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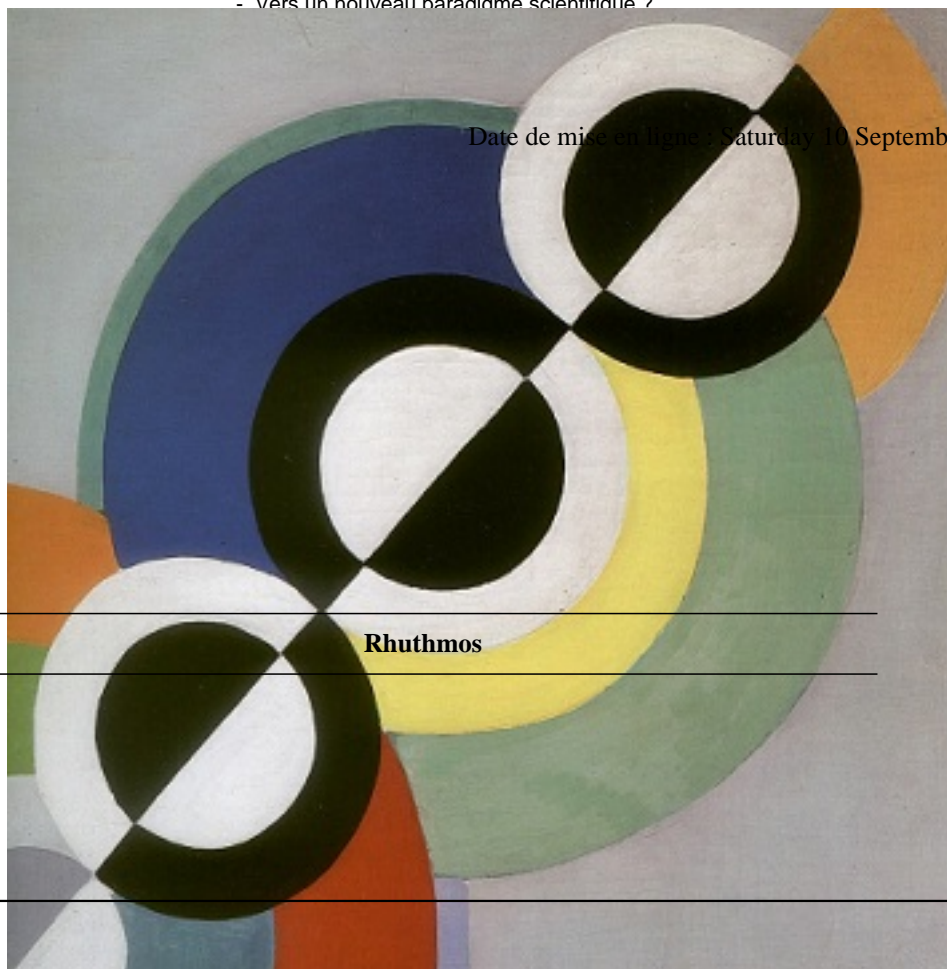
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Aristotelian Rhythm in Rome (1st century BC - 1st century AD) - part 4

- Recherches

- Vers un nouveau paradigme scientifique ?

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Rhuthmos

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Eurhythm as Due Proportions - Vitruvius' *De architectura* (1st century BC)

Marcus Vitruvius Pollio (c. 80-70 BC - c. 15 BC) was an architect, as well as a civil and military engineer (*praefectus fabrum*). He served under Caesar as senior officer of artillery, probably as head of the experts (*doctores ballstrarum*) and in charge of the soldiers operating the machines (*libratores ballstrarum*). He wrote a world-famous work entitled *De architectura* which is dedicated to Augustus, the founder of the Roman Empire, and which concerns us because of its particular use of the term rhythm.

