OBSERVATIONS ON VITRUVII DE ARCHITECTURA LIBRI DECEM: WITH SPECIAL REGARD TO THE TIME AT WHICH THIS WORK WAS WRITTEN

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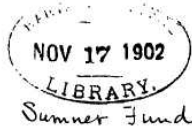# OBSERVATIONS ON VITRUVII DE ARCHITECTURA LIBRI DECEM: WITH SPECIAL REGARD TO THE TIME AT WHICH THIS WORK WAS WRITTEN

OBSERVATIONS

ON

VITRUVII DE ARCHITECTURA LIBRI DECEM

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THIS WORK WAS WRITTEN.

By J. L. USSING, PH.D., LL.D.,

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Translated from the Danish, and carefully revised by the Author

THIS work is called in the manuscripts *Vitruvii de architectura libri decem*. In the extract of it by M. Cetius Faventinus, the author is called Vitruvius Polio.

When this *opus* was first printed, towards the end of the fifteenth century, it created an immense sensation; and very justly so. An author who, according to his own saying, was a contemporary of Cæsar and Augustus, provided us with a manual of ancient architecture, a valuable help to the understanding of the numerous partly preserved and highly admired remains of antiquity, and a guide to those who might want to copy them; and this at a time when Renaissance architecture was in its highest glory, and when all efforts tended towards the revival of antiquity. Learned men as well as architects pounced upon him and made use of him; he became a teacher in architecture to the new time. And his authority lasted for centuries; only in the present century it has begun to fade. We do not want him any longer, as a closer knowledge of the best monuments of classical antiquity has presented us with better models and better teachers. Now we venture to criticise him; we see his faults, and we do not believe in him implicitly; as our eyes begin to open, we discover one shortcoming greater than the other. Instead of an excellent architect from the most glorious Roman period, we find a shallow-minded, ignorant man who boasts of knowledge which he does not possess; we may even discover that he is not the man he pretends to be. But before entering on a closer explanation of this statement, which is meant to be the essence of this pamphlet, I must declare that I do not at all consider the work in question as useless or valueless. It is unquestionably a work which may be of great use if applied critically and with caution. For there is not the slightest doubt that we have before us an ancient author, though not from the time specially designated as classical, a man who had seen a good deal we cannot see, and above all; a man who had sources which we have not. Therefore it would be of great importance to know what these sources were, and how he used them; nor is it an idle question to ask at what time he lived. This ques-

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tion is of importance not only to archæology, but also to the study of languages. We find in his language peculiarities which we should not be surprised to see at the close of antiquity, when the Latin tongue was approaching its dissolution, and its transition to the Romance languages. Now if such peculiarities already appear in an author of the time of Augustus, the only possible explanation is that they might have belonged to the lower uneducated classes, and that those classes in the time of Augustus had spoken the same language which was spoken by all Romans three to four centuries later. This again leads to the conclusion that even the authors of the golden age did not write the real living Roman tongue, but a conventional literary language. However, on this point we are not justified in referring to Vitruvius, for this author did not live at the time of Augustus, a fact which, I hope, will be easily seen from what follows. It is less easy to state the exact time at which he lived ; only the *terminus post quem* can be fixed with some certainty. We cannot wonder that the author, pretending to belong to an earlier period, does not willingly betray himself ; nevertheless it would be strange if we could detect no signs which betray him, either in his language, or in the facts he reports or alludes to.

