

RICHARD LAVENHAM ON TEMPORAL INSTANTS

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Richard Lavenham was born at Lavenham in Suffolk. He entered the carmalites at Ipswich, and later he went up to Oxford, where he received the doctorate in theology. He is known to have been an active theologian and logician in the years just before 1381. At least sixty-three treatises have been attributed to him. As Paul Vincent Spade¹ has argued, it is very likely that Lavenham was the author of the treatise "*De syncategorematicis*" which was used as a textbook in 15-century Cambridge, and a version of which was printed several times during the 15th and 16th centuries. A number of Lavenham's logical treatises have already been edited by Paul V. Spade². In this paper I intend to discuss and edit two treatises attributed to Richard Lavenham. The two tracts deal with problems regarding temporal instants.

De Natura Instantium

The first of the two treatises is the short tract "*De Natura Instantium*", which besides a definition of instants contains some ideas of what to be considered within a study regarding temporal instants.

According to Lavenham's definition in §1, an instant is to be understood as the end of the past or the beginning of the future, i.e. the present "now". Every instant can serve as a "now". But in which situations is the instant to be identified with the end of the past and in which situations is it to be identified with the beginning of the future? Lavenham states the Aristotelian answer to this question from *Physics VIII* (233b9 ff.) as it was generally understood by the medieval philosophers: There is a first instant of the being of a permanent thing (or state), but never a last instant of its being. Lavenham argues in "*De Primo Instanti*" that this view ought to be slightly modified as we shall see in the following. In "*De Natura Instantium*", however, he takes the Aristotelian view for granted and he makes use of the expressions "immediately before" and "immediately after" in order to explain this view. He points out that at a certain instant it can be true that

1. Spade, P.V.: Richard Lavenham and the Cambridge Logic, *Hist. Ling.* VII: 1/2 (1980), 241-247.
2. See the notes in my "Richard Lavenham on Future Contingents", *CIMAGL*, 44 (1983), 180-186.

(L1) "Thomas is white and

immediately before this he was not white"

since it follows from the Aristotelian assumption that there is a first instant of whiteness of Thomas. On the other hand, since there is no last instant of the whiteness of Thomas the proposition

(L2) "Thomas is white and

immediately after this he will not be white"

cannot be true at any instant of time.

Lavenham in §3 maintains that according to the study of successive things the following propositions will be true at certain times:

(L3) "Socrates is not moving,

but immediately before this he was moving"

(L4) "Socrates is not moving,

but immediately after this he will be moving"

The truth of (L3) and (L4) follows from the assumption that the successive beings are without first and last instants of time. Lavenham finds this assumption in book VI of Aristotle's Physics. He probably refers to chapter 5 in this book (235b6 ff.)

Lavenham relates this to the study of incipit and desinit. In §2 he states that a proposition like

(L5) "Socrates ceases to be"

is equivalent to

(L6) "Socrates is not, but he has been immediately before this"

but not equivalent to

(L7) "Socrates is, and he will not be immediately after this".

The reason is that if (L5) and (L7) were in fact equivalent then there would be a last instant of Socrates' being. But because of the assumption that there is no last instant of a permanent thing, this cannot be. On the other hand, since there is no last instant of Socrates' being, there could in fact be a first instant of his non-being. This is the basis for the claimed equivalence of (L5) and (L6).

In §3 Lavenham considers beginning and ending of successive states. In his opinion the proposition

(L8) "Socrates begins to move"

is equivalent to

(L9) "Socrates is not moving,

but immediately after this he will be moving",

whereas the proposition

(L10) "Socrates stops moving"
would be equivalent to

(L11) "Socrates is not moving

but immediately before this he was moving."

These equivalences are due to the assumption that successive things according to the Aristotelian view are without first and last instants of time.

It is obvious that the use of "immediately before" and "immediately after" is essential for Lavenham's analysis. It appears that Lavenham considers these notions to be rather unproblematic. As N. Kretzman³ has shown this was certainly not the case for all medieval logicians. A generation before Lavenham another logician, Richard Kilvington (d. 1361), who was a member of the Mertonians in Oxford, had realized some fundamental problems related to the use of "immediately before" and "immediately after". It is very likely that Lavenham had at least some knowledge of Kilvington's ideas.

