ON THE MANUSCRIPT TRADITION OF BOËTHIUS DE DACIA'S "DE SUMMO BONO"

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> Skjøndt jeg saavidt muligt undgaaer at betræde Phylogenetikernes, af Stamtræer bestaaende, hellige Lunde, har jeg dog mange Gange været inde i dem, med tilstrækkeligt ringe Udbytte tilstaaer jeg. William Sørensen.

1. Boëthius de Dacia's "de summo bono" is being edited in the series Corpus Philosophorum Danicorum Medii Aevi by Mr. N. J. Green-Pedersen (G.P.), who proposes to treat in detail of the constitution of the text. The following pages aim to set out for reference some attempts to determine the overall traits of the tradition. The procedures presented, in contrast to those used in G.P.'s edition, do not generally rest upon evaluation of individual MS. readings. With this limitation, they appear suitable for clarifying some of the problems involved.

2. The following MSS. are to be discussed:

A	(ca.13oo,	earlier in Admont, Austria, now in New York)
D	(ca.13oo,	in Praha; presumably German handwriting
E	(ca.13oo,	earlier in Heilsbronn, now in Erlangen)
M	(ca.13oo,	in München)
P	(ca.13oo,	in Paris)
S	(ca.13oo,	in Pommersfelden near Bamberg)
X	(ca.13oo,	in Paris)
F	(13oo-135o,	probably written in Neuberg, Austria, now in Graz)
C	(ca.135o,	earlier in Melk, Austria, now in Chicago)
N	(ca.135o,	earlier in Windberg, now in München)
W	(ca.135o,	in Wroclaw)
V	(15th cent.,	in Wien; presumably German handwriting)
K	(1419,	written in Cracow and still there)
H	(ca.145o,	in Leipzig and apparently written there)
Z	(ca.145o,	earlier in Kamień, Pommern, now in Warszawa)
O	(145o-15oo,	in Mainz)
R	(145o-15oo,	earlier in Görlitz, Oberlausitz, now in Wroclaw)
T	(145o-15oo,	now in Trier, earlier in a monastery nearby)
Q	(ca.147o,	written in Cracow, now in Wroclaw)

Three further text-witnesses are known but omitted here, one being too fragmentary and the other two descending from MSS. already in the list.

3. Some points of terminology: A variation, e.g. among four MSS. named BLUY, may be described as BL:UY, which means that somewhere in the text BL have one reading, UY another. BL and UY, respectively, may be termed groupings in this variation. An occurrence of this situation at some definite point of the text is to be called an instance representing the variation. The number of instances of a variation is called its frequency. If, in a variation or an instance, one MS. has a reading against all the rest, the variation or instance is called singular. Instances are referred to by means of references like o5oA, where o5o is the line number in G.P.'s edition, and A is a distinguishing figure or letter. The text numbers 244 lines.

4. I use two overlapping collections of variations, sampled independently, and designated M1 and M2. They can be described as follows.

The collection M1 consists of 292 instances, 78 of which are singular; the remaining 214 instances represent 153 different variations. M1 is in fact the union of three subcollections, namely:

(a) 97 instances taken from lines 1-5o of the text, and with the references ooll-o5ol. 21 of these instances are singular. The selection was made with some regard to the distinctiveness of the readings, omitting instances whose variation was only due to orthographic trivia and the like.

(b) 98 instances taken from lines 5o-77 of the text, and with the references o5o2-o779. 38 of these instances are singular. The selection was made uncritically, accepting all instances.

(c) 97 instances taken from lines lo8-221 of the text, and with the references lo8l-22ll. 26 of these instances are singular. The selection was made carefully, with regard to the distinctiveness of the readings.

In M1, no account has generally been taken of lacunae or longer omissions in one or more MSS.; if such a defect has involved several instances, these have been disregarded.

