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***Virtus* in technical treatises: meanings, values and uses**

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Abstract

The word *uirtus* was used in a technical way by many authors and over a fairly long period of time. In this paper evidences from the 1st c. BC to the 6th c. AD are presented. *Virtus* is handled in many domains, such as health, nature, science, medicine, veterinary science and architecture.

In this essay, numerous examples of different values and meanings of *uirtus* are discussed, taking into account the difference between literal and metaphorical meaning. The literal meaning (*uirtus* as value, quality) is very frequent and usually refers to natural elements. Among the meanings of *uirtus*, both literal and metaphoric, it is possible to note a first distinction between singular and plural: in some authors and in some fields, the word is present only in one or in the other form. In medical and veterinary works, for example, only the singular is attested, in the meaning of 'power' referred to medicine and remedies.

Virtus also appears only in the singular form in Anthimus' *Epistula de obseruatione ciborum*, a text which combines information about food with dietetic and health advice. Anthimus uses *uirtus* three times both directly referring to some food and to its effects from the medical point of view. This paper shows the different values of the word in the *Epistula* as compared to other technical treatises.

Another point which is discussed is the semantic and pragmatic correlation between *uis* and *uirtus* and the influence that *uis* could have had on *uirtus*.

Keywords

uirtus; *uis*; Anthimus; Latin medical writers; Latin veterinaries; Vitruvius; Latin linguistics; semantic values

Introduction

It is widely known that the noun *uirtus* covers a very wide semantic field, as noted by Partoens et al. (2004: p. 1),¹ from the moral to the political, from the military to the religious domain; according to Balmaceda (2017: p. 14), “the concept [of *uirtus*] can be approached from many different angles”. The present work, leaving aside all the uses of the noun *uirtus* in the aforementioned contexts, intends to examine the presence of the term in technical treatises, particularly those belonging to the culinary, medical, veterinary and architectural² fields. It will analyse its values from a mainly semantic point of view. As affirmed by McDonnell (2006: p. 75),³ “The use of *uirtus* to designate the excellence of something inanimate or of a quality, is...most common in technical or quasi-technical treatises.”

The main objective of a technical work is the dissemination of sectorial and/or scientific knowledge: treatises are written by people with a broad and in-depth knowledge of the subject. Usually, the recipients of such works are connoisseurs themselves and, consequently, able to understand the language used. This idea is clearly highlighted by Adams and Langslow.⁴

In the technical treatises considered in this work, the term *uirtus* can take on different meanings. Those can be grouped into four categories, depending on the field in which the noun appears:

1. ‘Quality/property’ in cooking (Anthimus, 6th c. AD) and architecture (Vitruvius, 1st c. BC).
2. ‘Physical strength/vigour’ in cooking (Anthimus), medicine and veterinary field, and architecture (Vitruvius).
3. ‘Power’ in medicine and veterinary field.
4. ‘Flavour’ in Anthimus.

The first section of this paper analyses the meaning ‘quality/property’ in Anthimus and Vitruvius.

The second section is devoted to the meaning ‘physical strength’ in Anthimus, medical and veterinary writers and Vitruvius. Due to the strong correlation between *uirtus* and *uis* as in ‘physical strength’, both terms are analysed.

1 “The semantic landscape of *uirtus* poses serious problems to any interpreter or translator of ancient Latin texts.”

2 Because of the great number of occurrences of *uirtus* in Vitruvius, I decided to include this author in this paper.

3 In the same work, McDonnell notes that, although *uirtus* derives from *uir* and its main meaning is ‘manliness’, many Latin authors refer *uirtus* to animals and “even trees”: this phenomenon “shows that at some time and somehow *uirtus* underwent a fairly radical shift from its etymological sense of manliness to a much broader range of meanings” (pp. 72–73).

4 Adams (1995); Langslow (2000).

The third section deals with the meaning ‘power’ in medical and veterinary field, referring both to *uirtus* and *uis*. The link between the two words has become increasingly closer over time, with a semantic shift that has led, in some cases, to overlap between meanings of the two words.

Finally, the last section examines the meaning ‘flavour’, appearing only once in Anthimus.

1 *Virtus* = quality/property (Anthimus, Vitruvius)

1.1 Anthimus

Virtus occurs in Anthimus in paragraph 54:

- (1) *asparagi uero non debent nimium elixare, nam perdent uirtutem et saporem* (Anthim. 54)
“Do not boil asparagus too long to prevent them losing their **quality and taste**.”⁵

In this passage, *uirtus* means ‘properties’ of asparagus and it is evident that the author wants to make a distinction between the nutritional properties of asparagus and its taste (*sapor*).