Earlier scholars did not doubt the author's own statement that he had been a military architect under Cæsar, and that his writings dated from the time of Augustus. He appeared to possess considerable technical knowledge, and ever since the beginning of the Renaissance he had been a source from which all kinds of information had been drawn. Now if it happened to some expert in Latin literature to be scandalised at his barbarous language, this shortcoming was accounted for by his being a simple workman without literary education. That the book was as defective from an architectural as from a technical point of view, most readers had not sufficient knowledge to see. Only when Hirt had constructed his history of architecture founded on the statements of Vitruvius, the critical eye of the professional man was opened. A man with a penetrating mind, and with philological as well as technical knowledge, C. F. L. Schultz, councillor of state in Wetzlar, undertook to examine the subject more closely. In a letter to Goethe of May 6, 1829 (printed in Welcker and Näke's *Rheinisches Museum*, vol. iv. 1836), he communicates his views to this friend, and for one thing proves clearly that Frontinus has drawn no information from Vitruvius, the latter being full of nonsense and mistakes—in fact an ignorant humbug, while the former is a competent professional authority. It was his intention, in which he was encouraged by Goethe, to explain his views more in detail, and also to prove that Pliny had not gathered his knowledge from Vitruvius or written extracts from his work, but that Vitruvius had used and spun out Pliny. However, the work of Schultz was not finished and published during his lifetime. He imparted his ideas to his nearest friends, and Osann at least was inclined to adopt them (comp. *Rhein. Mus.* vol. v. (1837) p. 617 f.). But in several respects Schultz went too far. He denied not only the genuineness of Vitruvius, but also that of Pomponius Mela—a view in which we cannot agree ; and he thought that the so-called Vitruvius was written by archbishop Gerbert, who in 999 became pope under the name of Sylvester II, an opinion which is already refuted by the fact that the oldest MS. of the work, codex Harleianus, was written in the 9th century. Therefore philologists, who, as a rule, were devoid of technical and architectural knowledge, took no notice of Schultz's observations, which hitherto had only appeared occasionally, though—in spite of their brevity—they were so conclusive that no further evidence was needed. H. Brunn mentions him in a programme of the university of Bonn, 1856 : *De auctorum indicibus Plinianis*, p. 57 ff., and thinks to have done with him in quoting some parallel passages by Pliny and by Vitruvius, without suspecting that to a really critical reader his quotations offer the best proofs that Schultz was right. In the same year (1856), Schultz's posthumous

work, published by his son, appeared under the title : *Untersuchungen über das Zeitalter des römischen Kriegsbaumeisters Marcus Vitruvius Pollio von C. F. L. Schultz, Geheimen Ober-Regierungs-Rath, herausgegeben von Otto Schultz, Ingenieur Lieutenant.* Though the author did not live to give the finishing touch to his work, he has done enough to decide the question. He proves clearly that the Vitruvius we read was neither a real architect nor a technical expert, but a closet philosopher who pretended to be what he was not ; further, that he did not live at the time of Augustus ; Schultz thinks he may be put down to the time of Constantine the Great, or rather to that of Theodosius. But " habent sua fata libelli." This excellent booklet appeared in a too modest form, a small closely printed pamphlet of 55 pages octavo ; it is almost forgotten in Germany ; (I have mentioned it in my university programme of 1876 : *About the Greek and Roman Houses*, p. 3). It does not seem to have been known by Detlefsen, the editor of Pliny, who in *Philologus*, 1872, wrote a tolerably long essay : " Vitruvius als Quelle des Plinius," in which he tried to bear out in detail the relation between the two authors which Brunn had indicated, in order to prove that the general opinion about the matter was the correct one ; Teuffel dismisses it with a short notice in his *Geschichte der römischen Litteratur*, 1870, and it is alluded to in the same manner in the three following editions published by Schwabe after the author's death ; but in the fifth edition (1890) Schultz's pamphlet is not named at all. So it seems necessary to take up the question again.

I.

The time of Augustus was the golden age of Roman literature. The public was highly educated, and the authors had the gift of giving a peculiar stamp of beauty to their writings. In literature as in art we constantly feel ourselves standing at one of the culminating points of ancient civilisation. Now, when we take into our hands the ten books *De Architectura* by Vitruvius, and learn that they pretend to be written at that period, we feel struck and cannot refrain from doubting whether this is really so. Neither language, style, nor thoughts seem to agree with this statement, and nobody would have thought of attributing the work to that time, if the author had not himself stated it as a fact. Then it was thought that the surprising phenomenon might be explained by the circumstance that he was a practical man without literary education ; belonging to the lower class, it was only natural that he should speak the language of his equals and be unable to write like a scholar. In support of this opinion some lines have been quoted from the first book (chap. 1, 17) in which he asks the reader's pardon for any sin against the rules of grammar, and says that he does not write like a philosopher of the highest rank, a rhetorician, or a grammarian, but like an architect (" non uti summus philosophus nec rhetor disertus nec grammaticus summis rationibus artis exercitatus sed ut architectus his litteris imbutus hæc nisus sum scribere "). Nevertheless half the work is taken up by philosophical and physical reflections, and it is this same—according to his own saying uneducated—man who quotes a large number of Greek authors which the scholars of our time do not even know by name ; who enters upon learned conversations with his guests (VIII, 4, 25), and, in the preface of Book VI (§ 4), " thanks his parents for having taught him an art which could not be acquired without knowledge of literature and of the humanities. After having received such a careful education by parents and teachers, he enjoys writing about matters of learning and of art, and in this way has filled his mind with such treasures that he feels it unnecessary to acquire more than he possesses, declaring that the greatest wealth consists in feeling no want."