"De Natura Instantium" can be read as a short exposition of the nature of temporal instants. It provides a definition of the instant. It also points out the importance of the traditional distinction between permanent and successive things for the study of instants, and it emphasizes the relevance of the ideas of beginning and ending (i.e. the logic of "incipit" and "desinit") within this study.

De primo Instanti

In the treatise "De Primo Instanti" Richard Lavenham investigates the Aristotelian theory of first and last instants of permanent and successive beings a little more closely, whereas the logic of beginning and ending is discussed in a special tract, which will not be discussed in this paper. In "De Primo Instanti" Lavenham utilizes five examples in order to establish his four main conclusions.

Example 1.

As his first example Lavenham considers two quantities, A and B, of water which are poured into the same vessel (§1.1). He claims that there is a first instant at which A touches B, but no last instant at which A and B are separated. He does not prove this claim, but he presents a disproof of the hypothesis

3. See Kretzmann, N. (ed.): *Infinity and Continuity in Ancient and Medieval Thought*, Cornell University Press: Ithaca/London 1982.

(L12) "There is a last instant, C, at which A and B are separated and a first instant, D, at which A touches B".

As the first step in this demonstration Lavenham argues that if (L12) were true then there would be a time interval between C and D:

C and D are two (different) instants.

Between any two instants there is a time interval.

Ergo:

There is a time interval between C and D.

Hereafter Lavenham considers the disjunction:

(L13) "A and B are separated during the time E, or they are not separated during E",

where E is the time interval between C and D. In order to prove that this disjunction is false, Lavenham argues in the following way:

C is the last instant at which A and B are separated.

E is after C.

Ergo:

A and B are not separated during E.

For this reason the first part of (L13) must be false. The falsity of the other part is demonstrated indirectly assuming (tentatively) that it is true. Consider the following argument:

A and B exist during E.

A and B are not separated during E.

Ergo:

A and B are connected during E.

Or equivalently:

A touches B during E.

But this conclusion cannot be accepted since:

D is the first instant at which A touches B.

D is after E.

Ergo:

A does not touch B during E.

It should be noted that Lavenham presupposes a continuum theory of time.

Example 2.

According to the traditional medieval Aristotelianism there is a first instant of a permanent state, but no last instant of it. Lavenham, however, argues that this view should be modified. He does so utilizing a second example.

In §1.2 Lavenham considers a nut in the earth from which a plant is growing. He claims that in this case there is a last instant at which there is no plant, but no first instant at which the plant exists. In order to prove this claim, he shows that if it is assumed that there is a first instant, A, of the existence of the plant, then a contradiction necessarily follows. The line of the argument is the following:

The plant exists at A.

Whenever a plant exists, it is of some length.

Ergo:

At A the plant must be of some length.

Lavenham now considers the disjunction

(L14) The length L, produced from the nut exists before A, or
it does not exist before A,

where L is the length of the plant at A. Now, the first part of (L14) must be false because of the following argument:

The length, L, produced from the nut exists before A.

Whenever a length produced from the nut exists,
the plant exists.

Ergo:

The plant exists before A.

This conclusion, however, contradicts the assumption that A is the first instant at which the plant exists. Hence the first part of (L14) must be false.

Lavenham's demonstration of the falsity of the other part of (L14) is also indirect, i.e. he assumes that the length, L, does not exist before A. In order to establish the proof he considers the disjunction:

(L15) Before A some part of L exists or
before A no part of L exists.

Lavenham argues that (L15) is false demonstrating that none of its two parts can be true. Again, the falsity of the first part follows indirectly:

Some part of L exists before A.

Whenever a length produced from the nut exists,
the plant exists.

Ergo:

The plant exists before A.

But this contradicts the assumption that A is the first instant at which the plant exists. Therefore the first part of (L15) must be false.

Lavenham's demonstration of the falsity of the other part of (L15) is also indirect:

Immediately before A the plant is of no length.

At A the length of the plant is L.

Ergo:

At A the plant grows instantaneously from no length to the length of L.