A similar expression can be found in the *Extracts* of Apicius by Vinidarius,⁶ about dried fruits:

- (2) *haec omnia in loco sicco pone, ne odorem et uirtutem perdant* (Apic. exc. 3 *Breuis Pimentorum*).
“Put them in a dry place, so that they do not lose **their aroma and their quality**.”⁷

The couple *uirtutem-saporem* found in Anthimus can correspond to *odorem-uirtutem* present in Vinidarius as they are both introduced by the same verb, *perdo*, even if the syntactic structure is different.

The recommendation that food shall not lose its property is expressed in Anthimus’ *Epistula* through a negative phrase (*asparagi uero non debent nimium elixare*) followed by an explanatory phrase introduced by the conjunction *nam* (*nam perdent uirtutem et*

5 I have personally translated all the Latin passages in this paper.

6 *Apicii excerpta a Vinidario uiro inlustri*, a selection of thirty recipes probably collected in 5th c. AD.

7 In Anthimus and in Vinidarius to overcook in the boiling water on one hand and the damp on the other hand deteriorate the properties of food. In Vitruvius (1, 4, 3), a different danger, the heat, is mentioned for the qualities of substances: *calor ... uaporibus feruidis eripit exsugendo naturales uirtutes*, “when the heat rises, through its glowing steams it snatches away the natural **virtues** [of substances].” Vitruvius uses the general word ‘substances’; in this chapter he is talking about the healthiness of places and the right exposition of the buildings. *Virtus* has the plural form, to indicate a series of qualities which are not expressed, so it can be said that this use of *uirtus* is less specific than Anthimus’ and Vinidarius’ use. Indeed, they refer to peculiar characteristics of food, as it can be understood from the presence of another name (*saporem-odorem*) which expresses other peculiarities of food.

saporem). The verb of this second part of the clause is in the future form, which shows an unavoidable result if the advice given in the first part of the sentence will not be followed.

In Vinidarius the grammatical structure seems to be reversed. A positive phrase expressed by an imperative verb (*haec omnia in loco sicco pone*) is followed by a negative phrase, a final clause introduced by the conjunction *ne* (*ne odorem et uirtutem perdant*). The imperative has the strength of an order and the conciseness that is typical of recipes. It immediately says what it wants to say.

Both Anthimus and Vinidarius give recommendations for the best cooking method or preservation of food. However, in Anthimus his care about the nutritional characteristics prevails over the aspect of the taste and the relish,⁸ and therefore the substantive *uirtutem* precedes *saporem*. This concern is absent in Vinidarius, in which the nouns *odorem* and *uirtutem* are on the same level.

Virtus is also used in reference to food in Vitruvius with the same meaning of Anthimus' *epistula* and Vinidarius' *Excerpta*:

(3) *sine aqua uero ... nec ulla cibi uirtus potest nasci nec tueri* (Vitr. 8, 3, 28)

“Without water, no **property of food** can grow nor be preserved.”

In Vitruvius *uirtus* has the same morphological form (singular) found in ex. 1 (Anthimus) and 2 (Vinidarius), but not the same syntactical function. In Anthimus and Vinidarius *uirtus* is the direct object of the verb *perdere*, while in Vitruvius it is the subject of the phrase. This syntactical function puts in evidence the role of *uirtus*; in addition, the adjective *ulla* makes the word *uirtus* stronger and clearly shows what would happen without water: there would be no chance to develop the properties of food. It is worth noting the presence of the subjective genitive *cibi* in combination with *uirtus*:⁹ food potentially has certain properties in itself, but these can only be made evident with the help of water.

The above-mentioned expression from Vitruvius (ex. 3) can be compared to a passage from Pelagonius (4th c. AD):

(4) *sine sole non habet medicamentum uirtutem nec effectum* (Pelagon. 354)

“Without sunshine, medicine has neither **power** nor effect.”

The comparison between the two authors is possible from a morphological point of view: the phrase has a simple structure ‘subject–verb–direct object’. The latter consists of two terms that can be placed on the same level and have been given the same value. Semantically, the phrase from Vitruvius (ex. 3) cannot be juxtaposed with the passage from Pelagonius (ex. 4): the meaning to be attributed to the term *uirtus* in Pelagonius will be discussed later (in part II).

8 The medical advice about food is found also in Cassius Felix (5th c. AD) 47, about the property of food as a remedy for stomach trouble.