In Book 1, Vitruvius proposes a conceptual innovation that will eventually prove very successful as a matter of fact we will have to return to it when we examine the 19th century theories of rhythm. Vitruvius does not directly tackle the question of rhythm as would do a philosopher. As some of his predecessors, he contents himself with borrowing the term and translating it into a new field and, so to speak, putting it at work according to his particular needs. But this translation will have significant conceptual consequences. For the first time in the West the term rhythm that was designed and commonly used either to denote a changing shape, a way of flowing, or the order of temporal phenomena like dance, music, poetry, public speech, gymnastics, moving, running, breathing, is used to characterize some features of a timeless or better yet, immobile art: architecture. Strictly speaking, the Platonic meaning of rhythm as "order of movement" is not completely forsaken since a certain movement of the gaze of the spectator looking at the facade or the plan of a building is still necessary. But the most obvious result of this translation is the transformation of rhythm into a *fixed and immobile arrangement* as in the still common contemporary expressions "rhythm of columns" or "rhythm of windows."

His most famous contribution though is the definition of *eurhythm* that he draws from these premises and that has been reproduced ever since without much change. Here is its first part.

Architecture depends on order [*ordinatio*] and disposition [*dispositio*], the former being called $\acute{\alpha}\nu\tau\acute{\alpha}\xi\iota\varsigma$ - *táxis* in Greek, and the latter $\delta\iota\acute{\alpha}\theta\eta\sigma\iota\varsigma$ - *diáthesis*; it also depends on eurhythm, symmetry, suitableness, and layout, which the Greeks call $\epsilon\upsilon\kappa\omicron\nu\omicron\mu\iota\alpha$ - *oikonomía* [*et eurythmia et symmetria et decore et distributione, quae graece $\epsilon\upsilon\kappa\omicron\nu\omicron\mu\iota\alpha$ dicitur*]. (*De architectura*, I, 2, 1, my trans.)

As "symmetry, suitableness, and layout," "eurhythm" is part of the *oikonomía* (general arrangement) of a building, which is also characterized by its *táxis* (order) and *diáthesis* (disposition). This list seems already rather complex but the reader must be also aware of the fact that "symmetry" does not mean in this instance, as today, "correspondence

in size, shape, and relative position of parts on opposite sides of a dividing line" but "balanced or due proportions." To clarify a bit the matter let us say that "order" and "disposition" are the *general principles* that guide the design of a building, "eurhythmy" and "symmetry" the *aesthetic rules*, and "suitableness" and "layout" the *domestic canon* it must comply with.

Apart from this complexity, the use made by Vitruvius of the term "eurhythmy" is partly puzzling. Its pairing with "symmetry" or due proportions is obviously meant to indicate their semantic proximity but, since Vitruvius uses two terms, we must assume that they do not mean exactly the same thing. One would therefore expect that "eurhythmy" would mean something like "well designed repetition of architectural elements" be they ornamental as metope or structural as columns. This would explain the choice of the term rhythm as a reminder of the Platonic definition but, so to speak, frozen in stone. Nevertheless, this is not exactly the case. Vitruvius does actually explain what he means and his clarification is a bit surprising. "Eurhythmy" denotes the aesthetic effect produced by harmonious proportions between the parts of a whole, which are to be obtained by "just and regular agreement of them with each other."

Eurhythmy is the agreeable aspect, the harmony between the several parts of a building [*Eurythmia est venusta species commodusque in compositionibus membrorum aspectus*]. It is the result of a just and regular agreement of them with each other, the height to the width, this to the length, and the whole to the laws of symmetry [*et ad summam omnia respondent suae symmetriae.*] (*De architectura*, I, 2, 3, my trans.)

Thus for Vitruvius *eurhythmia* means "harmony" but not on the Pythagorean metaphysical model drawn from the observation of the musical cords. His model is the human body which, according to him, naturally possesses harmonious proportions (*symmetria*) between its parts. As one may know, this feature will be at the center of the Renaissance interpretation of Vitruvius, particularly as typified in the famous Leonardo da Vinci's *Vitruvian Man*.

Symmetry [*symmetria*] is the right proportion [*conveniens consensus*] between all parts of a building; each corresponding to the whole by their common measure. In the human body, arms, feet, hands, fingers, are in certain proportions with one another; so should the respective parts of a building correspond. (*De architectura*, I, 2, 4, my trans.)