We see the man boasts of his high education ; he does not want to be considered an

ignorant artisan, and if he apologises to the reader for possible grammatical blunders, it is only an attempt to defend himself against such complaints as his uneasy conscience makes him anticipate.   Evidently he had not the remotest idea how innumerable these complaints would be.

It is said by a critic in the *Athenæum* of January this year (1898) " that a skilled reader will receive no greater impression of uncouthness from the Latin of Vitruvius than he will receive from the Latin of many parts of Varro's *De Re Rustica*." There is indeed an immense difference : Varro was a man of real learning and culture, nevertheless he wrote as he talked. Vitruvius does not care to write as he talks, he takes pains to write like a learned man of the time of Augustus, but he fails, as such attempts generally do if not undertaken by a master ; the style and the spoken language of his own time often transpire.   We shall call attention to some of his most prominent linguistic peculiarities.   Our remarks do not claim to exhaust the matter : they may rather be called sporadic ; in reading an author, the eye gets gradually so accustomed to his language and style that it is dulled to his characteristics. Among special essays on Vitruvius I have only made use of one, which, in spite of the difference in the general view of the author, has been very useful to me, namely : Praun, *Bemerkungen zur Syntax des Vitruv*, Bamberg 1885.   I also owe important contributions to my friends Dr. O. Siesbye and Professor J. L. Heiberg.

One of the peculiarities which occur especially in the authors of the later period of the empire, where they wanted to write nicely and philosophically, is the frequent use of abstract nouns, even in the plural.   So also in Vitruvius.   Among abstract nouns which appear only in his writings I will mention *ignotitia* III præf. 3, *indecentia* VII, 5, 6, *pervolitantia* IX, 7 (6), 1, *nascentia* IX, 7 (6), 2, *crescentiæ* IX, 9 (8), 6–7, *commensus* = *mensura* I, 3, 2, I, 7 extr., III, 1, 3, V præf. 2, VI præf. extr.   Striking plurals are *conscriptiones* V præf. 2, VII præf. 1, *eruditiones* I, 1, 17, II, 1, 8, *scientiæ* I, 1, 17, III præf. 1 et 3, IX, 7 (6), 3, *sollertiæ* VII præf. 10 &c. &c.   And sometimes these abstract nouns retain so much of their verbal character that the author finds it sufficient to add only *est* instead of *factum est*, as in I, 3, 2 : " cum fuerit fundamentorum ad solidum depressio ; " I, 5, 1 : " cum erit mœnium conlocandorum explicatio."

One of the words frequently occurring in Vitruvius is *symmetria* ; according to Nohl's index, it is found about a hundred times.   At the time of Pliny this word is still a stranger to the Latin language, comp. *Hist. Nat.* XXXIV, 65 : *non habet Latinum nomen symmetria.* Pliny no doubt appreciated his own Latin style, but he does not carry his purifying tendencies so far as to exclude every foreign word, if it was generally adopted in the language ; his apology testifies to the fact that such was not the case with *symmetria*.

Not unfrequently words are found in a different connection and different signification from that of the classical authors.   Thus *notitia* in the sense of " renown " III præf. 1, VI præf. 4, *ponere* " put forth " III præf. extr., and *anteponere* " put forth at first " II præf. 5 ; *dignum est* for *operæ pretium est* II, 7, 4 : " si prope urbem essent, dignum esset, ut ex his officinis omnia opera perficerentur ; " similar things are quoted from Vopiscus, Lactantius, and Augustinus ; *necessitate* = *necessario* X, 2, 1.

In a few instances *videtur* is meant to signify *placet* : V, 10, 4 : " magnitudines balinearum videntur fieri pro copia hominum ; " VIII, 7 (6), 11 : " itaque minime fistulis plumbeis aqua duci videtur."   In other places Vitruvius correctly adds *oportere*, so that the omission might perhaps rather be called a peculiarity of style in the author, as in II, 1, 8 : " primo volumine putavi . . . exponere."