Shorter omissions (or additions) have been treated as variant readings. Except in sub-collection (b), singular instances have been sampled only sporadically, and some instances of frequently occurring variations may have been omitted. In short, the collection M1 should be taken to contain almost all of the significant variations occurring in the parts of the text which have been examined, and should allow at least of some cautious statistical treatment.

The collection M2 consists of 2o instances, which represent 17 different variations and have been taken from throughout the text. They have the references oo1A-221B. For reasons to be given later, M2 takes into account only the ten MSS. ADEFMOPSTX. In the following table of the variations, their frequencies in M1 are also given, M1 having been restricted to the same ten MSS. The underscored groupings are judged to contain the true readings.

Reference	Variation	Other instances	Frequency in M1
oo1A	DEMOPSTX:AF		13
oo3A	DEMPS:AFOTX	118A	1
oo5A	EMOPSTX:ADF		1
o16A	DEMOSTX:AF:P	o29A (where the true	1
o16B	ADFOPTX:EMS	reading can be ident-	3
o2oA	DP:AF:EMS:OTX	ified)	1
o2oB	DOPTX:AF:EMS		-
o21A	ADEFMPS:OTX		8
o31A	AEFOPTX:DMS		1
o83A	ADFMOPTX:ES		8
o93A	DP:AEFMOSTX	1o1A	-
114A	ADFP:EMOSTX		-
115A	DFMPTX:AEOS		1
115B	DEPS:AFMOTX		1
182A	ADEFPS:MOTX		1
221A	DEPS:AF:MOTX		1
221B	DMOPTX:AF:ES		-

This selection comprises only the most distinctive variants and omits singular variations. Under these conditions, all variations with two or three groupings are believed to be represented.

In the parts of the text covered by both M1 and M2, M1 lacks two variations occurring in M2 (o2oB and 114A). Conversely, when M1 is restricted to the ten MSS. used in M2, it contains two more-than-once- occurring variations lack-

ing in M2 (0502, 0581 DEMOPSTX:A:F and 1721, 1831 ADEFMPSX: OT). This gives an idea of the completeness of the two collections.

5. Overall characteristics of the MSS. The variations in M2 are not all compatible with the assumption of one stemma, unless one also assumes contamination or fortuitous coincidences between MSS. This can be seen by simple inspection or by means of the procedure described in § 6. By the same procedure, I have elsewhere shown (Mus. Tusc. 23 (1974) 40-1) that of the 153 non-singular variations in M1, somewhat less than one half (or about one half of the instances) permit the assumption of one stemma under the same conditions. Accordingly, one has to assume extensive contamination and/or coincidences or independent corrections in the MSS.

In fact, G.P. is of the opinion that many MSS are apt to alter readings in order to get meaningful, and possibly correct, results. For example, D shows arbitrary alterations; M's alterations more often seem to aim at correctness. About some other MSS., e.g.P, such intentions need not be assumed. - With this in mind, we may consider some other characteristics.

In M1, every MS (except ORV, for reasons to be understood later) exhibits readings against all the rest. Q has 13 of these; the rest have 7 or less; due to the sampling procedure, conclusions from this are unwarranted. Generally, such singular variations will be disregarded from now on. Specifically, no one MS has been shown to preserve a true reading against all the rest. So probably no preserved MS. is the archetype. Further, when all MSS. agree, their common reading has been nowhere conclusively shown to be false. So the question remains whether one archetype may be assumed.

A search for intermediaries (in Quentin's sense) was made in both collections, with elimination of singular variations. The variations, not the instances, were counted. As for M1, if the null occurrence is set to 1 or less and the plus occurrences to 5 or more, it turns out that O is intermediary between T on the one hand and any of A,E,Z on the other;

that E is intermediary between S on the one hand and any of C, H, R, W, Z on the other; and that V is intermediary between R and S. In M2, if the null occurrence is set to zero and the plus occurrences to 2 or more, it turns out that M is intermediary between S on the one hand and either of T, X on the other. These results may be compared with the findings of §§ 6-7.

