Democritean Rhuthmoi vs Platonic Forms (1869-1875)

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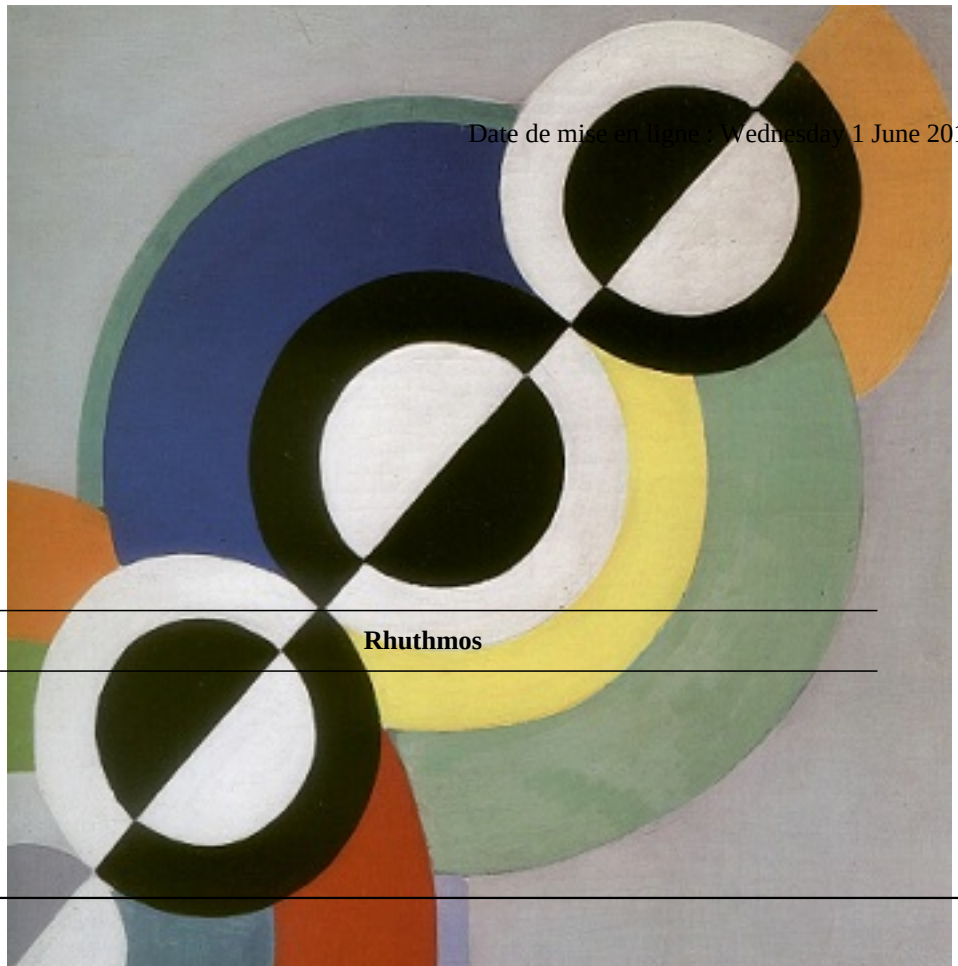

Date de mise en ligne : Wednesday 1 June 2016

Rhuthmos

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Democritean *Rhuthmoi* vs Platonic Forms (1869-1875)

Nietzsche was deeply influenced by Albert Lange's *History of Materialism* which he read in 1866. Lange's reading triggered a lasting interest in some pre-Platonic Philosophers, especially Democritus (c. 460 - c. 370 BC), on whose work he took notes from 1867 to 1869 and finally lectured at Basel from 1869 to 1876. These notes include a relatively long paper on Democritus, dated from 1872.

Both James Porter and Nina Power, who thoroughly studied these texts, insist on presenting Nietzsche's Democritus as "poetic" or as "an aesthetic thinker, a *poet*" (Porter, 2000, chap. 2: "The Poetry of Atomism and the Fictions of Philology"; Power, 2001, p. 124). This view is quite debatable. First, it suggests that in Nietzsche's mind Democritus' philosophy was based on intuition, imagination, and pleasantness, which is somehow an over-simplification. There is plenty of evidence that, according to him, Democritus proposed, despite indeed a questionable *prôton pseudos* or false premise, an ontology complementary to Heraclitus' which he considered worth referring to until the end of his intellectual life. Second, the conflation of poetics and aesthetics implied in this judgment is quite misguiding and does not help to understand the implication of rhythm in the matter. As long as it suggests, in a Winckelmannian fashion, that poetry should be read only according to a *theory of sense experience*, it pushes aside the *poetic* tradition developed in 18th century upon Aristotelian foundation by thinkers like Diderot and many others up to Hölderlin and partly obstructs a *historical anthropology of sensation*. While rhythm is recognized as a key concept, it is constantly attracted by the very metric definition, Nietzsche was, in fact, very consciously struggling against.

Nevertheless, Porter rightly emphasizes the relation between Nietzsche's theory of rhythm and interest in atomism. If Nietzsche, he says, did not care to develop the comparison between ancient atomists and rythmicists, that comparison run constantly through his mind. (Porter, 2000b, p. 63)

In order to accurately measure Nietzsche's hesitations concerning rhythm in his *Democritea* we should remember Benveniste's analyses from which I started this survey. As in the sections dedicated to Heraclitus in *Philosophy in the Tragic Age of the Greeks* (1873), Nietzsche often uses the term rhythm in the Platonic sense of a numbered series of beats, accents or periods. But even in these instances, the traditional definition is challenged by new and quite illuminating insights.