Shall we consider it as merely accidental that the word *narrare*, which was generally used during the classical period, does not occur at all in Vitruvius ? (" narratio," which is

found in Rose's edition II præf. 3, is a mistaken correction of "ratio" in the manuscripts);
Vitruvius only uses *memorare*; or that the verb *ire* (without prefix) appears but once,
whereas we frequently find *vadere* which in Cicero means "to depart," and only in Virgil
and Ovid signifies "to go," thence entering into the later prose and subsequently into the
Romance languages, entirely superseding the genuine Latin word? Is it accidental that,
after the fashion of more recent authors, Vitruvius frequently transcribes the simple future
by *erit ut*? e.g. I, 1, 10: "erit ut uterque liberetur." V, 12, 6: "ita erit uti possit turris
insuper ædificari." VI, 6, 11: "tunc erit ut . . . fiant." Dräger, *Hist. Synt.* 2, p. 267,
quotes a similar example from Apuleius, *Met.* II, 3: "numquam erit ut non apud te
devertar."

With regard to the comparison of adjectives, we often find the comparative unneces-
sarily emphasised: *maxime facilius* I, 1, 4, *maxime tutiores* I, 5, 5, *maxime utiliores* II, 3, 2,
quo magis ex meliore vino parabitur VII, 10, 4, *potius digniores* VI præf. 6. Comp. *nimium
penitus* VIII, 7, 14. Similarly Lactant. *Instit.* I, 21, 10: *maxime dulcior.* Commodian,
Apolog. 5: *plus levior.* Sulpicius Severus, *Chron.* II, 46, 5: *plus iusto inflatior.* About
the use of the preposition *ab* in the comparison, see immediately below.

The superlative is repeatedly placed parallel to a positive in such a way that the differ-
ence is effaced: II, 8, 19: *si sit optima seu vitiosa,* VIII, 1, 7: *quæ gravissimæ duræque et
insuaves sunt partes.* (Of course there are cases where no harm is done by such a juxta-
position, and where it may occur even in classical authors; see Wölfflin, *Lateinische und
romanische Comparation,* p. 54 f.; but this is not the case here.)

Among the adverbs may be mentioned *aliter,* not in the sense of "otherwise," but
"differently one from another:" II, 1, 1: "in eo hominum congressu profundebantur aliter
e spiritu voces," cf. IX, 4, 1; *forte=fortasse* VI præf. 4: "Sed forte non nulli hæc levia
putantes eos putant esse sapientes, qui pecunia sunt copiosi"; *parve* IX, 6, (4) 5: "parve per
eos flectitur delphinus"; *temperate* (with genitive as *parum*) I, 4, 7: "volucres minus
habent terreni, minus umoris, caloris temperate, aëris multum," cf. II, 7, 3, II, 9, 9 & 11.

iuxta=secundum "according to:" I, 1, 17, "iuxta necessitatem." The same occurs
in Justinus and later. *trans* without an object, "on the other side," IX, 4 (1), 4: "circum-
acta trans locis patentibus ex obscuris egreditur ad lucem," elsewhere in clerical authors,
comp. *Archiv für lateinische Lexikographie und Grammatik* IV, p. 248. *trans contra*
"opposite to," IX, 4 (1), 2 & (2), 2 as in Aurelius Victor and Boethius, comp. *Archiv f. lat.
Lex.* V, p. 319 ff.

In the use of prepositions we are struck by several peculiarities which indicate the
dissolution of the language: *ab,* indicating the cause, "because of," in II, 9, 11: "ab
pondere umoris non habent rigorem . . . ab lentitudine firmas recipiunt catenationes," II,
9, 14: "ab suci vehementi amaritate ab carie aut tinea non nocetur." *ab,* "compared
with," has been—no doubt correctly—substituted by Rose for *ad* in VI, 4, 5: "non enim
atria minora ab maioribus easdem possunt habere symmetriarum rationes," a habit which
Wölfflin in *Archiv f. lat. Lex.* VII, 8. 125 has proved to exist in the ancient Latin transla-
tions of the Bible, Itala and Vulgata, and which is analogous to the use of other preposi-
tion such as *præ, super* or *supra, ultra.*

ad is placed instead of the dative or parallel with it, as in IV, 3, 2: "metopæ quæ
proximæ ad angulares triglyphos fiunt," VII, 13, 2: "hæ regiones sunt proximæ ad septen-
trionem" (equally by Euodius in Augustine *Ep.* 158, 2: "ad finem vitæ proximus"), VI, 9,
(6), 2: "lavationi rusticæ ministratio non erit longe," but soon after: "ad olearios fructus
commoda erit ministratio." Equally in X, 9 (4), 2: "ita hortis ad irrigandum vel ad
salinas ad temperandum præbetur aquæ multitudo." X, 8, 14: "ut ad solvendum non

esset " in lieu of the generally applied "solvendo." "On the whole," Praun observes on p. 65, "the preposition *ad* with the gerund or the gerundive has extended its sphere at the expense of the other constructions, the genitive, the dative, and *in* with the ablative."

