
Vortex of Descartes

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Cartesian Dreamtime™: René Descartes and Vortex Energy

If you are familiar with Australian Aboriginal art, ancient or contemporary, depicting space from "the Dreamtime" (the reality preceding worldly time and surrounding it in indigenous Australian belief), you may find in the picture above an uncanny similarity to it.

The image is an illustration to one of René Descartes' 17th century books on cosmology and the composition of the material universe. Well, not just "one of his books": the work from 1633 where he first discusses vortex energy as fundamental to the universe. He equates vortices with cosmic light that is completely intermingled with "coarse matter" and that takes on a rotatory form because it is a responsive medium interacting with its environment -- the "plenum of nature" prevents straight lines with Descartes, just like the curvature of space deforms them in Einstein. Descartes took daring risks and leaps of logic based on empirical evidence that challenged orthodoxy on every level. Not surprisingly he withheld this work from publication and left it unfinished for fear of the Inquisition.

For the next 17 years, until his death in 1650, Descartes became the definition of "reclusive genius," making himself hard to find, living in Holland and Belgium. A mathematician-cognitive scientist on the run, from these countries he issued a series of works of radical importance in mathematics, philosophy and physics. There was a flood of innovations: Cartesian coordinates, analytical geometry, superscripting ("to the power of n"), the cogito ("I think therefore I am") which founded certainty in irreducible immediacy, and many methods and tools still in use today, are his. But at the root of it all is a powerful vision fusing nature and the divine: Descartes considered light an energy-bearing substance, a "liquid" that filled all space with forcefields rotating around suns or other nuclei. An argument could be made that he anticipated the gravitational curvature of space discovered 300 years later by Albert Einstein. [image above: space as a fabric of energy in rotation -- an illustration from René Descartes' 1633 work (publ. posthumously, 1664) *The World, or a Treatise on Light*. This image is in the public domain.]

By the similarity between Descartes' graphing of the heavens and Aboriginal Australian art, we are not implying that the French mathematician-philosopher was familiar with Aboriginal doctrines or had them even remotely in mind -- not consciously at least. (A Jungian analyst might see much more in this.) In seventeenth century Europe, not much of significance could have been known about indigenous Australians. Descartes' images most closely resemble what today is called the Aboriginal "dot painting" technique (the "Papunya Tula" style, acrylic on canvas), which is derived from an ancient Aboriginal tradition, that of sand painting. The symbolic language, the "digital" method of holes poked in the sand or lines traced with an implement or finger, then filled with colored material, populating cosmic space with rotating or circular visual elements, and with background patterns that waver between geometric and organic form -- all these go back thousands if not tens of thousands of years. But Europe of the seventeenth century knew nothing about them. This makes the similarity between Descartes' scientific drawings, intended to be like engineering schemata, and the Aboriginal renderings of Dreamtime narratives, all the more noteworthy, and we could be persuaded of an unconscious connection between the two, i.e., Descartes knew but did not know he knew. Both show a sky "stirred with stars," and both make that sky, or the substance of it, in some way related to the forms we perceive on earth. The Aboriginal people explained that similarity, the consonance of form and meaning between celestial and earth planes, by means of the Dreamtime. Descartes' explained the same consonance via vortices and light energy acting on our mind and senses.

How We Begin to See

Australian Aboriginal images are in one way or another depictions of the Dreamtime, which is conceived as being identical with the cosmic beginning -- not a beginning at the start of time, but a beginning over time. The concept is poorly translated, because its implication is inverted from the meaning. The Dreamtime is the reality before time, it

persists over time and resonates in it like a figure in the shadow of a desert rock -- it is in short the real world, and earth experience is a parallel plane which borrows its meaning from, and re-enacts rituals of, the Dreamtime. Thus we can "dream forward" -- the Dreamtime produces the future. It is a modern idea because a beginning that is not in time, but over it, means that every moment in time is equidistant from it.

The first images of this dimension are of deepest antiquity. The "Dreamings" (as the Aboriginal artists refer to them) generally are built on a background of circular or semi-circular patterns: dots, geometric hashes, serpentine and oval forms; spirals, nested circles. Sometimes -- and we think this is important -- the background "stuff" of scintillating points is the foreground; it persists in the objects of the foreground -- i.e., whatever forms there are apart from the "cosmic soup" are nevertheless made of it. It is the stuff of the worlds. The art of Betty Mbitjana, daughter of the famous Minnie Pwerle, is a classic example. You can see her work at the Kate Owen Gallery, Sydney, Australia, and at many other venues, including Remote Australian Art. At the level of abstraction and symbolism at which Minnie Pwerle and Betty Mbitjana work, the object that entertains us, or that is the chief feature, is "deconstructible" to the background: cognitively, the body paint worn by Aboriginal women in their ceremonies, is the sky and earth of the Dreamtime. So the body returns itself to the Dreamtime by the Dreaming. This is what we believe hugely significant and we'll return to this topic below -- it has ties to brain science, the theory of cognition, not to mention mythology and cosmic narratives. The antiquity of this method or insight is difficult to pinpoint. It is alleged, though not without controversy, that the oldest signs of carvings in Australia, currently known, go back to 105,000 BCE -- the debate being a huge subject to which we can only allude here, and it is impossible to say how far back the tradition of the bush melon as a motif and icon goes.

November 10, 1619

René Descartes is, of all the great figures in western philosophy, the one most identified with reason, mapping, order and detachment, and the Australian Aboriginal people are the polar opposite: intuition, organic relationship with nature, immediacy. It is certainly an amazing irony that Cartesian and Aboriginal cosmology would meet so closely. But then again, the mystical side of Descartes (he was a Rosicrucian, and probably much more), has been scarcely weighed in his legacy. Acknowledged, yes -- but it has stood aside, like an odd chess piece that doesn't have a square on the board. Both his philosophy and his inspiration are, we believe, far closer to nature than has been recognized ...