In a way, Vitruvius retrieves the human perspective specific to the Aristotelian school and the pre-Platonic meaning of *rhuthmîs* as form or arrangement which is, in *Metaphysics*, one of the features of the atoms according to Democritus. His use of the term presupposes the primacy of perception and evokes the idea of an ordered ensemble of primary elements. We recall that Benveniste, referring indirectly to the same passage of *Metaphysics*, describes the conceptual innovation brought forth by Plato as the use of $\acute{\alpha}\acute{\alpha}, \frac{1}{4}\acute{\alpha}$ as "distinctive shape, arrangement, proportion" but this time applied "to the form of the movement" (Benveniste, 1966, p. 334).

Yet some specialists have drawn from these remarks debatable conclusions. Pierre Sauvanet, for instance, claims that Vitruvius' conception of eurhythmy has been indirectly inspired, through Aristotle's comments on Democritus, by the atomistic trend of Greek philosophy. He treats of them in the same chapter ("The rhythm of Atoms," Sauvanet, 1999, p. 39-50, on Vitruvius see particularly p. 44-46). The link seems nevertheless farfetched for many reasons.

1. Whereas the pre-Socratics used the term *rhuthmîs* to denote a changeable and impermanent form taken at a

certain moment by something flowing, Vitruvius uses it to designate the formal features of a steady structure. This single fact is sufficient, in my opinion, to oppose any link with Democritus and the pre-Socratic trend of thinking. Since Vitruvius assumes that a good artistic form is arithmetically composed with simple proportions and even numbers, and last but not least that the quality of a design depends on the regular agreement between its parts, its proportions, distribution, order, i.e. on a *fixed set of fixed forms*, it seems to me that he clearly belongs to the Platonic paradigm.

2. Vitruvius' definition of architecture is imbued with Aristotelian hylomorphism. Practicing architecture means "conversion of the material according to the original design." It is in-formation of matter.

Architecture is a science arising out of many other sciences, and adorned with much and varied learning; by the help of which a judgment is formed of those works which are the result of other arts. Practice and theory are its parents. Practice is the frequent and continued contemplation of the mode of executing any given work, or of the mere operation of the hands, for the conversion of the material [according to the original design]. [*Fabrica est continuata ac trita usus meditatio, qua manibus perficitur e materia cuiuscumque generis opus est, ad propositum deformationis.*] (*De architectura*, I, 1, 1, trans. Joseph Gwilt, my mod.)

3. Moreover the aesthetic it refers to remains Platonic. While practice is shaping of material, theory is clearly "demonstrating and explaining the rightness and the fitness of the proportions of the things that have been wrought." Sauvanet rightly notices that the "aesthetic and metaphysical connotations of eurhythmy are closer to the semantic field of harmony than rhythm." (Sauvanet, 1999, p. 46)

[Theory, on the contrary, consists in demonstrating and explaining the rightness and the fitness of the proportions of the things that have been wrought.] [*Ratiocinatio autem est, quae res fabricatas sollertia ac ratione proportionis demonstrare atque explicare potest.*] (*De architectura*, I, 1, 1, trans. Joseph Gwilt, my mod.)

4. Vitruvius translates measured, numbered and geometric divine perfection into human constructions made on the model of the human body at a human scale, but at the same time he seems to consider the latter as miniature replicas of God's grandiose inaugural architectural work. This is, as a matter of fact, the interpretation that will be given in the Renaissance by Leonardo da Vinci who will envisage the great picture chart of the human body he will produce through his anatomical drawings and *Vitruvian Man* as *cosmografia del minor mondo* (cosmography of the microcosm). He will believe the workings of the human body to be an analogy for the workings of the universe. Whatever the accuracy of Leonardo's reading, Vitruvius does indeed quote Plato and some of his views on numbers when he addresses the crucial question of proportion.