Numerous fragments, for instance, repeatedly associates Pythagoreans' interest in rhythm, number and reason (e.g. Philolaus, c. 470 - c. 385 BC) with Democritus's materialism and concern for natural science (c. 460 - c. 370 BC), which in a surprising manner are jointly opposed to Plato's idealism (428/427 - 348/347 BC) associated, for his part, with Socrates (470/469 - 399 BC), outer-worldly Forms, instinct, and knowledge.

Democritus. The universal researcher *[Erkennende].*

Pythagoreans. The measure *[Maaß]* and the number *[Zahl]* by the Greek.

Socrates. Education, love.
> Struggle against the education *[Bildung]*.

Plato. Universal aggressive.

(eKGWB/NF-1869,3[84] Winter 1869-70 Spring 1870, my trans.)

Themata for the *journal.*

Pre-Socratic Philosophers.

Rhythm.

Competition.

Plato.

Rhetoric.

Aristotelian poetic.

(eKGWB/NF-1871,9[47] 1871, my trans.)

[...] 9. Democritus. Universal knowledge. The philos[ophers] as writers of books.

10. Pythagoreans. Rhythm *[Rhythmus]* and measure *[Maaß]*. Subjugation of the Ictus.

11. Socrates. Love and education *[Bildung]*. The sovereign concept. The first negative philosopher and aggressive break with the Greek. Finally Plato.

(eKGWB/NF-1871,16[17] Summer 1871 Spring 1872, my trans.)

Value and embarrassment of materialism.

Plato and Democritus.

The escapist homeless noble researcher.

Democritus and the Pythagoreans find together the foundation of natural science.

(eKGWB/NF-1872,23[40] Winter 1872-73, my trans.)

The listener. Atom number. Natural Science. Democritus. Greeks and foreigners. Freedom from convention.

Souls' wandering dramatically. Pythagoreans. The rhythm and métron. Souls' wandering.

Metastasis on science of the tragic-artistic impulse. Socrates and Plato. The education. Now "school." Enmity against scientific explanation.

(eKGWB/NF-1872,23[22] Winter 1872-73, my trans.)

Democritus and Pythagoreans. Natural science and metaphysics.

Socrates and Plato. Knowledge and instinct.

(eKGWB/NF-1872,21[15] Summer 1872 Beginning 1873, my trans.)

Democritus the world is completely without reason and impulse, shaken throughout. All gods and myths [are/become] useless.

Socrates: there remains nothing for me but myself; fear about oneself becomes the soul of philosophy.

Plato's attempt to think everything over and be the Savior.

(eKGWB/NF-1875,6[21] Summer 1875, my trans.)

These apparently rehashing fragments bear witness of Nietzsche's well known "inverted Platonism," his opposition to what he calls the "aggressive break with the Greek," i.e. with the pre-Socratic "Natural science" but also to the traditional *Bildung* jeopardized, according to him, by the new Socratic-type education based on dialectic. They also show his clear-cut rejection of the Platonic concept of Form or Idea and his qualified support to materialism in his own words: the "value and embarrassment of materialism." But, what's more, they shed a new light on Nietzsche's multifaceted concept of rhythm.

Contrary to usual interpretation which most often consider Platonic Forms as derived from Parmenides' outer-worldly concept of being and Pythagoras' metaphysical concept of number, in these fragments, Nietzsche oppose them by advocating number and rhythm, which he associates with Democritus' inner-worldly conception of science.

In a way, his view of Pythagoras and Pythagoreans is consistent with the most common knowledge of his time. Pythagoras (c. 570 - c. 495 BC) discovered the relation between the pitch of a musical note and the length of the string that produces it, and that the intervals between harmonious sound frequencies form simple numerical ratios. Concerning rhythm, he conjoined it with "number" *(Zahl)* and "measure" *(Maaß)*. Nietzsche seems in this instance very close to the Platonic paradigm of rhythm.

But at the same time, he quite daringly couples Pythagoreans' interest in music, rhythm and arithmetics with Democritus' atomistic and anti-idealist theory of nature: "The listener. Atom number. Natural Science. Democritus." Among the six previous fragments, "Democritus and Pythagoreans" are paired five times.

Very few historical evidence actually support this view. According to Philolaus, one of the prominent members of the Pythagorean school, number is the "dominant and self-produced bond of the eternal continuance of things." (Syrian. *in Arist. Met.* 12.6. p. 1080b. 16) Each number has its own power or *dynamis* : "The Decade brings about and achieves all things; it is the principle and the guide of life, whether divine and celestial or human." (Philol. fr. A13 in Pseudo-Iamblichus) And it is quite likely that the Pythagoreans' theory of number was used to explain the generation of things and more generally the flow of nature. In this sense, it was taking part in Heraclitus' legacy.

But, as far as we know, atomists did not seem very interested in connecting their own theory to numbers and, similarly, if numbers were used by Pythagoreans to explain the generation of things, they were never explicitly connected either with the Democritean flow of atoms and individuation processes.

> Even the Atomists made no attempt to apply arithmetic or geometry to scientific knowledge. Philolaus and Eurytus saw their failing, and attempted to meet it: the shapes of things are essential to them (we recognize things by virtue of their shapes); shapes can be expressed arithmetically; and the consequent arithmetical definitions of substances may be expected to function as the foundations of a mathematical physics. (Barnes, 1982, p. 308)

Some ancient authors already noticed that atomism and mathematics did not match easily.