So here's the story. On November 10, 1618, the 23 year old Descartes had a fateful encounter: he met his mentor Isaac Beeckman, who awakened in Descartes an awareness of the importance of mathematics and philosophy, and the intuition of a connection between the two. Oddly, on the evening of November 10, 1619, precisely one year later to the day, Descartes had a series of three prophetic dreams which convinced him to take up philosophy as a path. These dreams prominently featured a whirlwind (a vortex), and in one of them, inexplicably, he was offered an exotic fruit -- "a melon from a far away land."* In spite of inordinate and interminable analyses of Descartes' dreams by experts known and unknown, the fruit has never been more specifically identified -- until now, we believe. In view of the connection to Aboriginal cosmology, the inexplicable similarity in imagery, patterns and meanings, we are inclined to believe that the fruit of which Descartes dreamed was, in fact, an Australian bush melon. [image: Women's Dreaming and Bush Melon, by Minnie Pwerle (c1915-2006).] If true, this means there is an unconscious connection between Cartesian and aboriginal space and consciousness that deserve to be studied. Ridiculous? certainly, until it becomes more evident. The bush melon is not only a food but, in Aboriginal iconography, it is ubiquitous and universalized as a blend between a common symbol for Dreamtime bounty and a cartographic rendering of the entire universe: nature providing a map of nature, earth speaking of the dream out of which it issued. Both Descartes and Aboriginal culture are dominated by mapping, and mapping is storytelling. The map is a narrative. Cut in half, the bush melon exhibits the iconic circular pattern familiar from Aboriginal imagery. In effect, the bush melon as we see it today in aboriginal works, is a motif which is used to describe Aboriginal mind: Aboriginal spatial organization and what might be called the "aboriginal cognitive environment" in general.

The western rational mind distinguishes between the map and the landscape. The Aboriginal mind does not: their method is to use the landscape as a map --they are one. If the bush melon is a natural Rosetta Stone to a mysterious and powerful nonverbal tradition, like it was for Minnie Pwerle, the artist, then this common and humble fruit conceals a cosmic map of interest to anthropology. That it was presented to Descartes has to be more than a spectacular coincidence in view of the fact that Descartes' work, which the dream in question foreshadowed, was also about cosmic order, and the relation of celestial and earthly energies. Descartes' 1633 book begins with a presentation of light, the projection of vortex forces, as a medium that makes perception possible and that explains how it is that we do not see things as they are. The links to Descartes' work are therefore visual, symbolical, linguistic (if styles of visual presentation are understood to be a language), psychological, practical and mystical.

* [The three dreams, which Descartes experienced while stationed as a soldier near Ulm, Germany, on Nov. 10-11, 1619, as a young man of 23, have been characterized as "the three most famous and most frequently analyzed dreams in history." (Descartes' Secret Notebook: a True Tale of Mathematics, Mysticism and the Quest to Understand the Universe, by Amir D. Aczel, Broadway Books, 2005)]

Thus, even if we set the matter of this exotic fruit aside, the likeness between the representation of celestial vortices in Descartes' *The World or Treatise on Light* (a theory developed more fully in the 1644 work *The Principles of Philosophy*), and the Aboriginal dot paintings, becomes more fascinating when we examine, beyond visual parallels, the content of the relative doctrines and cosmology. The vortex theory of Descartes, which as a model of celestial mechanics was greatly influential among scientists of the day, has been abandoned as a subject meriting serious study by either philosophy or science, but that shouldn't extinguish our interest. Aboriginal cultures, some relatively recent appreciation notwithstanding, have been subjected to longer and more vicious attempts by history to marginalize them -- or worse. [image: detail of *Love Story*, by Clifford Possum Tjapaltjarri, shown here under Creative Commons Attribution-Noncommercial 2.5 Generic License from www.sauer-thompson.com. The blog posting showing this image dates from January, 2006.]

A Common Language

The presentation of a visually flat (but symbolically layered) space of "pointillist" dots, suggesting a kind of code, both digital and ancient, is the obvious initial link between the vortex illustrations from Descartes' *The World* and the sand painting tradition, but what does it mean? Other than the "dot" approach, the division of space is also very similar, and even elements like the serpentine line near the top of the picture shown above from Descartes' book, and representing the path of a comet, find an echo in ancient Aboriginal works. In both Descartes and indigenous Australian art, there is no container, no space in which the objects depicted exist, no background against which they appear: the entire visual plenum consists of variations on a design, and the pattern is at least as important as the object of which it is a part. Ubirr rock art from the Kakadu Park in northern Australia is an example.

So we should ask: other than a visual likeness, are there other similarities between Aboriginal beliefs and insights regarding space, time and reality, and those of Descartes? And what is this doctrine that has somehow, whether intentionally or by neglect or ignorance, been excluded from our notice?

To find the meaning, we should consider the purpose. We know that Descartes' illustrations were intended as diagrammatic representations of the fundamental organization of celestial forces, the vectors at work within matter; but so are Aboriginal works, which show not only a high degree of organization and intent, but a conceptual richness far exceeding the expectations that we, as outsiders to that culture, are likely to bring to them. Descartes' illustrations are not intended as works of art, obviously, since they are meant to illustrate a scientific theory; nor, in fact is "Australian Aboriginal art." It is well known that Aboriginal art is essentially instrumental (a device made for a purpose that is not primarily aesthetic, although it has aesthetic values), cognitive and practical, as well as very often both sacred and ceremonial. In both cases, they are maps, and the Aboriginal images are really tools or devices by means of which some purpose (beginning with honoring and connecting to the ancestral reality of the Dreamtime) was the objective. Descartes of course gave his name to a mathematical innovation known as the Cartesian Coordinate system, which is concerned with mapping as well. [image: famous aboriginal artist William Sandy, who now lives in Papunya, holds up one of his "dreamings."]