The design of Temples depends on symmetry, the rules of which Architects should be most careful to observe. Symmetry arises from proportion, which the Greeks call $\frac{1}{2}\pm\epsilon$ - *analogía*. Proportion is a due adjustment of the size of the different parts to each other and to the whole; on this proper adjustment symmetry depends. Hence no building can be said to be well designed which wants symmetry and proportion. [...] If Nature, therefore, has made the human body so that the different members of it are measures of the whole, so the ancients have, with great propriety, determined that in all perfect works, each part should be some aliquot part of the whole; and since they direct, that this be observed in all works, it must be most strictly attended to in temples of the gods, wherein the faults as well as the beauties remain to the end of time. It is worthy of remark, that the measures necessarily used in all buildings and other works, are derived from the members of the human body, as the digit, the palm, the foot, the cubit, and that these form a perfect number, called by the Greeks $\mu\epsilon\tau\epsilon\sigma\tau\epsilon\lambda\epsilon\iota\omicron\varsigma$ - *téleios*. The ancients considered ten a perfect number, because the fingers are ten in number, and the palm is derived from them, and from the palm is derived the foot. Plato, therefore, called ten a perfect number, Nature having formed the hands with ten fingers, and also because it is composed of units called $\frac{1}{4}\epsilon\frac{1}{2}\epsilon\mu\hat{\alpha}$ - *monádes* in Greek, which also advancing beyond ten, as to eleven, twelve, &c. cannot be perfect until another ten are included, units being the parts whereof such numbers are composed. (*De architectura*, III, 1, 1-5, trans. Joseph Gwilt)

Whatever the exact balance between Platonic and Aristotelian influences in Aristoxenus' work, it is quite clear that it belongs to their intellectual paradigm and not to the previous pre-Socratic one.

5. Last but not least, we remember that for Lucretius buildings do stand stiff not because they are symmetrical, rightly proportionate, well balanced and built according to perfect verticals hence "eurhythmic" in the Vitruvian sense but because they integrate tiny angles, are dynamic centers or kinds of cone where myriads of fluxes reach for a time equilibrium. If something like the concept of eurhythmia ever existed in Lucretius' mind, it probably meant either the precision of the transmission of the shape by the *simulacra* or, concerning art and architecture, as that peculiar quality of a *turbo* be it a vortex in a river, a living being, a poem or a building that makes it last for a certain period of time. But there are absolutely no evidence that Vitruvius ever supported that kind of view.

Rhythm as Educational Device - Quintilian's *Institutio oratoria* (1st century AD)

Marcus Fabius Quintilianus (c. 35 AD - c. 100 AD) was born in Spain but he grew up in Rome where his father had a lawyer practice. He became himself a lawyer and professor of oratory. When Vespasian took over as Emperor in 69, Quintilian was chosen to become head of a public education institution. He opened a school of rhetoric, subsidized by the state, for the sons of good families, which was attended by Pliny the Younger, the nephews of the Emperor Domitian, maybe Tacitus. After twenty years dedicated to teaching, he retired in 89. Just before passing away, he published a very large treaty entitled *Institutio oratoria* in twelve books, probably written between 93 and 95.

At the end of the first century AD, rhetoric had lost the role and value it had during the republican era. Because of the absolute power of the Emperors and the domestication of the aristocracy, rhetoric was no political tool any more. Law and middle range public service were now the only spheres where it was still commonly used. This explains why Quintilian's objective is only educational and has no political aim. As a matter of fact, *Institutio oratoria* means literally "Education of the orator."

My aim, then, is the education of the perfect orator. The first essential for such an one is that he should be a good man, and consequently we demand of him not merely the possession of exceptional gifts of speech, but of all the excellences of character as well. (*Institutio oratoria*, 1.1.9, trans. Harold Edgeworth Butler)

Rhetoric which was primarily a legal and political technique became a device used in the education of the sons of the elite.

The man who can really play his part as a citizen and is capable of meeting the demands both of public and private business, the man who can guide a state by his counsels, give it a firm basis by his legislation and purge its vices by his decisions as a judge, is assuredly no other than the orator of our quest. (*Institutio oratoria*, 1.1.9, trans. Harold Edgeworth Butler)

The objective was merely to train good citizens endowed with "such virtues as courage, justice, self-control." (1.1.12) Education of "character" and training in "art of speaking" were now considered as tightly linked.