> It is necessary that those who talk of atomic bodies [Leucippus and Democritus] clash with the mathematical sciences, and do away with many reputable opinions and data of perception, about which we have spoken in our remarks on time and motion (Simplicius, *De Caelo,* 232:303a20-4 - quoted by Barnes, 1982, p. 278).

Moreover, what we know of Greek arithmetics make such connections highly unlikely because in the 5th century Greeks knew only of natural and rational numbers which were far from being able to mathematically represent such complex movements as atoms fall and vortices. They realized with a lot of resistance the need for irrational numbers, in particular the irrationality of the square root of 2 which was discovered by Hippasus of Metapontum (5th c. BC). But the acceptance of zero, negative, integral and transcendental numbers emerged very slowly in the Middle Ages and accelerated only in the 17th-19th centuries.

> In aim and scope the Philolaic [Pythagorean] project is admirable; in practice it is, inevitably, jejune. Shapes are not determined by natural numbers in the way Philolaus apparently imagined: does 4 determine a quadrilateral or a tetrahedron? does 8 determine an octagon or a hexahedron? Natural numbers alone will not do: if geometry is to be 'reduced' to arithmetic, the reduction must be carried out by more sophisticated means. (Barnes, 1982 p. 308)

However it is not Nietzsche's historical accuracy that matters here but the new insights on rhythm he is able to provide. He certainly is a philologist but also a philosopher, and as such he is reflecting on becoming, rhythm, number, atoms and science *from* the debates between the Greek and naturally other more contemporary concerns. Besides, Democritus was known to have written a treatise *Concerning the differentiations of rhythm (Peri tôn diapherontôn rhysmôn)* or maybe *On Rhythm and Melody* (Diogenes Laërtius IX.45-9 - 3rd century AD). Although Benveniste claims that the former could have concerned only the various shapes of the atoms (Benveniste, 1966, p. 329) and the latter seems to be extrapolated from later concerns, it stands to reason that Democritus may have extended his conceptual model of atomism to other domains as poetry, music and therefore time. Basing his claim on the fact that "Epicurus accepted the concept of time-atoms," Porter thinks that it is most probable that Democritus did as well.

> It seems, moreover, that Epicurus accepted the concept of time-atoms. Cf. Lucretius, *De rerum natura* 4.794-96 *(quia tempore in uno,/ cum sentimus, id est, cum vox emittitur una,/ tempora multa latent, ratio quae comperit esse)* and *puncto tempore* in 6.231. None of our evidence establishes that Democritus connected atoms to time. For all we know, he did. (Porter, 2000b, p. 77, n. 14)

Rhuthmology as Time Atomistic (1873)

This twofold interest in Democritus's atomism and rhythm allowed Nietzsche to consider, during spring 1873, from a different angle, a question that had already been addressed in the unfinished essay *Philosophy in the Tragic Age of the Greeks* ditched in the beginning of April 1873.

We remember that the notion of rhythm was used in this text to characterize the Heraclitean becoming itself, but that Nietzsche seemed initially to hesitate between considering it as a continuous and eternally running flow or/and as a repetition of accents, periodic return, cycle. We also recall how, thanks to a careful dialectic, he progressively managed to overcome his indecision: first by showing that both positions entail a kind a roundabout resubstantialization of the becoming, too simply identified to the struggle of eternal realities; then by analyzing the Heraclitean "fire" as an anti-substantialist metaphor which entails no periodic aspect, no beat, no alternation of two main principles whatsoever; by investigating the latter as a yet anthropomorphic conception of the becoming; and,

finally, by replacing it by a comparison with art, both as craft and works. This ultimate comparison aimed at showing that the becoming can never be reduced neither to linear progressive transformations, nor sheer chaos or fluidity, nor plain circles bringing everything back, and must be understood as both following and producing endlessly proliferating manners and kinds of order, which we may legitimately call *rhuthmoi*.

During spring 1873, Nietzsche came back once again to the question of the becoming, but this time from a Democritean angle which was lacking in the previous essay. This text is much less developed. It consists only of a handful of pages loosely drafted, where Nietzsche is not studying the rare remains of Democritus' works but speculates on his own on a theory of time that would be consistent with basic Democritean assumptions. His notes are tense and sometimes obscure. Fortunately they have attracted the attention of a few specialists to whom I am greatly indebted (Whitlock, 1997; Porter, 2000b; Nielsen, 2014)

Whatever Nietzsche's relation to the 18th century thinker Boscovich and to his brand of dematerialized atomism (Whitlock, 1996, 1997), it can safely be assumed as a starting point that the "time atomistic" *(Zeitatomistik)* or "theory of temporal atoms" *(Zeitatomenlehre),* which Nietzsche sketches in these few pages, is directly derived from the existing "punctual space atomistic," i.e. ancient atomism as we know it. This doctrine supposes indeed atomistic "time-points" *(Zeitpunkte)* or punctual "time-atoms" *(Zeitatomen)* analogous for time to atoms in space.

> *Time-atoms Theory*
>
> It is possible, 1) to bring down the existing world to a punctual space atomistic
>
> 2) that one in turn to a time atomistic
>
> (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

But Nietzsche often expressed reservations concerning the metaphysical assumptions that remained in classical atomism. In previous texts, he accused many times the atomists of importing subjective traits into the objective features of atoms, such as motion, weight and causal force. Here again Democritean atoms are explicitly rejected as still retaining some Parmenidean features.