More to the point, both Descartes and the indigenous Australians were concerned with primal space -- i.e., where does everything come from, how did it and we get here, and what is our relationship with the Origin? What is the substrate (or for that matter, the "super-layer") of which the space of our physical world is an expression, and from which it is shaped? How do we map our relationship with this Origin and understand what it can mean to us in the now? The answers by Descartes and by indigenous Australian mythology are thus surprisingly similar, and they will, we think, offer insights about vortex energies, explain why people are so fascinated by them and what the dimension of vortex energies, both experienced and deduced, can tell us about our place in the universe, both past and future. [image: one of Dennis Nona's famous "Urrga" series lithographs. The Urrga is a luminous disturbance or interference pattern caused by the presence of game underwater, specifically a dugong or manatee.] The geometric overlays in Descartes' illustrations of the vortex are diagrams of showing not only two or more vortices on the same plane, but vortices on different planes of energy and of

manifestation -- in other words, they show the relationship between the visible and the invisible -- they depict a hierarchy that includes what is within our experience and what is beyond it. For the lack of a more convenient handle, we will call this new dimension, that which is beyond our sensory abilities, but possibly the source of perceived space, "The Cartesian Dreamtime";

The Cosmic Turtle

The enduring theme and "open secret" of Aboriginal art is that fundamentally, all space, from the oldest representations, is patterned. The pattern may be an abstract hatchwork, or reminiscent of the form of some physical thing, or geometric, or decorative, but it is always an encompassing design that allows the perception of differing objects and configurations within the pattern, simply by a process of making connections or breaking them. By "encompassing," we mean that whenever space is depicted, a particular design is the form it takes -- space is generally not blank or an empty container, as it is in the abstract western concept. Aboriginal space approaches more the nature of relativistic, Einsteinian space, in that it is not fixed, but that it becomes a map based on energies or forms within it. This view makes possible a kind of spontaneous perceptual creativity: time can slow, stop entirely or speed up, and by mental activity and focus, different objects can be discovered within the pattern, or dissolved back to the pattern. Aboriginal clans could sometimes be identified simply by reference to the background "hatch," or style of visual-spatial embroidery in their works of art. Of related significance is that any forms in the space, such as the turtle (below), are embedded in the background -- like a layering visualized on top of the pattern or emerging from it. In this way, the figure is not "in" space, it is that spatial pattern, differentiated as a figure. This "move" from the background into the foreground, from "noise" to "data," bridges aesthetic consciousness and survival-mode consciousness: the latter perceives by differentiation, and survives by it, in the bush. Aesthetic consciousness is thus the contemplation of the relationship and transition between form and the formless, the differentiated and the substrate from which it emerges.

An example of contemporary Australian Aboriginal art exploiting these ambiguities and showing how perception emerges by ideation from the malleable plane of the background, is the work of Colleen Wallace Nungari. This Aboriginal artist's popular "Dreamtime Sisters" series leverages the pulse by means of which forms emerge from the background, and are returned to it.

Thus, the heavens of Descartes and those of indigenous Australians are equally patterned; there is no empty space in either; and in each, the space is not inanimate, it is vibrant, and there is the sense of a background intelligence. For Descartes, the ultimate mover is God, so that the vortex forms of which space consisted were set in motion by an impulse of divine origin and from a state of unity. Moreover, that impulse was not a one-time event, it persists in shaping the universe, which is precisely what the indigenous Australians say: the Dreaming continues. An Aboriginal holy man might say that the background pattern is what the ancestral elders are thinking. Space in the indigenous Australian universe is not a container, as it is for cultures which have accepted, and completely internalized, notions of linear perspective and rational, mathematically divisible proportion. The contrast is quite striking. For the Aboriginal Australians, space is an aspect of the thoughts of the Dreamtime elders who inhabit reality, i.e., the Dreamtime. If the Dreamtime elders hunted, the trace of their feet would have been left behind in what could be thought of as the impressionable plasma of the universe as it was being made; and if the heavens turn and if there are whirling, rotating energies, these too were set in motion in the Dreamtime. If the ancestral elders are now sleeping, the universe is what they dream. Such notions are comparable to the Vedic view that the universe is what Brahman thinks, and if Brahman ceased to think it, the universe would cease to exist. It is no surprise that Aboriginal artworks in Australia today are generally referred to by the artist as "dreamings," meaning, for them, renderings of the real.

In some of the earliest images, such as the Ubirr rock art turtle, which first of all has a surprising sleekness and visual style, the figure is symmetrically patterned; more than that, the pattern of which the figure is composed competes with the figure for primacy, so that it is possible to enjoy the image as if it were an abstract spatial design, like an oriental carpet, except that we can perceptually allow the forms in the design to fuse so that we find, as if by surprise, that the abstraction yields the image of something recognizable from the natural world. [image: Ubirr turtle, generously provided via Wikimedia Commons, by Tourism NT -- the Northern Territories of Australia's authority for promoting tourism.] The turtle seen in this alternating way is thus an optical and bodily assemblage, a conception that is modern and timeless in its visual ambiguity. It is also a virtualization, because once we have formed it, it can be "lifted" from the turtle and it can exist separately as an image of it. This relationship between the figure, the patterns which compose it, and ultimately the background, are an unremarked aspect of the much-commented Aboriginal "x-ray paintings," in which it is supposed that the artist is "looking through" and showing the bones and internal organs of the figures. We are not disputing that at all, but we would suggest the reason why has to do with the perceptual configuration of pre-conceptual (no turtle, just vibrant

pattern) and conceptual (turtle) space.

The earliest examples show that in fact this vision is probably equally motivated by the desire to break the figure down into design elements and to diminish the dominance of the boundary outline of the body, which tends to suggest that visual abstraction is far from being modern -- it is quite ancient. Because the vision moves from the abstract to the concrete, instead of the other way around, the depicted figure gets a kind of genealogy by the geometry of the sensory field, and every organic object is a pattern composing a figure as well as a figure made up of repeated shapes which are not "owned" by that figure only. It would be tempting here to speak of fractals, holography, the Golden Section and other proportions and concepts by means of which we have tried to identify the relationships in sensation that yield to the emergence of shapes, objects and a world in general.

In later works the space will be the medium that unifies the figure and the background, so that in the case of the turtle, for instance, its provenance is revealed: the turtle is indeed that pattern "perceived as a turtle." This makes of the artwork also a scientific one: it is not just a depiction of a thing, it is about seeing and how visual reality is organized. In other words it is a cognitive teaching, and you can see its effects in the works of contemporary Aboriginal artists such as Colleen Wallace Nungari, mentioned above (click here for an example), or like Betty Mbitjana. [Both linked images come from the Central Art - Aboriginal Art Store. Disclaimer: we have no commercial relationship with the Central Art store.]