9 It is not uncommon to find *uirtus* followed by the genitive: see, for instance, Vegetius (5th c. AD) *mulom.* 2, 21: *meri uirtus*, “the virtue of pure wine”.

1.2 Vitruvius

In Vitruvius the word *uirtus* is very frequent, both in the singular and the plural form with a slight prevalence of the latter. The noun is only in the plural form when it means capabilities and qualities.

In the sense of quality, *uirtus* can refer to the human being and the human body in particular,¹⁰ but it is more often associated with natural substances like water¹¹ or man-made materials (as building materials¹²). In two cases, *uirtus* is not used alone, but in conjunction with another noun, related by the conjunction “*et*” to create a couple of similar value. However, a distinction must be made between singular and plural usage. The first instance regards water:

(5) *quae potui de aquae uirtute et uarietate ... in hoc uolumine posui* (Vitr. 8, 6, 15)

“As far as I could, I have written in this volume about the **virtue and the diversity** of water.”

The singular *uirtus* and *uarietas* are used to put in evidence two characteristics of water. The first is its own virtue: being an element indispensable to life, its value is so evident that there is no need to specify what kind of virtue it is. The second characteristic is that there is a certain variety of waters which have different qualities.

The second example regards two plants, as in ex. (6):

(6) *item cedrus et iuniperus easdem habent uirtutes et utilitates* (Vitr. 2, 9, 13)¹³

“The citron tree and the juniper have the same **qualities and uses** [of the pine and the cypress].”

A case worthy of note is when *uirtus* does not refer to something concrete such as an artefact or natural element, but to a phenomenon such as music. The word is referred to variable sounds in ex. (7):¹⁴

(7) *ei autem qua mouentur, recipient uirtutes alias* (Vitr. 5, 4, 6)

“They [the sounds], depending on how they change, have different **qualities**.”

Chapter four of book five is devoted to harmony, and Vitruvius states that he refers to the works on music by Aristoxenus (4th c. BC) to explain technical concepts such as harmony, modulation, tetrachord. The word *uirtus* expresses the quality that sounds, i.e. notes, have depending on their position and pitch. In this phrase *uirtus* refers to

10 Vitr.1, 4, 6.

11 e. g. Vitr. 8, 2, 1; 8, 3, 4; 8, 3, 17.

12 e. g. Vitr. 1, 7, 2; 2, 4, 3.

13 A similar expression is found in Plin. *nat.* 16, 198: *iunipero eadem uirtus quae cedro*.

14 Of the various sounds that form the harmonic classes, some are fixed, others variable, i.e. they are situated between the fixed and change their position: see Vitr. 4, 5, 5: *Mobiles autem sunt, qui in tetrachordo inter inmotos dispositi in generibus ex locis loca mutant*.

something which is intangible, although not abstract, because it is perceivable through the sense of hearing. Whilst this use of *virtus* does refer to a non-living entity, it differs from cases in which the word is used for objects or materials. In the case of music, one cannot speak of an ‘object’; music, moreover, involves a human component necessary for both its production and its reception. Thus, the value to be attributed to *virtus* is evident: sound, a perceivable therefore concrete entity, possesses its own specific quality. This quality, if the sound is not heard, cannot be perceived, so it would remain abstract.

1.2.1 Vitruvius: *virtus* + adjectives

Virtus in Vitruvius sometimes is accompanied by adjectives which can express various concepts, specifying its value. In particular:

1. they can suggest the variety of virtues in something;
2. they can emphasise an inherent trait, an innate virtue, of an element;
3. they can reinforce the positive concept expressed by *virtus*.

1. The first case is found in the following example:

(8) *Hae [arbores] autem inter se discrepantes et dissimiles habent uirtutes* (Vitr. 2, 9, 5)
 “Trees among themselves have **discrepant and different qualities.**”

The qualities of trees differ from species to species and can also be contrasting; the adjective *dissimiles* expresses the variety of trees qualities, while *discrepantes* emphasises the fact that there can be great contrast between one species and another in terms of robustness, ability to burn, suitability for buildings.

2. When referring to substances or elements of nature, Vitruvius uses the adjective *naturalis* with the noun *virtus*, to highlight the fact that some of the characteristics of those elements and substances are innate:

(9) *cum ... emissae sint ex minio ... quas in se naturales habuerat uirtutes* (Vitr. 7, 9, 1)
 “When ... they were released from the minium **the natural virtues** which it had in itself.”