Let our ideal orator then be such as to have a genuine title to the name of philosopher: it is not sufficient that he should be blameless in point of character (for I cannot agree with those who hold this opinion): he must also be a thorough master of the science and the art of speaking, to an extent that perhaps no orator has yet attained. (*Institutio oratoria*, 1.1.18, trans. Harold Edgeworth Butler)

No man could be an orator unless he was a *vir bonus*, a good man, but the reverse was also true: to be a good man, one must learn to be a good orator.

The orator then, whom I am concerned to form, shall be the orator as defined by Marcus Cato, "a good man, skilled in speaking" [*vir bonus dicendi peritus*]. But above all he must possess the quality which Cato places first and which is in the very nature of things the greatest and most important, that is, he must be a good man [*utique vir bonus*]. (*Institutio oratoria*, 12.1.1, trans. Harold Edgeworth Butler)

Through the mastery of speech, the teaching of rhetoric aimed at a certain kind of self-control. Learning how to speak was learning how to behave correctly in Roman high society and administration. This clearly appears in Quintilian's aesthetic/moral opinion. He explicitly dismisses two kinds of excess in style. Both the Asiatic and the dry style, he argues, miss efficiency in communication because they either "lack taste and restraint in speaking, or power."

The failure of the orators of the Asiatic and other decadent schools did not lie in their inability to grasp or arrange the facts on which they had to speak, nor, on the other hand, were those who professed what we call the dry style of oratory either fools or incapable of understanding the cases in which they were engaged. No, the fault of the former was that they lacked taste and restraint in speaking, while the latter lacked power, whence it is clear that it is here that the real faults and virtues of oratory are to be found. (*Institutio oratoria*, 8.1.17, trans. Harold Edgeworth Butler)

His arguments are worth noting. When the speech is well adorned and rhythmized, it has the "healthy complexion" and the "strength" of well trained masculine body.

Healthy bodies, enjoying a good circulation and strengthened by exercise, acquire grace from the same source that gives them strength, for they have a healthy complexion, firm flesh and shapely thews. (*Institutio oratoria*, 8.1.19, trans. Harold Edgeworth Butler)

Instead, when too many metaphors and rhythmic plays are used, the speech appears "effeminate" and "merely reveals the foulness of the mind."

But, on the other hand, the man who attempts to enhance these physical graces by the effeminate use of depilatories and cosmetics, succeeds merely in defacing them by the very care which he bestows on them. Again, a tasteful and magnificent dress, as the Greek poet tells us, lends added dignity to its wearer: but effeminate and luxurious apparel fails to adorn the body and merely reveals the foulness of the mind. Similarly, a translucent and iridescent style merely serves to emasculate the subject which it arrays with such pomp of words. (*Institutio oratoria*, 8.1.19-20, trans. Harold Edgeworth Butler)

The correct style must rouse the enthusiasm and the admiration but he must stay "bold, manly and chaste, free from all effeminate smoothness and the false hues derived from artificial dyes, and must glow with health and vigour."

Cicero was right when, in one of his letters to Brutus, he wrote, "Eloquence which evokes no admiration is, in my opinion, unworthy of the name." Aristotle likewise thinks that the excitement of admiration should be one of our first aims. But such ornament must, as I have already said, be bold, manly and chaste, free from all effeminate smoothness and the false hues derived from artificial dyes, and must glow with health and vigour. (*Institutio oratoria*, 8.3.6, trans. Harold Edgeworth Butler)

Rhythm as Charm - Quintilian's *Institutio oratoria* (1st cent. AD)

This change in social and political context did not alter though the main technical features of rhetoric. Rhetoric, says Quintilian directly borrowing from Cicero whom he admires, is "an art and a virtue" which is used either in demonstrative (*demonstrativus*), or deliberative (*deliberativus*), or forensic (*iudicialis*) speech. It is also organized into five canons which are clearly reminiscent of those proposed by his predecessor: *inventio* (discovery of arguments), *dispositio* (arrangement of arguments), *elocutio* (expression or style), *memoria* (memorization), and *actio* (delivery).