From the table of M2 it can be seen that P has all the true readings except once, and D all except twice. This suggests that among the ten MSS. included, P and D may be in some sense more central than the rest. In order to test this among all the MSS., a count was made in M1 of the number of deviations in each MS. from the majority reading (i.e. the reading of 10 MSS. or more). In M1, 194 non-singular instances have a majority reading. The numbers of deviations were the following:

P	E	D	O	M	S	T	X	F	A
9	12	16	18	19	22	26	29	32	33

K	C	N	Q	H	Z	W	R	V
49	63	71	75	82	89	102	107	108

So P had indeed the lowest number of deviations; but in general, these facts can be interpreted only when some further reservations have been made.

Table 1 presents, for every pair of MSS., the number of non-singular instances in M1 where they agree. (The maximum number possible is 214). The MSS. in the table have been arranged in an attempt to show which MSS. agree especially closely. This rearrangement can be performed in many ways, each of which has its defects. In this case, it was imagined that the numbers in the table stand for weights, and that the table is set spinning about the diagonal; an arrangement is sought which makes the table easy to stop again. The arrangement is found in steps, by systematically interchanging two MSS. at a time, and trying the spinning experiment once more. In the final arrangement, the greater agreement numbers will generally be near the diagonal, and so the closely agreeing MSS. will generally be near each other.

	A	F	X	T	O	S	D	E	P	M	K	C	Q	N	H	Z	W	V	R
A	0	195	154	154	159	163	167	169	170	157	122	103	102	99	82	77	73	67	66
F	195	0	158	158	159	161	169	170	172	159	122	105	102	101	86	79	78	65	64
X	154	158	0	189	193	160	164	166	174	167	125	110	100	106	91	86	81	67	67
T	154	158	189	0	204	161	169	168	176	173	127	113	103	107	90	82	82	68	67
O	159	159	193	204	0	164	172	174	180	173	126	114	104	108	92	86	83	68	67
S	163	161	160	161	164	0	175	195	179	176	136	118	110	118	93	89	87	78	74
D	167	169	164	169	172	175	0	184	190	178	135	122	117	115	103	97	91	78	79
E	169	170	166	168	174	195	184	0	190	182	143	125	116	119	101	96	92	81	81
P	170	172	174	176	180	179	190	190	0	185	141	124	119	121	106	102	96	83	83
M	157	159	167	173	173	176	178	182	185	0	137	119	114	115	102	97	93	84	84
K	122	122	125	127	126	136	135	143	141	137	0	170	149	149	125	121	115	94	96
C	103	105	110	113	114	118	122	125	124	119	170	0	134	147	133	128	123	93	97
Q	102	102	100	103	104	110	117	116	119	114	149	134	0	159	109	106	100	87	85
N	99	101	106	107	108	118	115	119	121	115	149	147	159	0	131	129	122	98	96
H	82	86	91	90	92	93	103	101	106	102	125	133	109	131	0	185	176	144	144
Z	77	79	86	82	86	89	97	96	102	97	121	128	106	129	185	0	167	136	136
W	73	78	81	82	83	87	91	92	96	93	115	123	100	122	176	167	0	130	129
V	67	65	67	68	68	78	78	81	83	84	94	93	87	98	144	136	130	0	200
R	66	64	67	67	67	74	79	81	83	84	96	97	85	96	144	136	129	200	0

Table 1. Agreements, all MSS, 214 instances.

From Table 1 it is seen that the ten MSS. ADEFMOPSTX agree among themselves more closely than does any of them with the rest. These will be termed the non-Delta Group. Subgroups of this group can be found: this will be done in § 6.

The nine remaining MSS., CHKNQRVWZ, agree more loosely among themselves in this material. G.P. is, however, able to show that these, too, may be said to constitute one group (in his edition named the Delta group). Indeed, they often agree in a false reading against all the rest, and nowhere can all or part of them be shown to agree in a true reading against all the rest.