The adjective *naturalis* is reinforced by *in se*, which expresses even more strongly the innate characteristic of the substance in question, the minium.

3. The third case is shown in ex. (10):

(10) *aliam mirabiliorem uirtutem ea habet terra* (Vitr. 8, 3, 24)
 “That place [the stronghold of Ismuc] possesses another **even more impressive virtue.**”

Vitruvius, describing the Balearic Islands, reports that they have an incredible quality:

no wild animal is born on the islands and if by chance any is brought there, it will immediately die. He continues: its springs are able to give a voice particularly suited to singing to those born near there. The adjective *mirabilis* contains within itself the idea of the marvellous, almost of the fantastic, and indeed the tale seems almost to fit into a fairy-tale dimension. The use of the intensive, moreover, deepens the concept of wonder into a climax that culminates in the syntagma *mirabiliozem uirtutem*. The term *uirtus* is a conscious and deliberate choice by the author, who, elsewhere, uses other names to indicate more generically the qualities of certain places and regions. A little further on the above-mentioned example n. 10, describing the different qualities of places and soil types, Vitruvius uses the words *qualitates* and *proprietas*: *regionum qualitates terrarumque dissimiles proprietas* (8, 3, 26).¹⁵

2 Virtus = physical strength/vigour (Anthimus, medical and veterinary authors, Vitruvius)

2.1 Anthimus

In paragraph 35 Anthimus uses the noun *uirtus*, not in direct relation to food, but to his effects on the health of men. Here his medical advice arises more clearly than in the other two above-mentioned examples (1–2). See ex. (11):

(11) *De ouis gallinarum quantum plus quis uoluerit praesumat ... et si ieiunus quis accipiat quanta potuerit, ad uirtutem proficit corporis melius quam alter cibus et sanis hominibus et infirmis* (Anthim. 35)

“Hens’ eggs are good and you can eat as many as you want; if somebody is hungry and eats as many eggs as he can, eggs are **more beneficial to the body** than any other food. This is valid both for healthy and sick people.”

It clearly appears that here the word *uirtus* is a synonym for *salus* or *ualetudo*: the doctor’s view comes to suggest what is good for health.

Anthimus probably mentally formulated sentences in Greek before writing them in Latin: is it possible, then, that he had the word δύναμις, ‘strength’, in mind to express the concept of physical strength? Why does he translate it into Latin as *uirtus* (and not *uis*)? Perhaps because *uirtus* was the term he heard most often around him in the sense

15 The terms *uirtutes*, *qualitates*, *proprietas* are also found in paragraph 27 and create a triple parallelism formed by the three pairs: *locorum proprietas*, *regionum qualitates*, *aquarum uirtutes* (The properties of the places, the qualities of the regions, the **virtues** of water). The expression is found in the chapter dedicated to the qualities of the various types of water, so it seems quite normal that the syntagma *aquarum uirtutes* is placed at the end of the triple list, in a prominent position. Moreover, while *locorum* and *regionum* can be considered almost synonymous, *aquarum* expresses a different element from the other two. So it is accompanied by *uirtutes*, a more specific and effective term than *proprietas* and *qualitates*, which are synonymous to each other.

of ‘strength, power, remedy’;¹⁶ or because he had read technical works in which he had found the word *uirtus* applied to medicine. Unfortunately, it remains very difficult to give a clear answer to these hypotheses.

The most similar food-related use of *uirtus* instead of *ualetudo* (not only as in good health but as in physical strength as well) can be found in Vegetius, *Mulomedicina*, about animals fatigued by the heat:

(12) *Si aestu animal fatigatur ... oua quoque trita cum hemina uini ueteris optimi faucibus infundes, ut ouis lene refrigerium, uino uirtus accrescat* (Veg. *mulom.* 3, 8, 7)

“If the animal is fatigued by the heat ... you will pour in the throat beaten eggs with a measure of very good old wine, so a sweet mitigation can grow by the eggs and **the strength** by the wine.”

Although here *uirtus* is referring not to men but to animals, its value is the same of Anthimus’ text, because Vegetius also refers to physical strength, vigour.

A similar value of *uirtus* is found in Vitruvius about blood energy:

(13) *cum fundendo plumbum flatur, uapor ex eo ... exurens eripit ... sanguinis uirtutes* (Vitr. 8, 6, 11)

“When the lead is blown by melting it, the resulting steam ... burning, removes **the energy of blood.**”

Here, *uirtus* is in the plural form, unlike Anthimus and Vegetius, but it does not seem incorrect to translate it as ‘energy, strength’, with a value which is typical of singular form. Of course, in this passage from Vitruvius we can also observe the metonymic value to be attributed to the name *uirtus*. The body has energy thanks to the blood: if this is damaged by lead exhalations, it will no longer provide the body with strength.