Daughters of the Stars: from Disruption to Recognition

It was these underlying symbolic designs, which represent Aboriginal connectedness, tribal consciousness of the ancestors and kinship to what is celestial -- kinship being central to both Aboriginal social organization and cosmology -- that evolved into the concentric rings of dots that suggest rotating energy, and that today provide the backdrop and spatial environment of virtually all Aboriginal works. A campsite or a well is designated by the symbol of a small spiral inserted into the painting, but even though that small spiral correlates to a specific location on earth, the entire sky rotates like the artist around the sand painting. Bodies are painted for ceremonial purposes, and figures in art are decorated with designs that relate them to the space around them, of which they are a part. Understood in this sense, vortices are the emanation or projection of the cosmic energy that is the cradle of all forms, and art is not merely aesthetic, it is a cognitive device. Art is not about depicting the world naively, it is a "Dreaming" as the Aboriginal artist will call it --meaning that it is a look into the inner nature of reality.

Thus, with regard to understanding vortices and investigating the cause of the experiences at Sedona, St-Germain des Prés, Basye or Machu Picchu, we need not focus on the mineral or physical properties of the rocks, springs or temples. These psychic experiences should instead be understood as a registering, by a human perceiver, of energies that emanate at those locations from the background higher plane. Vortex energy would thus be higher-dimensional thought energy, not in a superficial sense, but in the ontological sense of a "thinking substance," which is what Descartes intended to identify by his "I think; therefore I am," just as the Aboriginal earth correlates to a higher plane accessible via Dreamings. In this sense, a vortex is the occurrence of a disruption to egoic, time-bound awareness, and investigating how this disruption can occur takes us deeper into nature, but also outside of nature in the sense that it takes us outside of time.

The evolution of the circle -- or rather, of wavering concentric rings and spirals -- in Aboriginal art and what these represent in the indigenous Australian belief system, is a big topic and a central one. The immediate symbolic value of circles is generally to a campsite, well or location of something very important, but these forms are so omnipresent in Aboriginal iconography it is fair to say they are part of how indigenous Australian space is organized; and finally, they have a celestial counterpart, which is to say they refer to the Dreamtime. The Aboriginal world IS the Dreamtime, and by "tattooing" the earthly world with symbols and images of the Dreamtime, this identification becomes more complete: there is a recognition, a remembrance, of the origin, and Aboriginal art is a vehicle in the service of that recognition. It parallels exactly how the native inhabitants of the Shenandoah Valley of Virginia, the Shendo, or "Daughters of the Stars," "recognized" the Valley as the place from which they had fallen, as retold in the legend that we have been handed down today. (The legend is recounted in several places online. It is a fall-from-heaven and a return-to-heaven story -- a short version is here.)

Although there are over 400 Aboriginal cultures, the Dreamtime, referred to by many different words among the hundreds of different Aboriginal languages, is generally the common thread among them. The iconographic vocabulary of these cultures is directly a reference to the Dreamtime, and as the foregoing should show, the affinity of "The Dreamings" to Descartes, and vice versa, does not rest on visual clues alone. In terms of the relationship between time and the timeless, and in many other aspects, the Dreamtime and Descartes' cosmology, though vastly different in the cultural context, contain fascinating parallels. These in turn lend to Descartes a primal depth ("cosmological street cred") and to the Aborigines a stunningly modern sophistication.

Was Descartes unconsciously "channeling" Aboriginal Dreamtime? was he a reincarnated indigenous Australian? Had he been exposed, via reading, to information about the native American beliefs and iconography, which have their echoes, or vice, versa, in indigenous Australian traditions? These are Jungian interpretations, of course, but not therefore invalid. No one knows where the material that is tapped via the "collective unconscious" comes from, or what forces, often without our knowledge, inform or inspire us. C.G. Jung devoted a lifetime to understanding these things, and the reality of that realm of signs and symbols which fascinated him, often comes to our notice from the strangest coincidences. It is not possible in this abbreviated forum to go into real depth on the reasons why a French philosophical genius writing in the 1630s would have been unconsciously filtering or transmitting information linking to rock art and a people of 20,000 to 40,000 years ago, on a distant continent, but we think some general comments on Descartes would be useful.

Descartes in His Time and Today

An infinite mass of matter can be divided into an infinite number of circling spheres: there is what is meant by the Vortices that were invented, or raised anew to the world's attention, by Descartes. [Bernard de Fontenelle, *Theory of Cartesian Vortices*, 1752. Translated from the French by I.J. Ikävälko.]

In general, and on a less controversial level, there are two important facts to know about René Descartes (1596-1650). The first is that he was a seminal philosopher in the western tradition, which is to say that he introduced a methodology and a deductive clarity so powerful that nearly every philosopher who came after him, had to deal with him in some way. Descartes was the proverbial "game changer," and philosophical careers have been made on further developing or critiquing the methodology of which the Cartesian Cogito ("cogito ergo sum"; "I think; therefore I am";) is the most famous example. To borrow a concept from one of his 20th century critics (Maurice Merleau-Ponty) Descartes was also the "hinge" between classical and modern thinking, and the one who slanted the path of philosophy away from metaphysics and theology, toward science and mathematics. Thus it is not crazy to think of him as one of the spiritual forefathers of computing, and a theoretician who should not be ignored when the history of artificial intelligence (commonly referred to as "AI") is written. He was a mathematician to whom several innovations are credited, principally involving geometry. He invented Cartesian Coordinates (numerical notation of points on a plane, relating algebra and geometry); analytical geometry; the use of superscript to express exponential powers; and other methods and insights still used in mathematics today.

The second important fact is that he is the discoverer of vortex energy. (Celestial vortex energy is still a discovery if you believe in psychic vortices -- or in a cosmic intelligence that is not in a body but in all bodies; it is a curious obsoleted invention if you don't.) In the seventeenth century, at least for a time, it was the ruling proposition about celestial mechanics, the motion of bodies in space, and it was taken very seriously indeed until Newton provided a more economical explanation of the effects of gravity. Fontenelle, whose obituary of Newton is famous and well-regarded, published in 1752 (five years before Fontenelle's death but 102 years after Descartes passed away) an entire work dedicated to the topic of Cartesian Vortices (*La Théorie des Tourbillons Cartésiens*).