> As a rule, in atomic physics, atomic forces *[Atom-Kräfte]* are assumed to be invariable *[unveränderliche] over time* [in der Zeit], in other words, D½Ä± [beings] in the Parmenidean sense. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

The switch from space to time aims precisely at riding the theory of being and becoming of its last metaphysical supports. This is why Nietzsche now considers atoms as "points," i.e. entities without any extension, an idea he probably borrowed from Boscovich (Whitlock, 1996, 1997). However, as it appears clearly in the first quote, this does not mean that matter and space disappear altogether but that they are not given theoretical primacy any more. Instead of considering time from a spatial theory of matter, Nietzsche suggests to change the angle and consider matter and space from an atomic temporal theory. Both should be derived from time.

Nietzsche hopes that by temporalizing atomism, he will be able to propose a non-metaphysical theory of being and becoming, since atoms will not any longer be considered as solid, self-identical in time, eternal, and endowed with "atomic forces," but as fluid, changeful and enlivened by time, viz. as atoms of time-matter endowed with "changeable forces." The constant downward raining of persisting atoms is substituted by a constant transformation of each one of the infinite number of particles and their "Brownian movement."

> Those [the physical atoms], however, cannot act/have any effect *[wirken]*.
>
> Rather only absolutely changeable forces can have any effect, viz. those which are never the same at any other moment.
>
> All forces are only *function of time*. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

Hence the world and the things that populate it have no consistency. There are not "given" *per se*, rather they consists of perpetual movements and changes of points of time-matter. However, Nietzsche does not deny that some bodies do endure and the world is not either completely chaotic. It constantly follows and produces old and new ways of flowing. Whereas the first part of the argument concerning the fluidization of world and bodies has attracted most of the attention of the specialists, I am mainly interested in the second.

In order to see that more clearly, we have to get into details. Nietzsche starts his reflection by considering interactions between points in space *(Raumpunkte).* Suppose that A affects B. A is defined by its location in space and time. And so is B. But, since the effect of A upon B takes time, when their convergence takes place, they both already have changed. Consequently we must choose: either A has an effect on B and, at the moment they meet, they are actually both different from what they were, they are not any longer the same subjects, or A and B stays the same subjects of action but they cannot act upon each other. Naturally, because action does occur, Nietzsche chooses the first answer. There are no persistent subjects of action, "time demonstrates the *absolute non-persistence* of a force."

Motion in *time*.

A B

. .

Space-point A affects space-point B and vice versa.

This requires time for each one, since each effect has to cover a distance. Consecutive time-points would fall into one another.

When A meets B through its effect, it is not any more the B of the first moment. What does it mean then: does B still exist, and similarly A, when they meet?

This would mean in particular, A is without change the same at this or that time-point. But then A is not an effective force, for it can no longer be the same; because that would mean it had not worked.

If we take a causal entity *[das Wirkende]* in *time*, then that entity is a different one in every smallest temporal moment.

That is: time demonstrates the *absolute non-persistence* of a force. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

Then Nietzsche proposes a thought experiment or a radical shift of angle. Let us "figure" that the space can be reduced, by a *regressio ad infinitum*, to a single point into which "all punctual atoms collapse," and then be regenerated by the repeated positing of 'this one space-point' in ever new "time-points." Instead of being composed of an infinity of atoms distributed in space, the world would appear now as consisting of one singular spatial atom, which is actually only one unextended point, endlessly re-distributed in time. Then the whole world would not be considered any more from a spatial viewpoint, which is basically "timeless" and paradoxically "without motion," but would become "possible purely as a time phenomenon." Moreover all bodies and things would appear as now composed of "time-points."

> All spatial laws are therefore timeless, that is, they must be simultaneous and immediate.
>
> The whole world at a stroke. But then there is no *motion*.
>
> The motion is suffering from the contradiction that it is constructed according to the laws of space and that it assumes a time that makes these laws impossible: i.e. simultaneously is and is not.
>
> Here we can be helped by the assumption that either time or space = 0.
>
> If I figure *[Nehme ich als]* the space as infinitely *[unendlich]* small, all interstices between the atoms become infinitely small, that is, all punctual atoms collapse into a single point.
>
> But since the time is endlessly *[unendlich]* divisible, the whole world is possible purely as a time phenomenon, because I can occupy every time-point with this one space-point, thus setting it an infinite number of times. Thus, considering the essence of a body, one would have to *distinctly* think of *time-points*; i.e. the one point set in those intermediate spaces. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

For sure, one consequence of this is that all phenomena familiar to us, e.g. bodies in space, would be broken up and down into series of time-sequences or "interrupted time-lines."

> There are still infinite time-points between each time interval: so one could think of a whole body of the world, which would be entirely formed from/by *[aus]* one point, but in such a way that we break up/down *[auflösen]* bodies into interrupted time-lines. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

But this does not mean that random motion and chaos would take over. Indeed, although we would have entirely fluidized the world and the bodies in it, all of this would still be grasped by the mind of a subject, "a reproductive being" that would "hold earlier temporal moments" present in its mind and so construe them in the form of their imaginary representation.

Now only a reproductive being *[ein reproduzirendes Wesen]* is necessary, which holds earlier temporal moments close to the present one. So are our bodies imagined.