In particular in medical and veterinary texts it is possible to read *uirtus* like *uis*, according to what Adams¹⁷ refers to Pelagonius, ex. (14):

(14) *sine sole non habet medicamentum uirtutem nec effectum* (Pelagon. 354)

“Without sun, the medicine has no **efficacy nor effect.**”

and Oribasius (4th c. AD), ex. (15):

(15) *fortis igitur exercitatio musculis et nervis dat uirtutem* (Oribas. *syn.* 1, 3 La)

“A strong exercise gives **strength** to muscles and nerves.”

He suggests the semantic transformation of the meaning of *uirtus* from “manliness, courage” to “physical strength” and finally to “strength, efficacy”. In the example from

¹⁶ See Adams (2013: p. 527) about Anthimus’ use of *ille*.

¹⁷ Adams (1995: p. 635).

Oribasius the meaning of *uis*, “strength” given to *uirtus* appears clear, because the *uirtus* of *musculi* and *nerui* is, obviously, physical strength.

2.2 Medical and veterinary authors

It is in the medical field that two phenomena can be observed particularly well: the value of *uirtus* as ‘strength’ and the alternation between the terms *uirtus* and *uis*, which can sometimes be interchangeable.

The language of medicine constitutes a system of technicisms and specific vocabulary or words that, although belonging to other domains, acquire a highly specialised meaning.¹⁸ In all technical languages the degree of specialisation is very high, by virtue of the very nature of the language, which constitutes a repertoire created by insiders and intended to be understood by those belonging to the same category. A discipline such as medicine has a particular need for precision at all levels: from the presentation and description of the symptoms of a disease to the definition of a cure. For this reason, the more scientific the information is, the more precise the choice of words must be.

2.2.1 *Virtus* and *uis* as physical strength

The following sections will provide an overview of the use of the words *uirtus* and *uis* in medical field in a diachronic perspective from the 1st to the 5th century AD.

Considering medical texts, it is immediately apparent that in Celsus (1st c. BC–AD) the noun *uirtus* never occurs. He uses *uis* and *uires* many times to refer to the strengths of the body in general, as in ex. (16–17):

(16) *uis corporis* (Cels. 2, 10)

“**The strength of the body.**”

(17) *si satis ualidae uires sunt* (Cels. 4, 14)

“If the patient has sufficient **strength.**”

The same value of *uis* appears in Marcellus Empiricus (4th–5th c. AD), *De medicamentis*, ex. (18–19):¹⁹

(18) *pro aetate aut uiribus infirmi* (Marcell. med. 17, 25)

“By age or **strengths** of the sick person.”

18 See Langslow (1989; 1991; 2000).

19 The meaning ‘strength of the body’ is more or less frequent also in other medical and veterinary authors: see Scribonius Largus (1st c. AD), 139; *Mulomedicina Chironis* (4th c. AD), 3, 135; Vegetius, *mulom.* 2, 37; 2, 135; 2, 141; 4, 2.

(19) *prout aetas aegri uiresque* (Marcell. *med.* 26, 69)
 “According to the age and **the strengths** of the patient.”

Cassius Felix (5th c. AD) uses the term *uis* always in the plural, except in one case,²⁰ and frequently refers to the body’s strengths that fail in sick patients.²¹

It is evident, therefore, that the value of the term *uires* in the medical field remained unchanged over time, continuing to express a complex of physical abilities; it is perfectly placed in the medical context in which therapy must be commensurate with and adapted to each patient’s ability to tolerate and benefit from it.

However, it should be noted that, with the passage of time, the appearance of the term *uirtus* has become increasingly consistent in medical texts. Of particular interest are some passages in Marcellus Empiricus in which *uirtus* is used instead of *uis* to indicate physical strength.²² An early occurrence is in the ex. (20):

(20) *ossa neruis munita uirtutem corporis praestant* (Marcell. *Ep. Ps.-Hippocratis ad Maecenatem* 2)
 “Bones, protected by nerves, provide **the body’s strength**.”

The phrase highlights the concept of strength, of the steadfastness of the body, achieved through the combination of the bones protected by the nerves. One could almost glimpse a warlike metaphor, with the bones protected by the nerves like a stronghold (*ossa*) surrounded by palisades (*neruis munita*) that defends the interior of the castle (*corporis*), guaranteeing its resistance (*uirtutem*).