But this conclusion is impossible according to Lavenham. The reason is that it would imply that A is the first instant of a motion (the growth of the plant), which would certainly violate the Aristotelian assumption that there is no first instant of a successive thing.

Because of this demonstration Lavenham rejects the view that there is a first instant of the existence of the plant. Since the plant is a permanent thing this seems to contradict what Aristotle is saying in Physics VIII. But Lavenham explains that his conclusion does not invalidate the claim which Aristotle intended to make. He states that Aristotle's idea was that there is a first instant of every "complete being", i.e. that there is a first instant at which Thomas is completely white or a first instant at which the completed plant exists etc. According to this interpretation there is a first instant at which it is true to say that "the length of the plant is L" where L is some specific length, but there is no first instant at which it is true to say "the plant exists", since the first proposition represents a complete existence whereas the other represents an incomplete existence.

Example 3.

In §1.3 Lavenham assumes that Socrates is moving towards a wall. The analysis of this case is close to the analysis of example 1. Lavenham concludes that there is a first instant at which Socrates touches the wall whereas there is no last instant of Socrates' motion towards the wall. In order to prove that there could be no last instant of this motion, Lavenham presents the following indirect demonstration arguing from the assumption that if Socrates is moving towards the wall, then he must be separated from the wall:

At A there is some distance from Socrates to the wall.

No distance can be traversed instantaneously.

Ergo:

Immediately after A there will still be some distance from Socrates to the wall.

But if immediately after A, Socrates is still separated from the wall by some distance, then he will still be on his way towards the wall immediately after A. In consequence it is clear that A cannot be a last instant at which Socrates is moving towards the wall or is separated from the wall. - It should be noted that Lavenham's conclusion is based on the observation that no distance can be traversed instantaneously, i.e. that no speed is infinite!

Example 4.

In §1.4 Lavenham assumes that Socrates is moving away from the wall. He claims that there is a last instant at which Socrates is not separated from the wall, i.e. a last instant at which he touches the wall. At this instant Socrates is not considered to be moving, although he certainly will be moving immediately after this instant. Hence there is no first instant of Socrates' motion. In consequence one might suspect that the following argument is valid:

Socrates is not moving now.

But immediately after this instant he will be moving.

Ergo:

Socrates will be moving instantaneously (from one place to another).

Lavenham, however, maintains that this is not a valid syllogism. He probably understands that this argument would be similar to the following invalid argument:

Socrates is not separated from the wall now.

Socrates will be separated from the wall immediately after this instant.

Ergo:

Socrates is moving instantaneously from one place to another place.

Example 5.

In §1.5 Lavenham assumes that Socrates is leaving a house. He states that there is a first instant at which Socrates is completely outside the house, whereas there is no last instant at which Socrates is in the house.

What seems to be the important element in this example is the use of "completely". In this sense the example is similar to example 2.

Lavenham's Four Conclusions

Having analyzed his five examples Lavenham states four conclusions to which the analysis can give rise. His first conclusion is this (§2.1):

- (C1) There is a first instant of a complete and permanent being,
but no last instant of it.

Arguing for the validity of (C1) Lavenham makes use of still another example according to which Socrates is changing from blackness to whiteness. He argues that there is a first instant at which Socrates is completely white. The argument can be formulated in the following way:

When Socrates is completely white, he must be of a certain degree of whiteness, say A.

Socrates' whiteness is generated successively in time.

Ergo:

At a certain instant of time Socrates' degree of whiteness is A for the first time.

Or equivalently:

At a certain instant Socrates is completely white for the first time.

Consequently there is a first instant at which Socrates is completely white. As regards the second part of (C1) Lavenham presents no special argument. - It is obvious that (C1) corresponds to example 5 and to some extent also to example 2.

The second conclusion is the following:

- (C2) There is no first instant of an incomplete and permanent being.

In his argument for this conclusion Lavenham makes use of the same example as he used in his argument for (C1). It turns out that this argument is very close to the argument in example 2.

The third conclusion (§2.3) is the following:

- (C3) There is no last instant of a permanent being,
but there is a first instant of its non-being.