Then there would be no other juxtaposition, than [the one] in the imagination.

Everything would be developed and represented. The laws of space would all be constructed and would not guarantee its existence.

Then the number and the manner *[Die Zahl und die Art der Aufeinanderfolge]* in which the successive and repeated setting ot this one point is performed makes up the body.

The reality of the world would then consist in a persisting point *[in einem verharrenden Punkte]*. The multiplicity would arise from the fact that there would be representing beings *[vorstellende Wesen]* who would repeatedly think of this point in every shortest temporal moment: beings which [would] suppose *[annehmen]* the point at different points of time to be non self-identical and nevertheless *[jetzt]* embrace these points simultaneously. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

Porters underlines the assumption made here by Nietzsche. All this is only possible under the condition of an existing subjectivity, a "reproductive" or a "representing being," who performs the *reductio ad atomum temporis*, the reproduction of that ultimate time-point and, finally, the synthesis through representation of the induced plurality.

> Nietzsche, who starts with a theory of time-atoms, is speaking about the projection of a perception: the repetition takes place in somebody's mind, as does the resulting apparent continuity. (Porter, 2000b, n. 33 p. 79)

He thus claims that this distribution of "a single, essential punctuality [...] thanks to its representation by a subject" necessarily creates "an illusory continuum" (Porter, 2000b, p. 65) and that Nietzsche's position is "unclear" if not inconsistent.

> All of this is grasped by the mind of a subject ("a reproductive being") that holds all earlier temporal moments present in its mind and so construes them, in the form of their imaginary representation (576-77). Who that subject is, on this bizarrest of scenarios, is unclear, but since subjects in the plural are envisaged, it is likely to be ourselves. What is left unclear is whether these subjects are the points where, or perhaps just when, time or its imaginary representation converges upon itself. (Porter, 2000b, p. 66)

As a matter of fact, Nietzsche never gave up, Porter argues, his Kantian suspicion towards what man can know of the being, because of the insurmountable subjectivity of his approach, and radicalizing Kant he conceived of any enduring entity or any continuous process as fully imaginary.

> The opening premise is Kantian: "Matter is given only as sensation." This is how Nietzsche puts things in an entry that immediately precedes the printed pages on *Zeitatomistik* proper (26[11]; 575), but the thought lies behind the theory of *Zeitatomistik* as well. (Porter, 2000b, p. 64)
>
> In his essay on the Presocratics from the same year : "It is absolutely impossible for a subject to want [viz., and to be able] to see and know something beyond itself: knowledge and being are the most contradictory spheres there are"; for the "subjective concept" is "eternal": we can never accede to a region "beyond the wall of relations" by which we are conditioned, for beyond these lies merely "a mythical primordial ground of things" (PTG 846 [1874]). (Porter, 2000b, p. 64)
>
> A similar thought is found in notes from drafts of *The Birth of Tragedy*, for instance, when he declares that "this whole process [that of a postulated metaphysical Being residing behind all Becoming, à la Schopenhauer] is only our necessary form of appearance and thus utterly lacking in any metaphysical reality: [...] with all our proofs we cannot get past these barriers, and at most we are able to recognize them as such." Nobody can step "beyond the anthropomorphic circle" we inhabit. (Porter, 2000b, p. 64)

But one may wonder if this radicalization of the Kantian critique to the point it becomes self-defeating, which one indeed frequently witnesses in Nietzsche's notes, is the only answer he gave to the fundamental problem of

knowledge. As a matter of fact, it is quite difficult to understand how he could have reflected for his whole life upon world and man, being and becoming, were he absolutely convinced that the diagnostic concerning the inescapable anthropomorphism of knowledge and therefore the unknowability of being was final. I would rather think that a substantial part of Nietzsche's intellectual energy aimed at superseding this obstacle or better yet, at showing that the question must be put on a different ground. As we will see in another section below, when we address the postmodern interpretations of the relation between Nietzsche and the rhythm issue, the problem actually arises from a conception of language that makes it secondary to being. But while he often refers to this conception, he also holds a different position that allows him to shunt the problem itself. For the time being, because I think, unlike Porter, that Nietzsche's fascinating Time Atomistic is an important contribution to rhythmology and that it is not undermined by the subjective assumptions it is built upon he actually only suggests a thought experiment without asserting any hard ontological position , I will discuss only his contribution to rhythmology, leaving aside the apparently legitimate question raised by Porter concerning Nietzsche's *prôton pseudos*.

Carrying on with his thought experiment, Nietzsche now proposes to look at what would happen to "movement laws," which are usually defined by relating space to time, if they were to be conversely translated "into another language, that of the becoming" or "time proportions." Human sensation and this is maybe a first answer to Porter's interrogation would not consist any more in a synthesis of spatial data according to their appearance in time, rather it "would consist in gradually perceiving and measuring" the "temporal figures" performed by infinite numbers of time-points. Hence entire bodies would be perceived and measured as organized flows of points and the world itself would orderly flow with "the regularity of the temporal figures." As already mentioned above, the bodies would be made up by "the number and manner" *[Die Zahl und die Art der Aufeinanderfolge]* in which the successive and repeated setting of the points composing them would be performed. And the time itself would "work with a constant force, according to laws."