In two other passages, ex. (21–22), the equivalence between *uirtus* and *uis* is evident, as the expression used by Marcellus follows those quoted above at ex. (18–19):

(21) *prout aetas aut uirtus* (Marcell. *med.* 14, 70)
 “According to the age or the **strength**” ≈ ex. (19);

(22) *iuxta aetatem uel uirtutem infirmi* (Marcell. *med.* 17, 24)
 “By age or **strength** of the sick person” ≈ ex. (18).

In these two cases, can one think of a deliberate choice of the author? And, if so, by what is this choice determined? Certainly not by the will to resort to *uariatio*, considering that, in technical prose, the repetitiveness of words or entire expressions is not attributable to stylistic carelessness but is indispensable to express technical concepts clearly. Medical prose is no exception: as mentioned above, precision in the indications must always be one of the goals of the medical writer in order to convey his knowledge as accurately as possible. It is more likely that, in Marcellus, there was not a desire to avoid the repetition of a word, but rather a sort of ‘confusion’ between two words that, apart from

20 See *de med.* 67 *uim potionis* “the power of a potion.”

21 See *de med.* 24; 41; 47; 49; 51.

22 Before Marcellus, an instance of *uirtus* referring to the energy of the body can be traced in *Mulomedicina Chironis*, 4, 408.

their phonetic similarity, were also close in semantic terms. Here, then, *uirtus* becomes interchangeable with *uis* in the meaning of ‘physical strength’ and it does not matter if one term is used in the singular and the other in the plural. Of course, such an overlap between the two words only occurred in later times: *uirtus* first flanked *uis* in the sense of ‘physical strength, energy’, then became substitutable for *uis*. *Vis*, meanwhile, being a monosyllabic and irregular word, weakened, but retained its plural form *uires* in medical texts, as seen in the above-mentioned examples (n. 17–18–19).

2.3 Vitruvius

2.3.1 Virtus as physical strength (metonymic value)

As discussed, there are numerous examples in medical and veterinary texts in which the term *uirtus* is used to express the concept of physical strength. The field of medicine, however, is not the only one in which this phenomenon occurs: in Vitruvius’ treatise, for instance, the use of *uirtus* as ‘strength’ is also very well represented. Of course, the great difference between the works of the physicians and Vitruvius lies in the nature of the element to which the noun *uirtus* is referring. In medical treatises (and, of course, also in veterinary ones) *uirtus* is attributed to living beings, hence it is a physical characteristic that changes with age and the condition of the subject. In Vitruvius the concept of *uirtus* as strength is used for inanimate beings. So, generally speaking, it has a metonymic value: force arising from natural substances or generated by human intervention causes some effects.

In a technical sense, we can interpret *uirtus* like *uis* in the following passage:

(23) *uela, cum sunt per medium temperata, minorem habent uirtutem* (Vitr. 10, 3, 6)

“When the sails are located in the middle of the mast, they **are** less **efficient**.”

The real strength is the wind that inflates them to a higher or lower degree and allows them to propel the ship. The metonymic value of the term *uirtus* is evident: sails, in fact, can cause an effect, i.e. the movement of the ship, only by the action of the wind and their position on the mast. In themselves, sails are rather delicate artefacts and they need the wind to show their efficiency: the *uirtus* of the sails is a physical strength, the capacity to do something and to resist, to withstand, as it overlaps the meaning of *uis*.

2.3.2 Virtus as physical strength (metaphoric value)

It is possible to identify a metaphorical use of the word *uirtus*, which occurs when its meaning, while falling within the sphere of ‘strength’, becomes more specific; in this case, technical nuances appear that refer to particular areas, such as the human senses and how a given phenomenon is perceived. These are the passages where man-made elements are described, rather than materials or artefacts. These man-made elements have

their own concrete dimension in human life because they are perceived by the senses, although they are not tangible in the proper sense of the term.

The first passage, ex. (24), refers to the minium:

(24) *cum ab his [sol et luna] locus tangitur, uitiatur et amissa uirtute coloris denigratur* (Vitr. 7, 9, 2)
 “When the place is touched by these [sunbeams and moonlight], it becomes corrupted and loses **colour depth** and it is blackened.”