Lavenham presents no genuine demonstration of this conclusion, but (C3) gives rise to some considerations regarding the concept of destruction. When is a thing destroyed? Dealing with permanent things Lavenham considers some aspects of this question. It might be argued, he says, that the destruction or some parts of a thing implies the destruction of the thing itself. If a stone or some piece of wood is removed for example from a house, then it might be said that it is no the same house anymore. Or if

some quantity of water is heated over the fire, then the quantity is continuously changed since more and more parts of it are destroyed, i.e. turned into vapour. On the other hand, a man who has lost a finger is still the same man and a tree from which a fruit is taken away is still the same tree. It appears that according to Lavenham one should make a distinction in this question between animate and inanimate substances, although his reasons for suggesting this are not explained in the text.

Lavenham's last conclusion (§2.4) is derived from some of Aristotle's statements in *Physics* VI and VIII:

(C4) There is no first and no last instant of a successive being. This conclusion implies that the following propositions must be false at any time:

Socrates is moving now, but he has never been moving before this instant.

and

Socrates is moving now, but he will never be moving after this instant.

The falsity of the first of these propositions follows from the assumption that there is no first instant of a motion, whereas the falsity of the other follows from the assumption that there is no last instant of a motion.

Regarding these four conclusions, (C1-4), the most remarkable idea is the distinction between complete and incomplete being. Lavenham was, however, not the first logician to make use of a distinction of that kind.

As N. Kretzmann⁴ has pointed out Peter of Spain made a distinction between permanent beings or states that acquire their being (naturally) at an instant and permanent beings or states that acquire their being (naturally) during a period of time. In his analysis of Peter's discussion Kretzmann speaks of "all-or-nothing permanent" and "little-by-little permanent".

Lavenham's distinction seems to be identical with Peter's.

The Edition

The two treatises are found in *mss* S = British Library, Sloane 3899, and V = Venice, B.Marc. Z 300 (1872), both dating from the 14th century. The locations in the *mss* are these,

4. Kretzmann, N.: *Incipit/Desinit*, In: Machamer, P.K. and Turnbull, R.G.: *Motion and Time, Space and Matter*, Ohio State Univ. Press 1976, 101-136, p. 110. - See also Nielsen, Lauge: *Thomas Bradwardine's Treatise on "incipit" and "desinit"*, *CIMAGL* 42 (1982), 1-83, p.18.

De natura instantium: S 65r-v, V 63vA-64rA

De primo instanti: S 65v-67r, V 71vB-73rA

De primo instanti § 1.1., alternative version: S 72v, V 71vA-vB.

In V, then, the alternative version of "De primo inst." § 1.1 has been placed immediately before the main version. The reason for this doubling of § 1.1 is obscure, but clearly the two versions were not meant to occur jointly in the same text.

Consequently, it is necessary to modify Paul Spade's⁵ observation that "the juxtaposition of these two passages [i.e., the alternative version and the complete text of "De primo inst."] in the Venice MS suggests that they are parts of a single text despite their separation in the Sloane MS."

The differences between the two mss. are minute. I have based the edition on S, accepting V readings only when they seem to be required by sense. The apparatus is complete. The orthography has been normalized and I have introduced my own paragraphing and punctuation.

A short addition which is written in another hand is found in S, but not in V. It contains the essential parts of Lavenham's conclusions and it seems to be some reader's summary of "De Primo Instanti."

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5. Spade, P.V.: Notes on Some Manuscripts of the Logical and Physical Works by Richard Lavenham, Manuscripta 19:3 (1975), 139-146, at p. 144.

<I. DE NATURA INSTANTIUM>

S65r <\$1> Instans vel nunc, quod idem est, vocatur finis temporis prae-
 V63vA teriti et initium temporis futuri.

V63vB <\$2> Et est dare primum instans rei permanentis // in esse sed non
 5 ultimum, secundum Aristotelem 8^{vo} libro Physicorum.

Unde contingit dare primum instans quo Thomas est albus, sed non contingit assignare ultimum instans quo Thomas est albus. Similiter contingit dare primum instans quo Thomas est virtuosus, sed non contingit assignare ultimum instans quo Thomas est virtuosus.