de instead of the simple ablative in I præf. 2 : " parenti tuo de eo fueram notus." Like-wise *e* in I, 1, 4 : " circini usum, e quo maxime facilius ædificiorum expediuntur descriptiones." About *ex* in expressions of measure, see below.

With regard to conjunctions, Dräger, *Histor. Syntax* II p. 153, has already pointed out that *aut* and *sive* are used quite indiscriminately by Vitruvius. A critic in the *Athenæum*, Jan. 1, 1898, says : " the misuse of *aut* and *sive* is no great matter." I had not expected this declaration from " a skilled reader." Most Latin scholars would have the contrary view.

Equally unclassical is the use of the negatives in sentences consisting of two alternatives. The word *neve* does not occur in Vitruvius. He always puts *ne* . . . *neque* instead of *ne* . . . *neve*, as I, 1, 7 : " ne sit cupidus neque in muneribus capiendis habeat animum occupatum." As for negations, it is also to be observed that he likes to place them foremost in the sentence. He says " non putavi prætermittendum " instead of " putavi non prætermittendum," " non puto dubium esse," &c. This is done occasionally in other authors, but in Vitruvius very frequently. A striking example is II, 8, 8 : " non enim quæ sunt e molli cæmento, non eæ possunt esse in vetustate non ruinosæ."

It is a well-known fact that in the silver age the conjunction *num* is gradually replaced by *an*, and later on disappears entirely from the language. In Vitruvius *num* does not exist at all, neither do we find (the single) *an, ne*, nor *nonne*. The only particle by which he introduces a dependent interrogative clause is *si*, e.g. II, 8, 19 : " si est firma probatur," cf. II præf. 3, VI præf. 6, VII præf. 5, VII extr. al. Only in double clauses we find *utrum* . . . *an*, as I, 4, 9 : " dubitantes utrum morbo an pabuli vitio læsa essent." But *si* occurs equally, comp. II, 8, 19 : " de ipsa autem testa, si sit optima seu vitiosa, statim nemo potest iudicare." VII, 5, 4 : " neque animadverterunt si quid eorum fieri potest necne." *Si* in this sense already occurs in Plautus ; so we do not wonder that it is found in Vitruvius, but we wonder that it is the only interrogative conjunction he knows, as it is the only one which has migrated into the Romance languages. Whether this *si* is due originally to an influence from the Greek language, I dare not decide. The most ancient Roman authors not unfrequently borrowed words from Greek to express ideas or to name objects for which their own language lacked words, but they did not borrow forms or constructions. The age of Cicero and Augustus tried to remove the Greek words and to keep the language pure, but these attempts did not entirely succeed, and in the silver age we find repeatedly that where it became necessary to use Greek words, the authors liked to show their knowledge in retaining the Greek flexions, as *os* in the nominative instead of *us, u* in the genitive, &c. In the course of time such hellenisms increased, and the great number of them which occur in Vitruvius also help to indicate the period when he lived. He uses Greek words not only where he may possibly quote from a Greek source, but also in his own argumentations, and connected with Greek flexions, as VI præf. 4 " philologis et philotechnis rebus," X, 4, 5 " colossicotera," I, 1, 13 "aniatrologetos." He does not even seem afraid of *ois* instead of *is*, as "pentadorois " II, 3, 3.

A characteristic hellenism is the use of the genitive corresponding to the comparative *than*, as V, 1, 3 : " superiora inferiorum fieri contractiora," I, 5, 4 : " ut ne longius sit alia ab alia sagittæ missionis " (as in the manuscripts). This grecism is found in Apuleius, as in *Met.* III, 11 : " statuas et imagines dignioribus meique maioribus reservare suadeo ; " *de dogm. Plat.* I, 9 : " Animam . . . . omnium gignentium esse seniorem ; " in Tertullian,