I desired to make it clear that rhetoric is the science of speaking well, that it is useful, and further, that it is an art and a virtue. I wished also to show that its subject matter consists of everything on which an orator may be called to speak, and is, as a rule, to be found in three classes of oratory [*in tribus fere generibus*], demonstrative [*demonstrativo*], deliberative [*deliberativo*], and forensic [*iudicialique*]; that every speech is composed of matter and words, and that as regards matter we must study invention [*inventionem*], as regards words, style [*in verbis elocutionem*], and as regards both, arrangement [*collocationem*], all of which it is the task of memory [*memoria*] to retain and delivery [*actio*] to render attractive. (*Institutio oratoria*, 8.1.6, trans. Harold Edgeworth Butler)

But a subtle change happened in the aims of rhetoric. In the *Orator*, the latter were listed as follows: to prove (*probare*), delight/charm (*delectare*) and force/bend (*flectere*). They consist now in instructing (*docere*), moving (*movere*), and delighting/charming (*delectare*) the hearers. The most obvious change is the substitution of proving by instructing, which witnesses the transformation of the social role of rhetoricians under the Principate. But another less visible alteration must also be noticed. While emotional appeals may be used most effectively at the beginning and the end of the speech, and demonstrative reasoning be concentrated in its central bulk, charm or delight (*delectatio*) must beautify the whole discourse.

I attempted to show that the duty of the orator is composed of instructing [*oratoris officium docendi*], moving [*movendi*] and delighting his hearers [*delectandi partibus*], statement of facts and argument falling under the head of instruction, while emotional appeals are concerned [*ad movendum adfectus pertinerent*] with moving the audience and, although they may be employed throughout the case, are most effective at the beginning and end. As to the element of charm [*nam delectationem*], I pointed out that, though it may reside both in facts and words, [it concerns the whole speech delivery] [*magis tamen proprias in elocutione partes habere*]. (*Institutio oratoria*, 8. pr.7, trans. Harold Edgeworth Butler, my mod.)

Invention and arrangement of arguments, which are lead by common sense, are the easiest parts. Instead *elocutio* is the most difficult technique because it must charm the audience.

Again, Cicero holds that, while invention and arrangement are within the reach of any man of good sense, eloquence belongs to the orator alone, and consequently it was on the rules for the cultivation of eloquence that he expended the greatest care. (*Institutio oratoria*, 8.1.14, trans. Harold Edgeworth Butler)

This partly new framework gives rhythm a crucial role. Indeed, along with appropriate choice of words, tropes and figures, it is one of the few fundamental elements producing delight and charm. Books 3 to 7 covered the method of *inventio* - invention, and *dispositio* - arrangement of the material. Along with tropes, rhythm is discussed in books 8 and 9 dedicated to *elocutio*.

Before getting to the heart of the matter, Quintilian makes a few introductory comments. He starts by rejecting the common belief that natural speech would be better and more efficient than "one that is welded together and artistically arranged." Too much research of new or ancient words weakens the speech by too much affectation; one must prefer the most common vocabulary. But as far as rhythm is concerned, any ordinary metric, for instance the excessive use of "feet consisting of short syllables," must be rejected.

How can a style which lacks orderly structure be stronger than one that is welded together and artistically arranged? It must not be regarded as the fault of the study of structure that the employment of feet consisting of short syllables such as characterise the Sotadean and Galliambic metres and certain prose rhythms closely resembling them in wildness, weakens the force of our matter. (*Institutio oratoria*, 9.4.6, trans. Harold Edgeworth Butler)

Quintilian uses running water as metaphor for speech. Oratory rhythm must rather be artistically canalized, in order to be like a "continuous stream with all the full development of its force," than like a "river-current" unchecked by any rocks or dams that runs wild and finally loses its strength.