10 Et ideo si ponatur quod Thomas nunc sit albus et quod immediate ante hoc non fuisset albus, admittatur casus, eo quod contingit dare primum instans rei permanentis in esse. Sed si ponatur quod Sortes nunc sit albus et quod immediate post hoc non erit albus, negatur casus, et hoc philosophice loquendo. Et causa est quia non contingit assignare ulti-
 15 mum instans rei permanentis in esse.

Item, si ponatur quod Sortes nunc sit et quod immediate post hoc non erit, negatur casus propter causam praedictam.

Et si quaeratur quomodo Sortes vel aliqua alia res permanens potest desinere esse, dico quod potest desinere esse per remotionem de praesenti
 20 et positionem de praeterito, sed non per positionem de praesenti et remotionem de futuro, quia si sic, tunc contingeret dare ultimum instans rei permanentis in esse.

<\$3> Ulterius sciendum est quod non contingit assignare primum instans rei successivae, nec ultimum, secundum Aristotelem 6^o libro Physi-
 25 corum.

S65v Unde si ponatur quod Sortes nunc moveatur, et quod im//mediate ante hoc non movebatur, negatur casus. Et ratio est quod si Sortes nunc move-
 tur et immediate ante hoc non movebatur, tunc sequitur quod hoc instans esset primum instans huius motus et sic esset dare primum instans rei
 30 successivae in esse. Consequens falsum.

Item si ponatur quod Sortes nunc moveatur et quod immediate post hoc non movebitur, negatur casus. Et causa est quia non contingit dare
 V64rA ultimum // instans rei successivae in esse. Unde omne quod movetur, movebatur et movebitur.

5 8^{vo} libro: 8 V. 12 Sortes: om. V. 18 Sortes: om. V.
 24 nec: sed V. libro: om. V.

35 Et si quaeratur quomodo ergo potest Sortes incipere moveri vel desinere moveri, dico quod potest incipere moveri per remotionem de praesenti et positionem de futuro. Et potest desinere moveri per remotionem de praesenti et positionem de praeterito.

40 <§4> Ulterius notandum est quod sicut nulla puncta continui sunt immediata sic nulla instantia temporis, eo quod inter omnia instantia fluit tempus medium.

Explicit de natura instantium per Lavinham.

<II. TRACTATUS DE PRIMO INSTANTI>

<§1. Casus>

S65v
V71vB

<§1.1> Ad cognoscendum quando est dare primum instans rei in esse et quando non, ponatur talis casus quod A et B sint duo corpora liquida, id est duae aquae, quae fundantur ad invicem in aliquo vase. Tunc in hoc casu est dare primum instans in quo A tanget B, sed non est dare ultimum instans in quo A distabit a B, sive ultimum instans in quo non tanget B, quod idem est.

Quod probatur sic: Quia si sit dare primum instans in quo A tanget
10 B et etiam ultimum instans in quo A distabit a B, tunc assigno primum instans in quo A tanget B per "D", et ultimum instans in quo A distabit a B per "C". Et tunc arguo sic: C et D erunt duo instantia, et inter omnia duo instantia futura fluet tempus medium, ergo inter C et D instantia fluet tempus medium. Quo concesso, primo quaero pro illo tempore medio numquid tunc A distabit // a B vel non. Si dicatur quod sic, contra: C erit ultimum instans in quo A distabit a B, ergo non immediate post C A distabit a B, ergo tunc A non distabit a B. Si autem dicatur quod tunc A non distabit a B, contra: Si tunc A non distabit a B, et tunc A et B erunt, ergo tunc erit A immediatum B, et per consequens A
20 tunc tanget B. Consequens falsum, quia D erit primum instans in quo A tanget B. Item, si C erit ultimum instans in quo A distabit a B, et

35 quomodo ergo: om. V.	Sortes: om. V.	36-37 de praesenti: om. V.
42 per Lavinham: om. V.	3 in esse: om. V.	6 hoc: quo V.
7 instans ¹ : om. V.	11 ultimum: primum S.	12 erunt: erant V.
et ³ : sed V.	13 ergo: igitur V.	14 primo: om. V.
in mg. S.	a B ² : Contra om. V.	18 non ¹ :
		19 ergo: igitur V.
		21 C: om. V.

immediate post C A et B erunt, ergo immediate post C A et B erunt immediate, et per consequens aliqua duo corpora quae sunt multum distantia erunt subito approximata; consequens falsum. Ideo dico quod est dare
 25 primum instans in quo A erit contiguum B, sed non est dare ultimum instans in quo A distabit a B sive ultimum instans in quo A non tanget B quod idem est.