Descartes represents the so-called "relational theory of space and motion" which in light of Einstein's theories and more recent research, is receiving reconsideration.** In physics and philosophy, Descartes' vortices and the future value of the theory have today been largely abandoned, but we think that in spite of the volumes that have been written about him, the actual nature of Descartes' propositions about vortices, his notions about the behavior and internal dynamics of matter and even his position on the basics of cognition, are mostly misunderstood. And yes, the seventeenth-century

conceptual framework will underwhelm many contemporary readers, which is too bad, because (as we believe, at least) there is a powerful and visionary layer in Descartes that remains undiscovered. So interpretations of Descartes, not just his vortex theories, are due for a re-assessment in terms of their relevance to current researches into physics, brain science and other fields. Not to mention the Jungian view, which would approach Descartes in terms of the symbolical and psychological aspect of his writing ...

At the time Descartes presented his theories, identifying and exploring any mythological or psychically significant components was simply not going to happen. He is generally thought of as representing the self-evidence of reflective reason, mechanistic cosmic processes and, among other sins, fully articulating and arguing for the body-mind dualism. None of those views about him are, we believe, quite correct. It isn't that Descartes' work is purely rational, mechanistic and dualistic in nature, but more that he has generally been interpreted in those ways by those who came after him.

In terms of the relevance of Descartes to the New Age, so called, we are not aware of any New Age work that has attributed vortex energy, in the "Sedona sense," to Descartes either (in other words, you read it here first), and we are here to rectify that state of affairs. What is said by scholars about his view of vortices (in French, "tourbillons") has been so distorted by materialistic interpretations -- as if Descartes only spoke about "particles" in whirling movement -- that his being ignored by New Agers is somewhat understandable. Literally, it appears that no one has seen a connection between Descartes' vortices and those of Sedona, Machu Picchu or Basye.

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A return to the text, and a fair reading of what he writes in both *Le Monde* (1633, published posthumously, in 1664) and in *Les Principes de la Philosophie* (1644), shows that "material particles" are only one aspect of a tourbillon, others being substantial energies in rotation (corresponding to today's wave-particle duality in physics), which project both force and light. Descartes conceives of the vortex as a unity in which the transcendent force (conferred, in his view, by God) is the enveloping and unifying reality, and light, solar centers, heavens and circles, are only the forms it takes in actual expression.

Descartes' approach to philosophy thus was neither rational nor purely deductive at base, as has been thought, but included a healthy phenomenological (immediacy of consciousness) component, especially at its foundation. The "I think; therefore I am" (cogito) itself is logical but it is not logically derived. That is to say, although it is expressed logically, using the operator "therefore," it comes to him phenomenologically; the statement is rational, but it cannot be developed by deduction (the Latin word Descartes uses for this is *intellego*, in *The Principles*, and he opposes it to *cogito*). until it is found in experience. The cogito is obtained in a single moment of immediate certainty; it is a single "byte" of consciousness, in the expression of which are found the "bits" of logic. He distrusts reflective consciousness exactly because it makes its truth objective, because it is composed (as the Buddha said, "all composite things are subject to decay"), or presents by means of the senses, as in the case when the body is perceived to be seeing or walking. It is not thought in its immediacy that he distrusts, but thought mingled with something else. The French version of *The Principles of Philosophy* (the translation was approved by Descartes, although he wrote it originally in Latin), as if anticipating misunderstanding of his position, is quite clear on this point, and it is surprising that so much scholarship has ignored this basic fact:

"By the word thought, I understand all that happens in us in such a way that we perceive it immediately by ourselves; it is why understanding, willing, imagining, but also perceiving (*sentir*), are the same thing here, as to think. Because if I say that I see or I walk, inferring thereby that I am; [and] if by that I mean that the action happens by means of my eyes or my legs, the inference is not truly infallible to the extent that I don't have any aspect thereof that I can doubt; because it can be that I think I see or I walk, and yet I don't have my eyes open nor am I stirring from where I am at all, as can sometimes happen to me when I sleep; and the thought could even occur if I had no body at all: whereas if instead I refer to the action of my thought or of my sensation, that is to say to the consciousness (*connaissance*) that is in me, which makes me aware that I am seeing or walking, this same conclusion is so infallibly true that I cannot doubt it,

because it then corresponds to the mind, that alone has the faculty of sensing or thinking in whatever way it might."

[Descartes, *Les Principes de la Philosophie*, by Victor Cousin, Publisher, Paris, 1824, p. 218. Translated from the French by I.J. Ikävälko. The original version of *The Principles* was written in Latin.]

"Par le mot de penser, j'entends tout ce qui se fait en nous de telle sorte que nous l'apercevons immédiatement par nous-mêmes ; c'est pourquoi non-seulement entendre, vouloir, imaginer, mais aussi sentir, est la même chose ici que penser. Car si je dis que je vois ou que je marche, et que j'infère de là que je suis; si j'entends parler de l'action qui se fait avec mes yeux ou avec mes jambes, cette conclusion n'est pas tellement infaillible, que je n'aie quelque sujet d'en douter, à cause qu'il se peut faire que je pense voir ou marcher, encore que je n'ouvre point les yeux et que je ne bouge de ma place; car cela m'arrive quelquefois en dormant, et le même pourroit peut-être m'arriver encore que je n'eusse point de corps : au lieu que si j'entends parler seulement de l'action de ma pensée ou du sentiment, c'est-à-dire de la connoissance qui est en moi, qui fait qu'il me semble que je vois ou que je marche, cette même conclusion est si absolument vraie que je n'en puis douter, à cause qu'elle se rapporte à l'ame, qui seule a la faculté de sentir ou bien de penser en quelque autre façon que ce soit."