> Translation of all movement laws into time proportions.
>
> The essence of sensation *[Das Wesen der Empfindung]* would consist in gradually perceiving and measuring *[messen]* such temporal figures; the representation constructs it as a juxtaposition, and now explains the progress of the world according to *[gemäß]* this juxtaposition: pure translation into another language, that of the becoming.
>
> The order of the world would be the regularity of the temporal figures *[die Regelmäßigkeit der Zeitfiguren]*: but, in any case, time should be thought to work with a constant force, according to laws which we can only explain from the juxtaposition. *Actio in distans temporis punctum*.
>
> Per se, we have no means at all for setting up a law of time. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

After having examined the concept of law, Nietzsche introduces that of "force." What becomes of it if it is not any longer associated with solid and extended atoms but with time-points? His expression is not completely clear because he switches without warning from singular to plural forces, but he seems to suggest that a "punctual force" would necessarily vary over time and thus could be understood as the expression maybe the "integral" but he does not mention it of the "figures and relations" performed by the time-point it is attached to. The whole "existing world would [then] consist in a *demonstration/revelation of these proportions of force."* Time would then be "translated into something spatial" and become, as it were, phenomenally available.

We would then have a punctual force, which would stand in relation to every later temporal moments of its existence, that is, whose forces would consist in those figures and relations. In every smallest moment the force would have to be different: but the succession would be in any given proportion, and the existing world would consist in a *demonstration/revelation of these proportions of force [Sichtbarwerdung dieser Kraft-Proportionen]*, i.e the translation into something spatial *[ins Räumliche]*. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

As Porter clearly explains:

> The whole complex of temporal points seems geared to "making visible these proportions of force," which is to say, to generating the appearance of the world to hand and as we know it *(die vorhandene Welt)*, through the translation of the proportions of force into space (578). (Porter, 2000b, p. 69)

One remembers that Nietzsche started his reflection by examining interactions between spatial points. If A has an effect on B, at the moment they meet, they are actually both different from what they were. Therefore there are no persistent subjects of action: "Time demonstrates the absolute non-persistence of a force." The last section of the text, already quoted above, is dedicated to an analogous reflection on interactions between time-points.

He contrasts now "atomic forces," which are metaphysical substantialistic representations, and "absolutely changeable forces" derived from the radical temporalization and fluidization of the world. "All forces are only *function of time*."

> As a rule, in atomic physics, atomic forces *[Atom-Kräfte]* are assumed to be invariable *[unveränderliche] over time [in der Zeit],* in other words, D½Ä± [beings] in the Parmenidean sense. Those, however, cannot act/have any effect *[wirken]*.
>
> Rather only absolutely changeable forces can act/have an effect, viz. those which are never the same at any other moment.
>
> All forces are only *function of time*. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

He repeats the argument from which he started his reflection: if direct action between consecutive time-points would occur, they "would fall into one another." But whereas he previously insisted on the ontological consequence of this argument concerning "the absolute non-persistence of a force," he now underlines 1. that "only absolutely changeable forces can act/have an effect"; 2. that "any effect is *actio in distans*"; 3. that we actually do not know "how an effect of this kind *in distans* is possible."

> 1) An action/effect *[Wirkung]* of successive moments of time [upon each other] is *impossible*: for two such points of time would fall into one another. So any effect is *actio in distans*, i.e by jumping.
>
> 2) How an effect of this kind *in distans* is possible, we do not know at all. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

From this scenario, it appears that the world can be considered as composed of essentially mobile and changeable forces that are always in interaction and form a dynamic field of relations, where there are no fixed entities but which is neither completely fluid and chaotic. As a matter of fact, this force field is organized according varying performing

"manners," which Nietzsche describes as varying speeds, and that form mobile intensive clusters.

> 3) Fast, slow, etc. in the whole manner of this action/effect *[in der ganzen Art dieser Wirkung]*. That is, the forces, as functions of time, manifest themselves in the relations between time-points that are closer or farther removed [from one another], that is, quickly or slowly. The force depends on the degree of acceleration. The highest acceleration would be the effect of a moment of time on the next, that is, it would then be infinitely high.
>
> The greater the slowness, the greater the intervals of time *[die Zwischenräume der Zeit]*, the greater the distance.
>
> So the relation of remote time-points is slowness; any slowness is, of course, relative. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

It also appears that the traditional conception of temporality is abusively based on space and should be temporalized as well. But contrary to Bergson who will later conclude from the same premise to the essential continuity and liquidity of time, he anticipates Bachelard's conception, in which time is "by no means a continuum," makes up "no line," but is a discrete ensemble of "absolutely different time-points." Here again, Nietzsche accepts the idea that time is itself mobile and changing but he rejects that it would be fluid and chaotic.

> Time line.
>
> Real: a space-point.
>
> Relations of its different durations.
>
> Where are the relations.
>
> No movement in time is constant/continuous *[stetig]*.
>
> We compare/measure *[messen]* the time with *a spatially enduring entity* [an etwas Räumlichbleibendem], and therefore we assume that between time-point A and time-point B there is a constant/continuous *[stetig]* time. But time is by no means a continuum, rather there are only absolutely different time-points, no line. *Actio in distans*. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

Then, as a recapitulation of his speculation, he encapsulates his findings in the extraordinary lines already mentioned above and that are worth repeating here.

Time-atoms Theory

It is possible, 1) to bring down the existing world to a punctual space atomistic

2) that one in turn to a time atomistic

3) a time atomistic coincides, in the end, with a doctrine of sensation. The *dynamic time-point* is identical with the *sensation-point*. Then there is no simultaneity of sensation. (eKGWB/NF-1873,26[12] Spring 1873, my trans.)