<\$1.2> Secundus casus est talis: ponatur quod hic sit una nux posita in terra de qua generetur planta; et suppono quod quam cito aliqua
 S66r quantitas producat de nuce, quod tam cito planta erit. Tunc in hoc // casu est dare ultimum instans in quo non erit planta nucis, sed non primum instans in quo planta nucis erit. Quod probatur sic: Quia si sit dare primum instans in quo haec planta erit, sit illud A, et arguo sic:
 35 planta erit alicuius longitudinis, ergo in A instanti haec planta erit alicuius longitudinis. Tunc quaero de illa longitudine, numquid ista erit ante A vel non. Si ante A, et quodcumque aliqua quantitas producat de nuce, aliqua planta nucis erit, ergo ante A aliqua planta
 V72rB nucis erit, // et per consequens A non erit primum instans in quo planta
 40 ta nucis erit.

Si dicatur quod illa longitudo non erit ante A, quaero tunc numquid aliqua pars quantitativa illius longitudinis erit ante A vel non. Si sic, tunc arguitur sicut prius. Si non, contra: In A instanti haec planta erit alicuius quantitatis et in A instanti haec planta habebit
 45 aliquam quantitatem et nullam quantitatem habebit ante A ex dato, ergo haec planta adquiret subito quantitatem unam, et per consequens subito augmentabitur, et sic A instans esset primum instans augmentationis, et sic primum instans motus successivi. Consequens falsum. Ideo dicitur quod non est dare primum instans in quo planta nucis erit, sed est dare
 50 ultimum instans in quo planta nucis non erit, id est est dare aliquid instans in quo haec planta non erit, sed immediate post illud instans haec planta erit.

Sed contra: Secundum Aristotelem in 8^{vo} libro Physicorum est dare primum instans rei permanentis sed non ultimum, sed haec planta erit
 55 aliqua res permanens, ergo est dare primum instans in quo haec planta erit.

24 ergo: igitur V. 26 instans: om. V. 35 ergo: igitur V.
 38 ergo: igitur V. 42 pars: om. V. 45 ergo: igitur V.
 50 quo: om. S. est² om. S. 51 immediate: om. S. 53 libro: om. V.
 54 planta: om. V. 55 ergo: igitur V. 56 erit: om. V.

Hic dico quod Aristoteles intendit sic quod est dare primum instans rei permanentis in esse totali et completo, sicut est dare primum instans in quo calor complete informat corpus, et contingit dare primum instans in quo Thomas complete est albus. Et sic verum est quod contingit dare primum instans in quo complete planta est. Et generaliter verum est de omni re permanente divisibili quod est dare primum instans illius in esse totali et completo. Non contingit tamen dare primum instans in quo planta nucis incomplete erit, sicut nec contingit dare primum instans in quo albedo vel calor erit in corpore, et hoc quantum ad esse incompletum. Et ratio, quia omnis talis forma vel qualitas est divisibiliter et partibiliter acquisita, et ideo non contingit dare primum instans in quo albedo vel calor erit incomplete.

S66v ¶1.3> Tertius casus est iste: Ponatur quod Sortes moveatur versus
 parietem, sic quod in fine motus // tangat parietem. Tunc in isto casu
 est dare primum instans in quo Sortes tanget parietem, sed non est dare
 ultimum instans in quo distabit a pariete sive ultimum instans in quo
 non tanget parietem, quod idem est. Et ratio est quia tactus fit in
 instanti sed distantia fit in tempore. Et iste casus est similis primo
 75 casui de duobus corporibus liquidis.