This goes to show that the non-Delta group is in fact more central than the Delta group. As it happens, the above figures for agreements with the majority readings cannot be used to prove this; indeed, the majority readings are generally determined by the non-Delta MSS., these being ten in number and closely related. The figures still do show the centrality of the non-Delta MSS. P, E, D etc., and together with Table 1, they show very clearly which Delta MSS. are nearest to the non-Delta group.

6. Choosing the non-Delta group ADEFMOPSTX as the main point of interest, we may set out to determine its subgroups. When restricted to the ten MSS. in question, the collection M1 is reduced from 292 to 152 instances, the ten MSS. having the same readings in the remaining 140 instances. Out of the 152 instances in M1 (as this restriction will still be named), 77 are singular; the remaining 75 instances represent 44 different variations. Table 2 presents, for every pair of MSS., the agreements within this collection of 75 instances; the MSS. have been arranged as described for Table 1. Table 2 permits us to single out the groups AF, ES, DPM, and OTX, each having especially high internal agreements. Roughly the same results can be obtained by inspection of M2: here the groups AF, ES, and OTX are very clear indeed, while the MSS. M, D, and P are rather more vacillating.

	F	A	S	E	D	P	M	X	O	T
F	0	63	27	30	40	39	30	27	23	23
A	63	0	32	32	41	40	31	26	26	22
S	27	32	0	62	47	47	48	30	29	27
E	30	32	62	0	50	52	48	30	33	28
D	40	41	47	50	0	63	55	39	42	39
P	39	40	47	52	63	0	58	45	46	43
M	30	31	48	48	55	58	0	42	43	44
X	27	26	30	30	39	45	42	0	61	58
O	23	26	29	33	42	46	43	61	0	68
T	23	22	27	28	39	43	44	58	68	0

Table 2. Agreements, non-Delta MSS, 75 instances.

The question remains whether these groups can be fitted into some genealogy. Table 3, which concerns the variations in M2, may help to clarify this.

	0 0 2 0 0 0 1 0 0 0 1 2 1 0 0 0 1	
	2 1 2 0 1 2 1 8 2 9 1 2 8 0 0 3 1	
	1 6 1 1 6 0 4 3 0 3 5 1 2 3 5 1 5	
	A A B A B B A A A A B A A A A A A	
021A	 0	ADEFMPS:OTX
016A	 0	DEMOSTX:AF:P
221B	. . . . . 0 0	DMOPTX:AF:ES
001A	 0	DEMOPSTX:AF
016B	. . . . . 0 0 0 . . 0 0	ADFOPTX:EMS
020B	. . . . . 0 0 0 . . 0 0	DOPTX:AF:EMS
114A	. . . . . 0 . . 0 . 0 0	ADFP:EMOSTX
083A	. . . . . 0 .	ADFMOPTX:ES
020A	. . . . . 0 0	DP:AF:EMS:OTX
093A	. . . . . 0 0 .	DP:AEFMOSTX
115B	. . . . 0 0 0 . . . . . 0 0 0	DEPS:AFMOTX
221A	. . . . 0 0 . . . . . 0 0	DEPS:AF:MOTX
182A	. . . . 0 0 . . . . . 0 . 0 0	ADEFPS:MOTX
003A	. . . . . 0 . . . . . 0 . 0 . 0	DEMPS:AFOTX
005A	. . . . . 0 0 . . 0 . 0 0	EMOPSTX:ADF
031A	. . 0 . 0 0 0 0 0 0 0 0 . 0 . 0	AEFOPTX:DMS
115A	0 0 0 0 0 0 0 . 0 . 0 0 0 0 0 0 .	DFMPTX:AEOS

Table 3. Comparison of M2-variations.

