profound, wonder has to be self-generated [19]. But today, our society relies so much on the media and the entertainment industry to provide pallid shadows of this self-generated wonder that we often become passively accepting of others' impositions on us. The present text is my attempt to engage in active wonder. In so doing I look to encourage readers to participate in this process in their own special and unique way. If the patterns I explore here interests readers I will be gratified. However, if it stimulates them to explore their personal visions I will be fulfilled indeed. For each and every one of these moments of human wonder are '*Transports of Delight*.'



Reference Notes: Preface

[1]. Schacter, D. (2001). *The seven sins of memory*. Houghton-Mifflin: New York.

[2] See, e.g.: www.eyewitnesstohistory.com/

[3]. I know that this statement will enrage many physical geographers, geologists, and astronomers who have devoted their whole personal and professional lives to the study of the distribution of objects in space-time. However, they should recognize that the human animal is certainly the most self-involved organism on Earth and perhaps holds even a universal record in this respect. I hope the qualifying appellation 'human' will temper their anger, if only for a short interval of space-time.

[4]. Minkowski, H. (1908/1923). Space and time. In: H.A. Lorentz, A. Einstein, H. Minkowski. and H. Weyl (Eds). *The principles of relativity*. London: Dover.

[5] When the vision is truly an enlightening one we call it an act of genius. However, people see patterns all the time, we often see false faces in non-face patterns; a tendency known as pareidolia. Our general tendency to impose nominally 'false patterns on perceptual distributions is called apophenia and certain patterns may be the result of cognitive apophenia. But a central question remains whether the arbiter of the 'correctness' of these patterns, i.e., society, is actually right in saying what patterns are 'false' and what are 'real.'

[6]. It is most interesting to note that rarely do human cultures actually adopt this atemporal way of thinking in which the name of an object or entity changes as the object or entity itself varies over time. Thus some natives of the Marquesas in the Pacific (Fatu-Hiva) have different words for the same fruit in different stages of ripeness from green fruit through ripeness to a rotten state. It's intriguing to speculate, that Islanders whom Darwin met in Tahiti, may have communicated this to him. It is seductive to think that such an atemporal perspective could have triggered Darwin's notion of progressive change by understanding that all naming is arbitrary and thus radical change is possible over time even if the name remains the same. See: Hancock, P.A. (2007). On time and the origin of the theory of evolution. *Kronoscope*, 6 (2), 192-203.

[7] I use the phrase advisedly here even though Eiseley's delightful text actually refers to Francis Bacon, for whom a very good case can also be made. See; Eiseley, L. (1973). *The man who saw through time.* Scribner: New York. The comparative stances of Darwin and Wallace and their shared, but independently discovered vison, are one of the great stances of science, van Wyhe, J. (2013). *Dispelling the darkness: Voyage in the Malay archipelago and the discovery of evolution by Wallace and Darwin*. World Scientific Publishing Co.: Singapore.

[8] Of course there are cultures in which the rate of passage into adulthood involves exactly such a re-naming process and in our own society some groups even talk of being "reborn" on occasion. Also, western children do have 'nicknames' which are frequently dropped in adulthood.

[9] Of course, Darwin's vision was not unique as Wallace's re-capitulation, or essentially co-discovery, clearly showed.

[10] This may well be one of those wonderful legends that does not actually represent reality.
See: http://csep10.phys.utk.edu/astr161/lect/history/newtongrav.html

[11] Koestler, A. (1959). *The sleepwalkers: A history of man's changing vision of the universe.* Penguin: London: England. Kepler's work here is predicated upon Brahe's extensive empirical observations.

[12] The precise term should be 'transcendental' since spiritual still carries an overtone of formal religion. And see also: Topolinski, S., & Reber, R. (2010). Gaining insight into the "Aha"-experience. *Current Directions in Psychological Science, 19*, 402-405.

[13] For an account of how Friedrich August Kekulé discovered the cyclic structure of Benzene see: http://web.chemdoodle.com/kekules-dream. It is rather interesting to note that many of the great insights that have occurred to people have done so when they are unnaturally hot. Consider Descartes and his sojourn in the sauna, Wallace and his discovery of evolution in a fever, and even Biblical precedents such as the burning-fiery bush!

[14] Two of my favorites in this respect are Dali and Magritte: see, http://thedali.org/home.php; and also: http://www.musee-magritte-museum.be. Neither artist was an outstanding painter per se, yet both generated and represented some truly startling human visions.

[15] see: Hancock, P.A. (2012). Notre trahison des clercs: Implicit aspiration, explicit exploitation. In: R.W. Proctor, and E.J. Capaldi, (Eds.), *Psychology of science: Implicit and explicit reasoning*. (pp. 479-495), New York: Oxford University Press.

[16]*"Nature and nature's laws lay hid in night: God said, 'let Newton be!' and all was light."* (Alexander Pope, 1688-1744). See also: Fauvel, J., Flood, R., Shortland, M., & Wilson, R. (1988), (Eds.). *Let Newton be! A new*

perspective on his life and works. Oxford University Press: Oxford. See also: Glecik, J. (2003). *Isaac Newton*. Vintage: New York.

[17] One can achieve this easily by proving the Pythagorean theorem through the use of geometric shapes contained within a square (see Bronowski, J. (1973). *Ascent of Man*. BBC Books: London). And see also the series by James Burke which represents television as the best it can be: Burke, J. (1978). *Connections*. Little, Brown & Co.: New York.

[18] One might say that people generally 'satisfice' their life, as opposed to 'optimizing' it, in terms developed by the Nobel-prize winning scientist, Herbert Simon. And see: Simon, H.A. (1996). *The sciences of the artificial*. (3rd ed.). MIT Press: Cambridge, Mass.

[19] However wonderful any communicated insight can be, there is a necessary distinction between self and non-self, as well as a crucial difference between original self-discoveries, as opposed to the general category of non-original but communicated observation. And see: Polanyi, M. (2012). *Personal knowledge: Towards a post-critical philosophy*. University of Chicago Press: Chicago.

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