Si tamen dicatur quod est dare ultimum instans in quo Sortes distabit a pariete, contra: Sit illud instans A. Et arguitur sic: In A instanti Sortes distabit a pariete per aliquam distantiam, et illa distantia non erit subito pertransita nec subito per motum deperdita, ergo, cum cetera sint paria, immediate post A Sortes per aliquam partem illius distantiae distabit a pariete. Et per consequens A non erit ultimum instans in quo Sortes distabit a pariete. Et quod illa distantia non erit subito per motum deperdita patet, quia illa distantia est divisibiliter et partibiliter adquiribilis.

85 <§1.4> Quartus casus est iste: Ponatur quod idem Sortes moveatur
a pariete. Tunc in isto casu non est dare primum instans in quo Sortes
distabit a pariete sive primum instans in quo non tanget parietem, quod
idem est; sed est dare ultimum instans in quo non distabit a pariete,
id est est dare aliquod instans in quo non distabit a pariete, sed im-
90 mediate post idem distabit; nec ex hoc sequitur quod subito distabit,

58 dare: om. V. 59 in: om. S. et: et add. S. 61 in: om. S.
66 incompletum: completum V. qualitas: om. V. 67 non: om. V.
70 isto casu: casu isto V. 73 in: om. S. 74 casus: om. V.
79 ergo: igitur V. 85 moveatur: movetur V. 86 a: in V.
89 est²: om. S. 89-90 sed immediate: set immediate add. V.
90 et hoc sequitur: sequitur ex hoc V.

sicut non sequitur 'Sortes nunc non movetur et immediate post hoc movebitur ergo subito movebitur.'

V72vB <§1.5> Quintus casus est iste: ponatur quod Sortes exeat domum.//
Tunc in isto casu est dare primum instans quo Sortes complete est extra
95 domum, sed non est dare ultimum instans in quo Sortes est in domo.

<§2. Conclusiones>

Iam sequuntur quattuor conclusiones ad omnes casus consimiles responsivae, quarum prima est ista:

<§2.1> *Prima conclusio*: Contingit dare primum instans rei permanentis in esse, et hoc quantum ad esse completum, sed non ultimum. Probat
0 batur conclusio quantum ad eius primam particulam. Et suppono quod Sortes alteretur a nigredine ad albedinem, et noto istam albedinem quae informabit faciem Sortis per "A", et arguo sic: A albedo erit successive generata, ergo A albedo erit in aliqua mensura divisibili, videlicet in
5 tempore, partibiliter generata; et ultra: ergo in instanti terminante illud tempus erit primo complete acquisita; et ultra: ergo est dare ali-
quod instans in quo est verum dicere quod albedo est nunc complete ad-
S67r quisita; sed constat quod A albedo erit res permanens; // ergo est dare primum instans rei permanentis in esse quantum ad esse completum. Et
10 secunda particula conclusionis patet communiter per philosophantes.

<§2.2> *Secunda conclusio*: Non est dare primum instans rei permanentis quantum ad esse incomplete acquisitum. Probatur, quia si sic, assigno primum instans in quo aliqua albedo erit in Sorte, quod erit B. Et arguo sic: in B instanti Sortes habebit istam albedinem, et non sub-
15 ito habebit istam albedinem, quia tunc subito esset alteratus, ergo successive adquiret istam; ergo B instans non erit primum instans quo Sortes habebit istam quantum ad esse incomplete acquisitum.

Iterum quaero: numquid ante B instans habebit Sortes aliquam partem illius albedinis vel non. Si dicatur quod sic, ergo B instans non erit
20 primum instans quo Sortes habebit albedinem. Si dicatur quod non,
V73rA contra: Omnis albedo quam habebit Sortes erit una qualitas // divisibilis,

92 ergo: igitur V. 93 exeat: exiat V. 95 in: om. V.
97-98 responsivae: responsio...V. 99 prima conclusio: in mg. SV.

35 sed nullam qualitatem divisibilem subito acquireret, ergo non primo in B
instanti habebit Sortes aliquam albedinem. Et sic patet veritas con-
clusionis.

<§2.3> *Tertia conclusio*: Non est dare ultimum instans rei permanen-
tis in esse, sed est dare primum instans non esse rei loquendo philoso-
40 phice. Patet prima particula conclusionis ex praecedentibus; et secunda
pars conclusionis, quia est dare instans in quo est verum dicere quod
iste homo nunc primo non est, aliquo certo demonstrato; sed quodlibet
tale instans est primum instans non esse rei; ergo est dare primum in-
stans non esse rei.

