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«CORIANDRI BULLITI IN ACETO ET EXSICCATI.»  
AN ARNALDIAN TOUCHSTONE?

At some point in the years between 1305 and 1308, Arnau de Vilanova drew up a *Regimen sanitatis* aimed at maintaining his king Jaume II in health. In a chapter on sauces and condiments, Arnau warned the king that certain spices would aggravate the royal hemorrhoids, but he described one ‚salsamentum’ that the king could take without danger:

«Take two drachms of the whitest ginger, one drachm of coriander boiled in vinegar and dried, one-half drachm each of cardamon and white ‚been’, two drachms of ivory shavings, washed, a drachm each of cloves and saffron, and six drachms of the best cinnamon. Make this into a powder, and use it with ground almonds as a ‚salsamentum’.<sup>1</sup>»

A few years later, at the end of 1309, when he was on his way to meet the king at the siege of Almeria, Arnau drew up another much shorter regimen, this time intended to keep the army in health, and one of the items in the earlier recipe was here elevated into the status of a medicine. In order that the king’s warriors be preserved from pestilence, he advised, «universi cum cibo utantur pulvere coriandri, bulliti in aceto et exsiccati»<sup>2</sup> -this is the same ingredient that he had recommended to his monarch only a few years earlier. Taken together, these passages at the very least suggest that coriander boiled in vinegar, dried, and powdered, was a medicinal preparation that Arnau had come to value late in his career.

Recognizing that Arnau apparently found this drug useful leads naturally to a further question: might it be possible, then, to use this remedy as a touchstone to help in confirming as genuinely Arnaldian certain practical works that are traditionally ascribed to him, yet whose authenticity is nevertheless not as fully established as is that of his more theoretical writings? For example, the *Practica summaria seu regimen ad instantiam domini pape Clementis* has been generally accepted as Arnau’s work, though on what is admittedly relatively weak evidence, and its dedication to Clement V has also seemed questionable. It is

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1. «Recipe: zinziberis albisimi drachmas duas; coriandri bulliti in azeto et exsiccati drachmam unam; cardamomi, ben albi, ana drachmam semis; rasure eboris lote drachmas duas; gariofilis, croci, ana drachmam unam; zinnamomi electi drachmas sex. Fiat pulvis, et de ipso cum amigdalibus pistatis fiat salsamentum», ARNALDI DE VILLANOVA, *Opera medica omnia* (hereafter AVOMO), X.1, 460-461.

2. AVOMO, X.2, 133.

deeply interesting, then, to discover in the *Practica's* chapter *De vertigine* a recipe including «pul. coriandri preparati» (c. 3),<sup>3</sup> a second recommending that «contra lumbricos assiduetur sumptio coriandri preparati cum cibus, maxime in principio» (c. 11);<sup>4</sup> and, above all, in a treatment for a double tertian fever (c. 18), the use of «coriandri bulliti in aceto et exiccati sicci, scilicet quod coriandrum pulverizabitur.»<sup>5</sup> The regular use here of what we have already learned from independent evidence was a medicament that Arnau recommended more than once in the years 1305-10 not only strengthens the likelihood of the work's authenticity, it is also consistent with the dedication to Clement V, whose papacy began in 1305.

Or consider another regimen published under Arnau's name in his collected works, the *Regimen podagre*. At first glance this work appears to be simply a list of remedies, with no features that are distinguishably Arnaldian, but because manuscript copies also ascribe the work to him, it was accepted as genuine «con mayor o menor seguridad» by Juan Antonio Paniagua.<sup>6</sup> Subsequently Paniagua and Pedro Gil-Sotres called attention to similarities between the *Regimen* and Arnau's *Aphorismi extravagantes* on gout, further supporting the authenticity of the former; and Alberto Alonso Guardo has pointed out even more similarities between the two works.<sup>7</sup> In an even more recent paper Sebastià Giralt has shown that a powdered 'salsamentum' recommended in the *Regimen podagre* (based on coriander) is essentially identical to that prescribed in the *Regimen* for Jaume II, and he has agreed that for this and other reasons the *Regimen podagre* can now be confidently assigned to Arnau.<sup>8</sup>