Cartesian Dreamtime™: mapping the cosmic energy body

But there is much more than the cogito. What Descartes shares most fundamentally with the Aboriginal vision is the notion of a fundamental cognitive dislocation -- he says categorically that our experience in time, as perceivers receiving sensory impressions and forming ideas, does not in fact resemble reality. This is the very beginning of his first book, *The World or a Treatise on Light*. The Aboriginal cosmic view is equally skeptical about the immediate report of the senses, because the indigenous Australian sacred view is that there are two streams of time, two kinds of it, as parallel but separate flows, and that the more real of those two -- called, counterintuitively, the Dreamtime -- is the ever-present cosmic point of origin. Descartes work is all about that dislocation, and the attempt, from the point of view of what might be called local time, which by definition is on the periphery of the vortex (like our planetary system is on the edge of the galaxy), to map the relationship back to the source. There is a translation process between Dreamtime and worldly time for the Aborigine, and between energy as it is in reality, and forms as they are perceived, for Descartes. Consciousness of that situation caused Descartes to distrust the senses, posit doubt as necessary, entertain the notion of an evil demon trying to deceive him, and to fall back on reason and deduction. His famous "method," (published in *The Discourse on Method*, 1637 and again presented in *The Principles of Philosophy*, 1644), together with his analyses of vortex energy dynamics, are the first steps Descartes provides to obtain the coordinates that would map the human perceptual situation back to what could be called the "Cartesian Dreamtime™," the origins of the energies which produce the physical universe and our experience of it. [image: an illustration of cosmic order from Bernard de Fontelle's popular 1724 book, *On the Plurality of Worlds*. Fontenelle also wrote a defense of Cartesian Vortices.]

Were vortex energy dynamics merely parts of an astronomical theory, and were they only to apply to celestial dynamics, it would be one thing; but Descartes also uses the same set of motions to analyze what is happening within matter, and within the elements. Thus vortices concern epistemology (theory of knowledge), the science of knowing how we know anything, as much as the famous Method does. The Aborigine respond in a different, much more organic way to the same consciousness of temporal and spatial displacement, which is to say they nurture and honor their inner connection

with the Dreamtime, see the manifest earth as part of it, and look for the light that guides them back to the source.

It is hard to look at Aboriginal works from any period without recognizing the primacy of circular motion, spiral and vortex-like forms. In Descartes this circular movement is expressed by energy, by stars and particles, displayed as point or dots, down to infinity. As Descartes notes in *Treatise on Light*, all motions in which take place in the World are in some way circular ("tous les mouvements qui se font au Monde sont en quelque façon circulaires"). Visualized as composing space and not just as populating it, these in turn create a sort of oriental carpet effect, where everything is vortex forms, and every structural element is further composed of rotating points. It is very clear that the "signs" by means of which Descartes believes we form ideas, are perceived based on the energies of these points, even though, or exactly because, the underlying vibrations and particles are not visible separately.

Light is, for Descartes, also vortex energy (in fact the full title of his 1633 work, where vortices are first presented, is *Le Monde ou Traité de la Lumière* -- *The World, or Treatise on Light*). His "heavens" (les cieux -- the orbital planes of space rotating around vortices) are not merely astronomical; they are formations in the inner structure of matter, and therefore they comprise a web of forces and relationships that explain the visible world and explain why it is, as he patiently shows in the introduction to *Le Monde*, that our internal notions of things ("sentiments") are not like the things themselves.

Descartes begins *Le Monde* with the quintessential statement on the cognitive dislocation, as it may be called, between the human perceiver and things as they really are. It is a doctrine that could equally be used to define the shift, both spatial and temporal, between earthly experience and the Aboriginal Dreamtime. This "Cartesian Dreamtime" ("I dream, therefore I am"), the relationship between the map and the reality, is the realm of vortex experiences.

"The first thing that I would bring to your attention is that there can be a difference between our notions [Fr. sentiments], that is to say, the ideas that our imagination, via the intermediary of our eyes, form of things, and that which is in the things which produce in us these notions".... ("La première chose dont je veux vous avertir, est, qu'il peut y avoir de la différence entre le sentiment que nous en avons, c'est-à-dire, l'idée qui s'en forme en notre imagination par l'entremise de nous yeux, & ce qui est dans les objets qui produit en nous ce sentiment, c'est-à-dire, ce qui es dans le flâme ou dans le Soleil qui s'appelle du nom du Lumière." -- The text quoted is from the 1728 edition of *Le Monde*, as published by Charles Le Clerc.)

The vortex dimension is a purely energy-plane phenomenon at core, a sort of cosmic "oriental carpet" consisting of rotating heavens which touch each other and generate subtle substances that are projected into space, and which carry with them information about their source (in Descartes, ultimately, God -- unless he was just appeasing the Church). Because vortex energy works in generating light, and not only in the macrocosmic world, our senses receive the projection of the vortex, the encircling energy (les cercles), but not all the granular detail of the forces in rotation. [Image: 18th C carpet from Konya -- where Rumi, Persian poet and founder of the Mevlevi or "Whirling Dervish" movement, taught. Courtesy of Wikimedia Commons.]

The Cartesian thinker is a thinking substance and this substance is *res cogitans* (being as thought) and not *res extensa* (being as extension in space). We would argue that for Descartes *res extensa* is *res cogitans* virtualized -- it is Cartesian mapping. In other words, in the vortex mechanics, which channel energies from infinite dimensions into finite proximity, the thinking substance, being too fine to be impeded by any materiality at all, is in fact co-extensive with the material realm, the *res extensa*, of which the body is a part. The mind-body duality is analytical, not real -- although on this point, many Descartes scholars would violently disagree. Vortex matter exists in dimensions or planes Descartes presented as his version of the "elements" which are distinguished by their movement and relative grossness or subtlety on the particle level, so that they are substances, synonymous with energy.

Vortices really have four components: a center (where the particle resides), a heaven, a circle or nested circles (permeable boundaries describing the vortex shape), and persistence in time. Particles "push" or emit a field of force around them; the field of force is a substance that rotates (the heaven) and carries other particles in it, which in turn are centers and have planes of rotating substance around them. Time is the corporeal effect of the movement of these forces and their impact on our experience and consciousness (what Descartes calls the "sentiments"; – a French word which

should be translated carefully). In addition to those four elements, as particles and vortices interact, the agitation creates subtler energies, such as light, and these subtler energies exist in planes or dimensions. Descartes believed that our senses do not report reality accurately, and that is because we substitute "signs" or "sentiments" for the experience, and these mask what the actual semblance, as he would call it, beyond our signs is.