But we see now more clearly that the triple reduction of the world into space-points, of the space-points into time-points and of the time-points into sensation-points, must naturally be thought simultaneously in the reverse direction: they "coincide, in the end." Subjectivity is not to be discarded but conceived of as composed of "sensation-points" which reproduce and represent time-points, which in turn are translated into space-points. There is indeed a circle but that circle is not vicious because precisely it does not aim at establishing a final theoretical ground, but only to explore very systematically the hypothesis of a full temporalization of the world as much as subjectivity.

This conclusion explains why, in my opinion, Porter is wrong to see Nietzsche's concept of subjectivity as a hard Kantian one. As a matter of fact, the subjectivity must be treated the same way Nietzsche treats the world, that is, it must be fully atomized *in thinking*. What appears to be intractable problems arise only because of the assumption that Nietzsche think of a substantial subjectivity really and "compulsively" acting, reproducing and representing, whereas he only proposes a thought experiment.

> The discontinuity of time alone seems to be a direct function of this interrupted contemplation: time cannot exist homogeneously because it cannot be thought continuously. But why, we might well ask, must the subjects in question think the point repeatedly! What is the compulsion behind the thought ? (Porter, 2000b, p. 72)
>
> What is the compulsion behind the thought, and why must the effort to "think" time flag only to be renewed? Nietzsche nowhere says, but the failure is due to the intrinsic limits of the representational mind itself. Time seems to come into being at a point of failure, the point at which the force of thought expires, repetitively and compulsively. (Porter, 2000b, p. 72)

Consequently, Porter but he is not the only one is equally incorrect to reduce the inchoate concept of rhythm that emerges in the *Zeitatomistik* sketch as a kind of new transcendental Kantian *a priori* form of perception, "the very form of time," even if Nietzsche previously (in 1871) made a few assertions supporting this view.

> Crucial to the question is Nietzsche's underlying tendency to view time or (more abstractly) temporality as fundamentally linked to the "rhythmical" shapes in which it invariably appears. "*Rhythm* is to be understood as something utterly fundamental, i.e., as the most primary sensation of time, as the very *form of time*" (KSA 7:9[116]; 1871). The formulation (though not the spirit) is Kantian. (Porter, 2000b, p. 60)

When he gives more importance to rhythm, Porter describes it, because of his rhetoric-aesthetic viewpoint devoid of poetics, as a mere "aesthetic dimension" of time, no less "illusory" than the latter. Instead of being considered as a plain historical-anthropological issue, rhythm is thus viewed either as a sheer dimension of time, i.e. as an ontological and transcendental question, or as a dimension of perception, i.e. as a psychological and cultural problem. I will return to this point below.

If the analysis of time as a form of experience tends to evacuate the richness of experience by virtue of the abstract nature of the analysis, the rhythmical form of abstract temporality (the form of the form of time, if you like) reintroduces an aesthetic dimension to the problem that stands in the way of this same evacuation. Time for Nietzsche never appears in the absence of rhythm, however illusory both kinds of experience may turn out to be. This basic tension guides his inquiries into time throughout his career. (Porter, 2000b, p. 60)

But so, too, is [derived from this early phase] the further tendency to put these perspectives in the service of a wider-ranging critique of cultural perception, for rhythm is nothing if not a perceptual phenomenon, a "symbolics," if you will, that is variously shaped by history and culture. (Porter, 2000b, p. 60)

Furthermore, at least in my opinion, Porter is mistaken when he repeatedly claims that Nietzsche proposes a self-defeating theory of the "nonactuality" of reality, of the "voids" composing time, and of the world as subjective "error" or "misprision."

> The irony at the heart of Nietzsche's conception is that reality is a nonactuality, a point of failure, a mere gap, while the plurality of appearances rush in to fill this gap. Consequently, reality has no duration, no consistency in and of itself, and no uniformity. Its only temporality is that of a fading off into irreality. (Porter, 2000b, p. 71)
>
> Time falls in its wake, as do time-atoms, which were never really atoms to begin with, but were rather (paradoxically enough) their own opposite, mere voids of time. (Porter, 2000b, p. 71)
>
> But what is worse, if the world is the result of its failed representation, it is also the result of an error, and here Nietzsche couldn't have been more explicit: for the thinking and representing subjects in question are "beings that *take [annehmen, 'suppose'] the point at different time-points to be non selfidentical and then [jetzt] receive these points in a simultaneity,*" that is, at and as a self-identical temporal moment, in their synthesis (as a *Zeitphänomen*, or as a body, etc., 577). Or, need we add, as that compressed point at which time and space seem, fleetingly, for a moment, to intersect in reality, as the sole ground of reality? What subjects behold is simply the fruit of their *misprision*. (Porter, 2000b, p. 72)

Prisoner of its "*prôton pseudos*," a hyper-Kantian subjectivity, Nietzsche's reflection would lead to a skeptic dead end. It would finally present a *"parable of self delusion."*

> In this way, the hypothesis of atoms of force and of time-points finally to itself and to its founding fiction, its *prôton pseudos*. After all, the story of the sense of time and its generation is not just the story of how the world is only as real as our representations make it. *It is also a parable of self delusion*. Plurality, appearances, bodies, in short, the world, all arise on Nietzsche's scenario in virtue of the fact that "representing beings," at every imaginable instant, repeatedly hold in their minds *(welche... wiederholt dächten)* the one enduring point that is the reality of the world. (Porter, 2000b, p. 71)

Porter rightly sees "these pages on temporal atomism" as " the abstract equivalent of what appears to have been premised in the studies on Greek rhythm." But by summarizing them from incorrect premises, he makes them appear as the "unimaginable conundrum" he pretends they are.