This conclusion of course supports the idea that the coriander-recipe might help identify Arnaldian works more generally, but for our purposes it is particularly interesting that immediately after describing that 'salsamentum', the author of the *Regimen podagre* -Arnau de Vilanova- adds a personal remark:

«I often recommend (frequenter laudo) that they use prepared coriander, either in a comfit or taken by itself without sugar, before or after lunch or after supper, but without ingesting anything afterwards. Its properties are as follows. Coriander boiled in vinegar and then dried, if taken with food, first strengthens the mouth of

3. *Opera Arnaldi* (Lyons, 1520), fol. 205va. When Bernat Sarriera translated Arnau's *Regimen* for Jaume II into Catalan (before 1310, and thus in Arnau's lifetime and perhaps with Arnau's knowledge), he abbreviated Arnau's Latin phrase, 'coriandri bulliti in aceto et exiccati' simply as 'cilandre preparat': ARNAU DE VILANOVA, *Obres catalanes*, II (Els nostres clàssics, 56-57), Barcelona, Barcino 1947, 180.

4. *Opera Arnaldi*, 206ra.

5. *Ibid.*, 206va.

6. Juan Antonio PANIAGUA, *El maestro Arnau de Vilanova médico*, València 1969, 62.

7. AVOMO, VI.2, esp. 383-384; A. ALONSO GUARDO, *Los Aphorismi extravagantes y el Regimen podagre de Arnaldo de Vilanova. Estudio comparativo*, in «Actas del II Congreso Hispánico de Latín Medieval», I, León 1998, 201-207.

8. Sebastià GIRALT, *The consilia attributed to Arnau de Vilanova*, in «Early Science and Medicine» (in press).

the stomach and narrows it slightly; it prevents fumes from rising, preserves the ears from tinnitus, the eyes from dimness, the palate from rheum, the gums from putridity, the tonsils from swelling, the throat from quinsy; it enhances the appetite and results in a perfect digestion; it keeps food in the stomach and prevents it from escaping outside; it prevents the generation of worms and counters all poisons; it protects the spiritual members from poisonous apostemes; it effectively prevents the flow of humors to the joints; and it never allows the body to grow fat.»<sup>9</sup>

In the light of the favor shown to coriander boiled in vinegar by the *Regimen Almarie* and the *Regimen* for Jaume II, it seems not at all impossible that Arnau's 'frequenter laudo' may refer to those other references, and may therefore indicate that the *Regimen podagre* was composed after the *Regimen* for Jaume rather than before it. In any case, by going out of this way to emphasize that he has 'frequently' endorsed the use of coriander prepared in this way, Arnau encourages us still more to wonder whether it might not recur in some of his other practical works, and to think that its use might be a touchstone of genuineness.

In the article I have already referred to, Sebastià Giralt has also studied the question of the authorship of the *Consilium sive cura febris ethice* and the *Regimen sive consilium quartane* often ascribed to Arnau in manuscripts and early editions.<sup>10</sup> Although in the end Giralt hesitated to conclude definitively for the authenticity of either one, our coriander touchstone would suggest that they may indeed both be Arnau's works. The *Regimen quartane* closes with a 'salsamentum' that is at least reminiscent of the one recommended in the regimen for Jaume II:

«This is the recipe for salsamentum. Take two ounces of lesser cardamom, one-half ounce of coriander prepared 'secundum artem', one ounce each of the inner bark of cinnamon and of white ginger, two drachms of clean melon seeds, one drachm of 'acedula', two drachms of white or yellow saffron, and make a fine powder as a 'salsamentum'.»<sup>11</sup>

9. «Item, frequenter laudo ut utantur coriandro preparato condito vel solo sumpto sine zucaro confecto ante prandium sic, post prandium et post cenam, nihil superbibendo, cuius proprietates experite sunt he. Coriandrum bullitum in aceto et exiccatum si cum cibo sumitur primo orificium stomachi corroborat et moderate claudit; et fumos ascendere prohibet, aures a tinnitu, oculos a caligine, palatum a reumate, gingivas a putredine, amigdalas a tumore, guttur a squinantia; appetitum vivificat usque ad perfectam digestionem, cibum in stomacho retinet, ultra stomachum ipsum penetrare non permittit; lumbricos prohibet generari, venenis omnibus resistit; ab apostemate venenosu spiritualia protegit; superfluitatibus humorum ad iuncturas efficaciter obviat; pinguedinem corporis nunquam excedere sinit», *Opera Arnaldi*, f. 210va. The brief *Laudes coriandri* attributed to Arnau in a number of manuscripts proves simply to be this passage, extracted from the *Regimen podagre*; I have examined the text in Vat., Palat. 1240, f. 82v. I have found references to other copies in mss. Bordeaux 531, f. 81v; Tours 408, ff. 104-107; Vat., Palat. 1175, f. 89r-v; Vat., Palat. 1211, f. 179v; and Leipzig, Univ. 1182, f. 117bv; GIRALT, *The consilia*, has added two others, Vat., Regin. 198, f. 203r, and London, BL Sloane 3124, ff. 81v-82 and 182v-183r.