Just as river-currents are more violent when they run along a sloping bed, that presents no obstacles to check their course, than when their waters are broken and baffled by rocks that obstruct the channel, so a style which flows in a continuous stream with all the full development of its force is better than one which is rough and broken. Why then should it be thought that polish is inevitably prejudicial to vigour, when the truth is that nothing can attain its full strength without the assistance of art, and that art is always productive of beauty? (*Institutio oratoria*, 9.4.7, trans. Harold Edgeworth Butler)

In this introductory section, Quintilian's analyses results in two remarkable intuitions. First, they make clear that in oratory "rhythm and melody" are as essential as "selection of words and figures." Hence rhythm will have to be carefully studied and elaborated by educators as much as by students in oratory. Moreover, Quintilian borrows from music the association of melody and rhythm and translates it into language, which is, to my knowledge, the first time that melody is used to characterize speech.

But if there is such [silent] power [*inest quaedam tacita vis*] in rhythm and melody [*numeris ac modis*] alone, this power is found at its strongest in eloquence [*ut oratione ea vehementissima*], and, however important the selection of words for the expression of our thoughts, the structural art which welds them together in the body of a period or rounds them off at the close, has at least an equal claim to importance. For there are some things which, despite triviality of thought and mediocrity of language, may achieve distinction in virtue of this excellence alone. (*Institutio oratoria*, 9.4.13, trans. Harold Edgeworth Butler, my mod.)

The second intuition is delivered only in passing but it is worth noting it. Quintilian notices that even famous historians have used rhythm in their prose, either as Thucydides in the speeches which he introduced in his narrative or, which is more surprising and interesting to us, in their own prose, as Herodotus.

Again history, which should move with speed and impetuosity, would have been ill-suited by the halts imposed by the rounding off of the period, by the pauses for breath inevitable in oratory, and the elaborate methods of opening sentences and bringing them to a close. It is however true that in the speeches inserted by historians we may note something in the way of balanced cadences and antitheses [*cadentia et contraposita*]. As regards Herodotus, while his flow, in my opinion, is always gentle [*cum omnia leniter fluunt*], his dialect has such a sweetness of its own that it even seems to contain a certain rhythmical power hidden within itself [*ut latentes etiam ut se numeros complexa videatur*]. (*Institutio oratoria*, 9.4.18, trans. Harold Edgeworth Butler)

In this instance, Quintilian distinguishes between two kinds of rhythm: that of oratory speech which is "closely welded and woven together"; and the other that is "of a looser texture and that is found in "dialogues and letters" and "which are perhaps the most difficult of all to analyse." He does not elaborate further the idea and contents himself with contrasting it with oratory: "they have not the flow or the compactness of other styles." But this implicit extension of the concept of rhythm outside eloquence is quite remarkable and illustrates both Quintilian's subtlety and very large knowledge. Unfortunately, it will be rapidly forgotten and rhythm of non-oratory prose will only in 19th century be of some interest again to writers and theoreticians.

There are then in the first place two kinds of [speech] [*oratio*]: the one is closely welded and woven together [*alia vincta atque contexta*], while the other is of a looser texture [*soluta alia*] such as is found in dialogues and letters [*ut sermone et epistolis*], except when they deal with some subject above their natural level, such as philosophy, politics or the like. In saying this, I do not mean to deny that even this looser texture has its own peculiar [feet] [*suos pedes*] which are perhaps the most difficult of all to analyse. For dialogues and letters do not demand continual *hiatus* between vowels or absence of [periods] [*destitui temporibus*], but on the other hand they have not the flow [*sed non fluunt*] or the compactness of other styles [*nec cohaerent nec verba verbis trahunt*], nor does one word lead up so inexorably to another, the structural cohesion being loose rather than non-existent. Again in legal cases of minor importance a similar simplicity will be found to be most becoming, a simplicity, that is to say, that does not dispense with rhythm altogether, but uses rhythms of a different kind [*sed aliis utitur numeris*], conceals them and employs a certain secrecy in their construction. (*Institutio oratoria*, 9.4.19-21, trans. Harold Edgeworth Butler, my mod.)

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