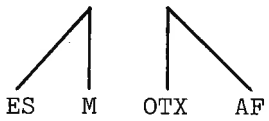
The rows and columns in the table stand for variations, each variation having the reference of one of its instances. A cell has been marked with a dot if the variations in the

corresponding row and column can be accommodated in any one stemma without assumptions of contamination, fortuitous coincidences, and the like; otherwise, the cell has been marked with a zero. To determine which case applies, consider, for example, the two variations 115B and 182A. They can be put down in parallel, MS. by MS., as follows:

115B M O T X A F : D E P S
182A M O T X : A F D E P S

without breaking up any grouping in either variation. In this case, and only then, shall we call the two variations compatible, meaning, as above, that there exists some contamination-free stemma allowing for both of them. On the same account, 115B is incompatible with, for example, 114A. - In Table 3, an attempt has been made to gather in the upper left corner a large set of variations, any two of which are compatible. This is clearly a necessary condition for all of them to be accommodated in a contamination-free stemma. The procedure has been to shift down the row with the largest number of zeros, and to shift to the right the corresponding column, and subsequently to continue this process in the remainder of the table. More sophisticated methods may be devised, and this application may seem trivial; but with larger sets of variations, as mentioned in the beginning of § 6, this procedure can be quite useful.

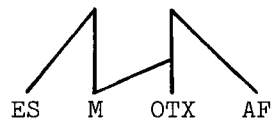
From the table one finds that the ten variations down to o93A are pairwise compatible. It is also seen that this set of variations remains as large as before if 114A (ADFP:EMOSTX) is left out, and oo3A (DEMPS:AFOTX) is added instead. This course may be chosen, as the variation DEMPS:AFOTX appears twice in M2 and so seems to be better attested. If so, part of a stemma may be constructed uniting ES-M and AF-OTX, as follows:



Because of their share in the true readings, D and P would seem to be located somewhere higher upwards, though it is

not certain where. It should be noted here that the union AF, OTX is less well attested than the union ES, M.

Table 3, and an inspection of M2, also shows that the three variations 115B, 221A, and 182A are incompatible with some of the others because M shares errors with OTX rather than with ES. It is a fair assumption, then, that M is a contamination of a text near ES and a text near OTX, for example:



while DP still cannot be located. - These conclusions are borne out by a similar examination of M1 (the relevant variations being, indeed, partly the same); they fail to account for four once-occurring variations in M2 (oo5A, o31A, 114A, and 115A) and for a great many once-occurring variations in M1.

In M2, there seems to be a tendency for M to share errors with ES mainly in the beginning of the text, and with OTX mainly in the later part. The same can be said about the few shared minority readings in M1. However, the two materials do not cover the text well enough to verify this impression.

D and P seemingly cannot be placed exactly in a system like this. In M2, they have the true reading almost everywhere; in M1 they have, except for E, the smallest numbers of deviations from the majority of all MSS. So any reading common to DP and some of the others is very likely to be original (or a fortuitous coincidence); this also means that it will carry less stemmatic weight than common errors. In a further attempt to place DP, a count of agreements was made in M1 when restricted to the MSS. shown in Table 4.
The MSS. are chosen as one representative from each group, including K from the Delta group, plus D, P, and M. When thus restricted, M1 comprises 38 instances of 32 non-singular variations. It turns out that DP have no especially great affinities outside themselves. - It cannot even be

	A	O	D	P	E	M	K
A	0	16	20	17	17	8	10
O	16	0	18	20	15	17	7
D	20	18	0	26	21	18	12
P	17	20	26	0	21	19	12
E	17	15	21	21	0	17	15
M	8	17	18	19	17	0	12
K	10	7	12	12	15	12	0

Table 4. Agreements, group-representatives, 38 instances.

proved that D and P are not contaminations themselves; at least, in M2, the conflict between oo3A and 114A could be due to this, and other examples might be found. In this case, however, the contamination is likely to have taken place fairly near the original, if the identification of the "true" readings in M2 is at all reliable. Further, one might suspect D's scribe of corrections (see § 5); this cannot be verified concerning the scribe of P.

This examination of the non-Delta group can be tentatively summarized as follows: No well-defined archetype can be postulated; but D and even more P seem to be near some kind of origin, and their readings should carry special weight. Next, the groups ES, OTX, and AF should weigh about equally, although an agreement AFOTX should not be given too great importance. M may generally be discounted, even supposing that M were an extra ancestor of ES, OTX rather than a contamination. The across-group agreements will be treated in G.P.'s preface.