Virtus refers to the colour depth, so it concerns a visual sensation and not a real physical strength. In this example, the author is referring to an intense colour, so the connotation of the word *uirtus* is highly positive: the minium, applied in closed rooms, retains its intensity. The loss of this intensity in an open space like a *peristylum* weakens the beauty of the colour. The intensity of colour can be perceived and admired through sight, but it certainly cannot be touched or manifested in any other way. It seems appropriate to speak, therefore, of a metaphorical sense of *uirtus*.

A similar value is present in another case:

(25) *non modo uerborum uirtutes sed etiam figuram eius [Accii poetae] uidentur se cum habere praesentem* (Vitr. 9. praef. 16)

“Not only **the virtues of words**, but also his [of the poet Accius] figure, seem to be present.”

Here Vitruvius, talking about the ancient poets and in particular about Accius (2nd–1st c. BC), highlights their ability to impress readers through their words. In this passage *uirtus* is combined with *uerborum*, something that can be described as concrete but not material. Words, like the sounds recalled in the example n. 7, belong to the human language, are loaded with meanings, express messages and can be perceived through the sense of hearing if they are spoken or through sight if written. Words, as sets of graphic signs to which human conventions attribute value, do not in themselves have inherent force or intrinsic value: it is the communicative situations, the context, the type of message and the author’s style that give them force. From a strictly linguistic point of view, *uirtus* in this passage is in the plural form. It is worth recalling here that most of the times in which *uirtus* means ‘strength’, it is used in the singular form. As considered, *uirtus* is also in the plural form in the ex. n. 13, a case referring to situations involving humans, hence animate beings: n. 13 and 25 are precisely the only two examples that differ from the others in relation to the morphological category of number.

3 Virtus = power (Medical and veterinary authors)

As mentioned above, there is no use of the term *uirtus* in Celsus. To encounter examples of *uirtus* as ‘power’ we have to wait until the 4th c. AD, with Pelagonius and the *Mulomedicina Chironis*.

Concerning the first author, one has to refer to the ex. n. 14, regarding the power of the medicine, which needs the work of the sun to exert its full effect. In the *Mulomedicina Chironis*, 3, 227, the syntagma *uirtus medicamentorum* appears, and will be widely used in later medical writers, albeit with a slight variant in the genitive. Also in Marcellus Empiricus, we find the presence of *uirtus* followed by the genitive, meaning ‘power’:

(26) *Ut uero ammireris sanguinis hircini uirtutem, adamans lapis inuictus, qui neque igni neque ferro uincitur, si sanguine hircino perfusus fuerit, mox soluetur* (Marcell. med. 26, 95)

“Indeed, you will marvel at **the virtue of goat’s blood**: an invincible diamond stone, which cannot be defeated by fire or steel, if it has been soaked in a goat’s blood, it will soon dissolve.”

The use of the diamond as an example to prove the power of goat’s blood conveys the idea of an extraordinary power in *uirtus*, capable of overcoming the extreme hardness of the diamond, which is notoriously unconquered even by a material as strong as iron. The verb *ammiror* also contributes to predisposing the reader favourably; finally, the adverb *mox*, which emphasises the rapidity of the action, completes the process begun with the verb *ammiror*.

It is in Cassius Felix that the term *uirtus* is most widely used in the meaning of ‘power’, to express the efficacy of medicinal remedies. Often the word is accompanied by an adjective specifying what kind of *uirtus* it is, as in 13, about the marks impressed on the skin:

(27) *est enim causticae et septicae uirtutis id est incensoriae et putrificatoriae* (Cass. Fel. 13)

“Since it is of **caustic and septic power**, i.e. of incense and putrefaction.”²³

3.1 Vis = power

In the meaning of ‘power’, *uis* is found in Celsus,²⁴ Scribonius Largus²⁵ and Pelagonius.²⁶

In particular in Celsus *uis* is often followed by the genitive of the gerund:²⁷

(28) *credo quoniam id, quamuis refrigerandi uim habet, tamen habet dissipandi* (Cels. med. 5, 27)

“I believe that although it has **the power to cool**, it has the power **to dissipate**.”

23 The adjective *causticus* is found also in Cass. Fel. 20; other technical adjectives used by Cassius Felix in combination with *uirtus* are *lenificus* (34), *collecticus* (39), *metasyncriticus* (46), *stypticus* (64).

24 1 *prooemium*: *uini uim*, “the power of wine”; 2, 10: *salis ... et fici eadem uis est*, “salt and figs have the same power”.