*

As mentioned above, this view of reality has worked its way into the mainstream of American consciousness via *The Matrix*, the film, and thus it is Descartes and not Jean Baudrillard or Plato who invented the matrix conceptually. But the connection between Descartes and *The Dreaming* is deeper, and the metaphysics are more daring than what *The Matrix* presents. In the *Aboriginal Dreaming*, "I dream, therefore I am" really becomes, "I am dreamed, therefore *The Dreaming* is": the individual is a projection of the Dreamtime, a part of it, not separate from it except by the agency of consciousness itself which has to traverse cosmic space, to its location in worldly time. Similarly, Descartes implicitly understands that the "sentiments" (notions) created in our consciousness are projected by reality, as sunlight is projected by the sun, but they do not accurately reflect reality as it is. We read earthly time by means of our signs and symbols, and the meaning we find in it is conferred by the Dreamtime, the vortex fields ruled by the stars.

Much of this theory has been lost not because of a failing of Descartes, but because of what might be called the "material-plane prejudice" limitations imposed on the work by readers. Not to pick on anyone in particular — and since *The Stanford Encyclopedia of Philosophy* is hugely authoritative — here is an example of how his complex energy-state unities or tourbillons, are often interpreted:

"A vortex, for Descartes, is a large circling band of material particles. In essence, Descartes' vortex theory attempts to explain celestial phenomena, especially the orbits of the planets or the motions of comets, by situating them (usually at rest) in these large circling bands. The entire Cartesian plenum, consequently, is comprised of a network or series of separate, interlocking vortices." [Malpas, J., "Donald Davidson", *The Stanford Encyclopedia of Philosophy* (Winter 2003 Edition), Edward N. Zalta (ed.)]

We would clumsily expand that something like this (with apologies to Stanford):

"A vortices, for Descartes, are meant to be thought of as space, not as in space. They comprise an infinite number rotating spheres of energetic substance whose rotational planes are referred to by Descartes as "heavens" (des cieux), circling around a center (un centre), and constrained in circles (des cercles). Vortices interact, forming a hierarchy that renders visible reality and determines what is and is not perceptible to humans. This also implies that there are imperceptible heavens whose presence can be deduced via philosophical method. The entire Cartesian plenum consists of energy expressing itself visibly as luminosity, transparency and darkness, all given coherence by an infinite source (God)."

The church and its teaching cast a large shadow on Descartes' philosophy. His full development of the notion of stellar vortices, of "matter whirling about an axis" cosmically (initially in *The World* and then in *Principles of Philosophy*, 1644), and certainly the timing of its introduction, was the outcome of a need to reconcile empirical knowledge and perception, that is to say the foundations of science, with

what might be called the ecclesiastically permitted architecture of the universe. Descartes was about to publish *The World*, when he heard about what had happened to Galileo because of the Inquisition. Here is an excellent short explanation (the author spells it "DesCartes" -- quaint):

"An example of adaptation of science to meet the demands of dogma is seen in DesCartes's theory of stellar vortices. The ecclesiastics would not allow the world, which is the center of the universe, to move. Hence to carry it in its annual excursion around the sun, DesCartes proposed the astounding subterfuge of a mass or vortex of gaseous material in which the world rests as in a cradle. Such vortices carry the earth and other planets through their orbits and the earth remains as the ecclesiastics would have it, quite stationary, like a passenger sitting in his chair on an ocean liner. DesCartes may have half believed this, himself as it gave him some padding for his "continuum"; at all events, he was not in the least disposed to become a martyr."

[Our italics. From papers of the Innominate Society of Louisville, written by prof Henry G. Barbour in 1927. The complete paper is here.] [Image: "Galactic Federation" by Howard Weingarden -- co-founder of the New Renaissance Brotherhood and a leading exponent of the cosmic romanticist movement. Artist reserves all rights.]

So, under pressure to distort the truth, Descartes arrived at a view of matter and energy which, 400 years later, turns out to be prophetic. Psychic vortex theory begins with those two postulates: that vortex energy is essentially the substance, or is continuous with the substance of which all things are made, and that this rotating energy* has a perceptible "material" aspect and a subtle "force" or "energy" aspect, and that the interplay between the levels of manifestation is what gives vortices the unique power they have to elevate consciousness. We have to credit Descartes with the notion that vortex energy forms a kind of dynamic cradle around perceived reality -- in effect a luminous tissue or envelope connecting the perceived and the hidden, time and the timeless; and, as we have later found out, this energy is intelligent and conscious (see below).

Delicious -- and unfortunate, because the fact that the Descartes' vortex theory was perceived by later philosophers as a clever device to pull the hat over the eyes at the Vatican, meant it was not studied with the attention it deserves. But it is delicious. The church causes (or at least helps) Descartes to hatch a cosmology that reconciles the conflict between empirically perceived truth (which is that stellar bodies are in motion) and the theological dogma that the universe post-genesis is largely static, by means of an invisible agent -- the vortex; the planets don't move, but they are cradled inside cosmic matter in motion. It is not too different from how physicists until the beginning of the 20th C. felt they needed a substrate of fine matter, called ether, along which light could move and which would explain the ability of objects to exert forces on each other across an apparent vacuum. But Descartes did not just create a substrate to explain motion -- he designed an energy field which manifests in differing ways at differing levels of fineness. Therefore, by creating a hierarchy of energies, from the dynamic to the static -- the higher to the lower -- this awkward device becomes sophisticated and modern, and it prepares us to think of holography and the fractal self-similarity of energies composing nature at different levels. Of course Descartes just transferred the problem of motion to the next level of force, that of the vortex, just as human beings project their own attributes, biomolecular events in the brain, onto the fabric of the senses where it is mapped onto the world as things and perceived as attributes of things. The astronomical equivalent of this process is the attribution of the motion of the earth onto the sun, so that we say, for instance, "the sun rises, the sun sets...." whereas the sun is relatively fixed and the earth's motion causes the appearance of its movement. [Image: the fabric of ether. Under the GNU 1.2 License. Wikimedia Commons.]