> What these pages on temporal atomism trace is in essence the abstract equivalent of what appears to have been premised in the studies on Greek rhythm: durations, which divide time, are both parts of time and the partitions within a sensible body that generate time, or rather a sense of time, while rhythm is nothing other than this generation of a sensation. Time comes rhythmically shaped. And yet in and of themselves, time and rhythm are nothing but an abstraction, the mere presence of a system of relations within a sensuously apprehended body. Of course, the notes on temporal atomism do not simply attempt to restate the lessons of Greek rhythm. What they do attempt, we might say, is to encompass some of the paradoxes of those lessons in a single, comprehensive image. The result in the present case is an unimaginable conundrum. (Porter, 2000b, p. 69)

I think Porter's interpretation is heavily indebted to postmodernism and that this kind of view, which was liberating in the 1970s, has now become what Bachelard called "an epistemological obstacle." If we are to understand Nietzsche's theory of rhythm, we must get rid of it.

As a matter of fact, Porter himself when he is not a postmodernist anymore but a plain philologist provides a bunch of analyses that could be used for this purpose.

First, instead of comparing it to Kant's critiques, he rightly links Nietzsche's essay on *Zeitatomistik* with his contemporary extended philological research on Greek rhythm.

> Nietzsche's later thinking on these topics is in turn indebted to his first encounter with rhythm as a philological problem during his studies at Bonn and Leipzig and then as a professor at Basel. The concepts and even the terms of the later reflections are all derived from this early phase. (Porter, 2000b, p. 60)

This quite different approach allows him to suggest an illuminating way to complete Nietzsche's contribution, which is in this text limited to time-points, with the notion of duration imported from the notes on Greek rhythm.

> Elsewhere, as we have seen, he describes these differential relations of time force, which are beginning to look more and more like durations (and specifically like the temporal durations of Greek rhythm), as "proportional," namely, as relative "proportions of time" (577, 578). Force can be understood as the relative difference in the proportions between temporal durations, as it were, the rhythmical (and mathematical) movement between one duration and another and between groups of durations. (Porter, 2000b, p. 68)

Many times Porter notices the importance in Nietzsche's eyes of the question concerning the regrouping of time-points. At the beginning of his article, he singles out an earlier note where Nietzsche compares rhythm to an "undular beat" by which "every word" is perceived *"as a group of times."*

> In his notes on rhythm Nietzsche claimed that for the Greek ear rhythm is an "undular beat: every word is perceived in an aesthetic way, at the very moment it is spoken and heard, *as a group of times* [(eine) Gruppe von Zeiten]." (KGW 2.1:338) (Porter, 2000b, p. 63)

When Nietzsche alludes in a later note to the way rhythm "permits a certain selection of words, groups together the atoms of the sentence," he suggests that it has something to do with the "construction and articulation of perception."

> At most, a common model about the construction and articulation of perception is perhaps all that is shared. [...] We might recall a comment of his from a lecture about Greek lyric and music (1878/79) on the way in which rhythm "colors thoughts, permits a certain selection of words, groups together the atoms of the sentence *[gruppirt die Atome des Satzes]*." (KGW 2.2:375) (Porter, 2000b, p. 63)

At the end of the article, Porter comes back to the question of the construction of "phenomenal perception" and links it with the "proportioned relations" between time-points which constitute "rhythm."

> Nietzsche's theory is based on the analysis of these atoms of time grouped in relationships around "single points" that have no perceptual basis (they are silent and motionless) except in relation to one another, in their mutual contrasts. Their proportioned relations constitute "rhythm." The "single point" of convergence in the *Zeitatomistik* sketch is another such virtual, systemic moment, one that virtually contains within itself the arrays of space and time that constitute phenomenal perception (see fig. 1). (Porter, 2000b, p. 74)

He makes then a beautiful analysis of a diagram included in Nietzsche's text. This diagram illustrates Nietzsche's claim that "time is by no means a continuum, rather there are only absolutely different time-points, no line." But it also shows how Nietzsche tries to figure out the moving organization of the time-points. As Porter quite remarkably notices, "to speak of the time-points, one has to speak of their mutual relations namely, their rhythmical shape." But since everything must be thought in motion, this shape appears more as a manner of flowing than as a steady shape. I think Porter and by the same token Nietzsche is probably here at the closest to the pre-Socratic concept of *rhuthmos*.

> The diagram that is used to illustrate this point (fig. 2) can be read in this light: it graphically represents the interruption of a linear continuum; the points of interruption are points of time; but to speak of these, one has to speak of their mutual relations namely, their rhythmical shape.

Fig. 2

> The arcing semi-circles in the diagram, descending along a perpendicular line, must be the graphic equivalents of these relationships, the proportionalities of time-quantities that together produce the effect of time upon our sensorium: we perceive a rhythmic shape and we call that shape time. (Porter, 2000b, p. 74-75)

In the end, although it is burdened by debatable postmodernist premises, Porter's contribution has greatly improved our understanding of Nietzsche's theory of rhythm. But his insights must and can be developed and that is what I will try now to do by looking more closely to Nietzsche's philological notes on rhythm.

Next chapter