25 Besides the singular *uis* + genitive (*medicamentorum*) and the plural *uires* as ‘physical strengths’, he twice gives the form *uires* the meaning of ‘powers’ (269), distinguishing himself from other medical writers. Indeed, they stick to the distinction between singular and plural when attributing the meaning of ‘power’ and ‘physical strengths’.

26 1, 22; 5, 48.

27 See also Celsus passim.

A similar usage is found in Cassius Felix, but with the word *uirtus*:

(29) *uirtutem tollendi dolorem et somnum prouocandi* (Cass. Fel. *de med.* 66)

“The power to eliminate pain and to lead to sleep.”

In medical texts, there are a couple of occurrences in which the word *uis* seems to have a negative or, at any rate, not entirely positive connotation, a meaning that emphasises the extent of strength, which can sometimes be excessive,²⁸ or the violence of the disease. These occurrences are found in Celsus (4, 29 *uis pestifera*, the pestilential force), *Mulo-medicina Chironis* (3, 174 *ex ui huius morbi*, by the violence of this disease) and Vegetius (*mulom.* 1, 17, 1 *tanta uis ipsius morbi est*, the virulence of the disease is so great).

4 Virtus = flavour

In Anthimus’ *Epistula de obseruatione ciborum*, *uirtus* is directly referring to food in paragraph 3:

(30) *ista omnia ... mittit in olla et agitas bene ita, ut ... remittat in ius uirtutem suam* (Anthim. 3)

“Put all these ingredients [pepper corns, costmary, spikenard, cloves and wine] in a pot and stir well so that ... they release their flavour in broth.”

Anthimus uses *uirtus* as a synonym for ‘flavour’.²⁹ A few lines further on, he uses the word *sapor*: *in olla fictile meliorem saporem facit*, “the sauce tastes better if cooked in an earthenware casserole”. The presence of *sapor* makes it possible to distinguish two sensory characteristics: flavour and taste. The former is usually released during the cooking of a food: as it also happens in Anthimus. The latter is the end result, a combination of the various ingredients and certainly flavour, which is made by aromas and contributes to the taste, making it distinctive and recognisable. The ingredients listed by Anthimus that release their aroma into the sauce are various spices and wine, i. e. natural substances that possess a rather distinct aroma and that give the dish a characteristic taste.

This use of *uirtus* is quite remarkable, because the meaning ‘flavour’ is not found elsewhere. It therefore constitutes a sort of peculiarity of Anthimus, but why did he use *uirtus* in such a way? And, above all, did he do so consciously or not? This question is likely to remain unanswered. At many points in his *Epistula*, he uses an approximate Latin with marked traits of vulgar Latin and shows, according to Adams,³⁰ ‘a limitation of vocabulary’. What we do know is that Greek was his mother tongue and that he had learned Latin only later as an adult, when he moved to Italy.³¹ The use of *uirtus* as in ‘flavour’ linked to taste is

28 Also in Vitruvius it is possible to find pieces of occurrence of the word *uis* having a negative value or insisting on the force as violence: see, e.g., 1, 6, 8 and 10, 16, 11.

29 ‘Flavour’ is meant here as the quality that contributes to the sensation of taste.

30 Adams (1974: p. 153).

31 See Jax (1953: pp. 115–116); Adams (2013: p. 527); Gavio De Rubeis (2021: p. 8).

certainly unusual, and it is probably dictated by his imperfect knowledge of Latin. Despite this, it must be acknowledged that his originality lies in having adapted the meaning of the word *virtus* to the culinary field, giving it a very concrete sense.

Conclusions

By way of conclusion, there is a large variety in the use of the word *virtus*, in more generic or technical sense. As for Anthimus, we can say that his use is technical in *Epistula de observatione ciborum* 3 ('flavour'), 35 ('physical strength' given by good health) and 54 ('quality, property'), although the first use is quite different from the others: as seen, in the authors taken into account there is no other evidence of the meaning 'flavour'. For the substantive *virtus*, the translations 'quality, property' and 'physical strength' are attested in many authors over a fairly long period of time (1st c. BC – 6th c. AD) and they are referring to various fields of expertise (health, nature, medicine, science and technic). Over time *virtus* takes on some meanings which are typical of *uis*, but a distinction between the two words is possible: it seems that *virtus* in singular form is preferred in the meaning of 'power' when referring to medical remedies; in plural form it generally has the meaning of 'quality-qualities' and 'capability-capabilities' and it is found in relation to different elements which can be both natural (like water or trees) and manmade (like machines). *Vis* is used specifically to express the strength of the body (in the plural form) or the force of the disease (in the singular form).

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