7. Lastly, an attempt should be made to place the Delta group CHKNQRVWZ within the system. This group appears less unified than the non-Delta group. In fact, except for the variations in M1 where the trivial non-Delta subgroups ES, AF, or OTX have separate readings, almost all more-than-once-occurring variations in M1 exhibit a unified non-Delta group while some Delta MSS. have separate readings. The following is a list of these variations, with the three exceptions mentioned. "d" stands for the consensus of the non-Delta MSS.

Reference	Variation	Frequency
o151	d:CKNQHWZRV	12
o141	dCKNQ:HWZRV	13
oo14	dCKNQHWZ:RV	9
oo12	dCKHWZRV:NQ	6
o111	dCKNQRV:HWZ	2
o171	dCKNQ:HWZ:RV	2
1371	d:CKNQHWZ:RV	3
oo71	dCKNQZ:HW:RV	2
o451	dKQ:C:NHWZ:RV	2
o541	dCKNHZRV:Q:W	2
o362, 1623	ADEFOPSTX,CKNQ:M,HRVWZ	2

So far, most of this may be expressed in a pseudo-stemma NQ←CK→HWZ→RV, CK coming next to the non-Delta group. This fact also appears from Table 1 and from the figures in § 5 for deviations from the overall majority readings. Further, CNW are rather old MSS., RV and Q rather young MSS., with KHZ in between. So, generally speaking, the Delta group would seem to be connected with the non-Delta group only through some common origin, deteriorating independently from then on. A possible exception is the intervention of M at some point, as o362 seems to imply. But for this fact, no frequent or significant variations point to any connection of Delta (or part of Delta) with any specific part of the non-Delta group.

When viewed in more detail, as will be done by G.P., the picture so far remains one of utter confusion, with regard both to the inner structure of the Delta group and to the connections with non-Delta MSS. As an example, I show some variations from M2 when expanded to all MSS:

o2oA	DP:EMS,CKNQ:AF:OTX:H:WZRV
o2oB	DPOTX,NQHWZ:EMS,RV:AF,C:K
lolA	DP,CKQHWZRV:N:AFESMOTX
182A	DPAFES,CK:MOTX,NQ:HWZRV
221A	DPES,NQ:MOTX,CKHWZRV:AF

It may then be asked whether, in detail, the Delta group as a whole has particular affinities to some parts of the non-Delta group. As for K alone, Table 4 reveals no striking dissimilarities, considering that the numbers are all rather low. At most, the lower affinities are exhibited by the MSS.

which were in any case assumed to be non-central within the non-Delta group.

As a last check of this, consider the non-singular instances in M1 where all Delta MSS. agree, and some non-Delta MSS. share the Delta reading. There are 33 such instances. Here, the numbers of deviations from the Delta reading are the following:

P	D	E	M	S	O	X	T	A	F
3	5	5	5	7	15	15	16	16	19

For comparison as to centrality within the non-Delta group, consider the instances in M1 where neither the non-Delta nor the Delta MSS. agree within themselves. There are 34 such instances. Within these, the numbers of deviations from the non-Delta majority are the following:

P	D	O	E	X	M	A	F	T	S
3	4	8	9	9	1o	11	11	11	12

There is no great discrepancy. P and D, being the most central ones on this count, also share in the greatest affinity with Delta. At most, one might guess that Delta has a slightly stronger connection with EMS, and a slightly weaker one with O, than seems warranted by the centrality of these MSS.

For references to the literature, see my article in Museum Tusculanum (København 1974), pp. 34-42. - To the references add ERIC POOLE, "The computer in determining stemmatic relationships", Computers and the Humanities 8,4 (1974) 207-16: in that article and in the present one, similar topics have been treated in basically the same manner. The same is true for Kochendörfer's article in Ztschr. f. Deutsche Philologie 1971.