Thus Descartes took metaphysics to the next level, linking with eastern theosophies and practices such as yoga, and introducing, after a few centuries, an energy defined by its relationship with the people that interact with it -- subtle vortex intelligence. In other words, the church helped create the very force that now is part of the secular pop-mystic culture that is a thorn in its side. [image: detail from portrait of Descartes by Frans Hals. File from Wikimedia Commons, in public

domain.] Yoga comes into it because it focuses on the secret relationship between the visible and the invisible, and the manifest "what is" can only be explained by the unperceived background force. Our future ability to influence events is the result of learning how the invisible works: the cradle not just of the earth, but of the gods. The human genome project is really about learning how to control destiny, a puppet whose strings have been lost. Finding them is the shared ambition of religion, science and pop mysticism. Isn't the audacious goal of the American New Age the metaphysical equivalent of the mad scientist scenario: to learn how to control manifestation, real events (in effect the world), by finding those strings, learning how to rock the cradle of the worlds?

Hence, if church authorities complain that the "New Age doctrine" of vortex energy -- exemplar of the reckless spiritual promiscuity of the contemporary scene -- is leading some of its flock astray, we can just say, with near-complete fidelity, our eyes blue as the enamel on a Dutch teapot, "well, you invented it!"

*

Transcendence of the Body. The philosophical failing most often attributed to Descartes was that he left the body-mind dichotomy standing. But in fact this is perhaps one of the most critically important areas in which Descartes is misunderstood. Yes, he distinguished *res extensa* (stuff, the material world) and *res cogitans* (mind, the perceiving entity), but what is unappreciated is that he really made these two the boundary phases of a continuum -- but this is not the place to correct the common error. And while part of his vortex energy may be body-transcending and cosmic, via the concept of Descartes' cradle it also teaches how all perspectives of human perception are those of the body-mind. The biomolecular events of the brain are projected onto a world of the body-mind. The perceptible qualities of a vortex location are templated by and for an embodied observer: location, tangibility, visible features, etc. This is why another French philosopher, Merleau-Ponty, who spent his career defeating the body-mind dichotomy of Descartes, said 300 years later that "the body is in the world like the heart is in the organism." Mind is inserted into reality at a specific location via the body, and this insertion creates every single attribute of spatio-temporal consciousness. The mind is a bodymind: there is an intimate enveloping -- in effect, of the "heaven" and that around which it rotates. Our presence makes the world live because whether we are here or not, the world as we perceive it is an object of and for human consciousness. The perceiver is the bodily template and source of "types" (to use an IT and logic term) of which the world the perceiver inhabits is the expression. It is hard to understand how an embodied perceiver is necessary here until we realize that each visual aspect, no matter how we abstract it, has implied tangible aspects -- qualities the object would have only for a body that is capable of touch.

The amplifying effect. So what vortex locations, with their unusual intensity of energy, bring to this is to transfer to us the ability to see into what we thought was mere nature or mere architecture; and as we connect with the background energy field, we begin to see the "cradle" that produces the thing recorded by the eye. Before we reject as crazy -- or as "New Ager fantasy" -- reports by those who have had visions at vortices, we should learn more about what happens to awareness in the presence of abundant energy, heightened mental vibration. We (many people among us, at least) used to think of out-of-body experiences as the product of imbalanced personalities, or as pure hysterical fantasy, until the Swiss proved in a laboratory setting that they can be induced by stimulating the brain in a certain way. The vortex is not just energy, it is the sort of energy with which consciousness can meld.

The connection of this to yoga. For Descartes the cornerstone of reality is the experience of thought: "Cogito ergo sum" -- I think, therefore I am, a philosophical zip file that, unpacked, says: "When I become aware that I am thinking, I realize that my thought is the vehicle of my existence." In its Aboriginal version, if we replace dreaming with thinking and "dream" with "thought," the cogito would become: "I am thought; therefore the Thinking is." So of course the question is raised: "whose thought is it that thinks me?" It is the same question raised by the sixteen year-old Rimbaud when, probably for the first time in the history of western intellectual development -- and still not assimilated entirely -- in the first of his two famous "letters of the seer," seemingly out of nowhere, he notes:

It is false to say: "I think." One should say: "I am thought." (Rimbaud means this in the sense of "One thinks me.") [C'est faux de dire: Je pense. On devrait dire: On me pense.] -- Arthur Rimbaud, May 13, 1871, from first of the two letters of the Seer (Les lettres du voyant).

The perspective of the experiencer in that statement is radically shifted from the norm. The self, the "I," is the object of thought, not the thinker. There is no denial of subjectivity, but rather a dramatic statement about the identity of the subject; the self who is normally thought to be the subject, is not the thinker, but is constituted by the act of thinking. Cartesian thinking substance in this way is the primal "type" (as it is called in computer science), the stuff of which all specific expressions are made: realization of presence, perpetual dawn of consciousness, foundation of observation, tissue binding self and world. It is this substantial present zone, this plastic, responsive, resilient, tangible environment whose inner nature is vortex-like.

[* By "rotation" as part of the postulates of vortex theory is not meant that vortex energy always moves in a circle, but that it is in relationship to a center. If the center is still and relatively unaffected by other centers or forces, or strong enough to rule over its own heaven, the energy describes a circle; if the center moves in a straight or curved line, or rises, the energy that rotates around that point describes an oval or a spiral; if the center divides into multiple centers, the energy describes a mandala; and so on.]

[** "Given the extremely important contribution of Descartes' theory of space, time and motion to later theories (such as Newton's, ironically), and given Descartes' preeminent importance in the overall history of Western philosophy, it is incredible that no previous commentators have devoted an exhaustive study of the potential for resurrecting Descartes' concept of space, time and motion." E. Slowik, Cartesian Spacetime: Descartes' Physics and the Relational Theory of Space and Motion (International Archives of the History of Ideas, Volume 181)(Hardcover)

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