45 Et hic notandum quod secundum philosophos ad corruptionem partis
rei inanimatae sequitur corruptio totius, sicut ad corruptionem ligni
vel lapidis sequitur corruptio totius; sed ad corruptionem partis rei
animatae non sequitur corruptio totius, sicut ad corruptionem digiti non
sequitur corruptio hominis, nec ad corruptionem pomi pendentis in arbore
50 sequitur corruptio totius. Ex quibus sequeretur quod aqua posita in vase
super ignem foret continue alia et alia, quia continue per ignem aliqua
pars aquae corrumpitur in aerem.

<§2.4> *Quarta conclusio*: Non est dare primum instans rei successi-
vae nec ultimum, sicut non est dare primum instans motus nec ultimum.
55 Haec conclusio patet per Aristotelem sexto libro et octavo Physicorum.

Si ergo ponatur quod Sortes nunc moveatur et quod numquam ante hoc
movebatur, negatur casus, quia non est dare primum instans rei succes-
sivae. Item si ponatur quod Sortes nunc moveatur et quod numquam post
hoc movebitur, negatur casus, quia non est dare ultimum instans rei
60 successivae.

Explicit tractatus de primo instanti per Lavinham.

III. NOTE AT THE BOTTOM OF S66v

Notandum quod est dare primum instans rei permanentis in esse
completo, et non quantum ad esse incompletum.

38 *tertia conclusio*: om. S, in mg. V. 39 *est dare*: om. V. 42 *non*:
om. V. *est*: in add. V. 43 *ergo igitur* V. 48 *sicut*: si V.
50 *sequeretur*: sequitur V. 53 *Quarta conclusio*: om. S, in mg. V.
dare: dare add. S. 56 *ergo igitur* V. *quod*: om. V. 58 *si*.
om. V. *post*: prius ante V. 59 *movebitur*: movebatur V.

Non est dare ultimum instans rei permanentis in esse, sed est dare
5 primum instans non esse rei.

Non est dare primum instans rei successivae nec ultimum, sicut non
est dare primum instans motus nec ultimum.

<TRACTATUS DE PRIMO INSTANTI, § 1.1, ALTERNATIVE VERSION>

S72v
V71vA

Ad cognoscendum quando est dare primum instans in quo et ultimum
in quo non, ponatur talis casus quod A et B sint duae aquae, quae fun-
dantur ad invicem. Tunc in hoc casu est dare primum instans in quo A
5 tanget B, sed non ultimum in quo non tanget B sive ultimum instans in
quo distabunt, quod idem est.

Quod probatur sic: quia si sit dare primum instans in quo A tanget
B et etiam ultimum instans in quo A distabit a B, tunc assigno primum
instans contactus per "D" et ultimum instans distantiae per "C". Et
V71vB arguo sic: C et D erunt duo instantia, et inter // omnia duo instantia
futura fluat tempus medium, ergo inter C et D fluat tempus medium.
Tunc noto illud tempus medium per "E", et quaero numquid pro E tempore
A distabit a B vel non. Si dicatur quod sic, contra: C instans erit
ultimum instans in quo A distabit a B, ergo pro E tempore, quod erit
15 post C instans, A non distabit a B. Si autem dicatur quod pro E tempore
A non distabit a B, contra: Si pro E tempore A non distabit a B, et pro
E tempore A et B erunt, ergo pro E tempore A erit immediatum B, et per
consequens pro E tempore A tanget B; consequens falsum, quia D erit
primum instans in quo A tanget B, et D erit post E, sicut patet ex casu.
20 Sequitur ergo quod non est dare ultimum instans in quo A <non> tanget B.

5 B ² : om. V.	6 distabunt: distabant V.	8 distabit: distabat V.
10 erunt: erant V.	11 medium: om. V.	13 a B: om. S.
14 instans: om. V.	ergo: igitur V.	15 autem: in mg. S.
17 ergo: igitur V.	20 ergo: igitur V.	A: om. S.