10. GIRALT, *The consilia*.

11. «Recepta salsamenti hec est. Rx. cardamo. mino. unc. ii, corian. preparati secundum artem unc. sem., corticis interioris cinamo., zinziber al. electi, ana unc. i, se. melonum munda. dr. ii, se. sedule dr. i, croci al. citri. dr. ii, fiat pul. salsamenti subtilis», *Opera Arnaldi*, f. 209vb.

The white ginger, the cardamom, the cinnamon, and the saffron in the recipe for Jaume are all repeated here, and the reference to «coriandri preparati secundum artem» strongly suggests a proprietary technique.<sup>12</sup> And the *Consilium sive cura febris ethice* uses 'coriandri preparati' in a powder to be used 'pro salsamentis' that matches Jaume's still more exactly:

«Take half an ounce of ginger, two drachms each of cardamom and ivory shavings, one ounce each of crocus and white 'been', two ounces of prepared coriander, make into a powder and create a 'salsa' with ground almonds.»<sup>13</sup>

Cinnamon and cloves are missing here, but the ground almonds are included, and the coriander is significantly referred to as 'prepared' -again, presumably, 'secundum artem'.

It might be, of course, that this coriander preparation was so widely used by physicians at the beginning of the fourteenth century that it cannot be understood as a distinctively Arnaldian recipe, but if we look at other 'regimina' published under his name in the sixteenth century, the results suggest otherwise. For dried coriander nowhere figures among the remedies listed in the *Tractatus contra calculum* or the *Regimen contra catarrum*<sup>14</sup> or the *Regimen contra tremorem cordis*, though all are included in the sixteenth-century editions of the *Opera Arnaldi*. Miguel Ángel González Manjarrés has already argued forcefully that the attribution of the first of these works to Arnau is apocryphal,<sup>15</sup> and Giralt has concluded independently that all three works were composed by Galvano da Levanto, a papal physician contemporary with Arnau, not Arnau himself.<sup>16</sup> The failure of these 'regimina' to recommend the coriander 'salsamentum', by itself, obviously proves nothing about their authorship, but in conjunction with Giralt's argument it must certainly weaken the presumption of their authenticity in comparison with that of the *Cura febris ethice* or even that of the *Regimen quartane*.

12. Accepting this coriander-recipe as an indication of the authenticity of the *Regimen quartane* is a little problematic, since it comes at the end of the work and is not obviously connected to what precedes it, as though it had been added to a previously existing work. However, this of course does not preclude Arnau's authorship, and it should be remarked that 'coriandrum preparatum' is also recommended in the body of the *Regimen*, as part of an electuary (f. 209ra). At the very least, these references indicate that the work deserves careful editorial study as very possibly by Arnau.

13. «Tunc licet uti pro salsamentis pul. subscripto: Rx. zinzibe. unc. sem., cardamo., rasure eboris ana dr. ii, croci, been albi ana unc. i, coriandri preparati unc. ii, fiat pul. et cum amigdalīs pistatis fiat salsa», *Opera Arnaldi*, 210ra. Earlier in the work the author has already recommended 'pul. coriandri' in at least three other mixtures.

14. To be sure, this work does recommend chewing coriander and keeping it in the mouth, and drinking 'aqua coriandri', but these are rather different remedies.

15. Miguel Ángel GONZÁLEZ MANJARRÉS, *Problemas de autoría en el Tractatus contra calculum, una obra atribuida a Arnaldo de Villanova*, in «Actas del II Congreso Hispánico de Latín Medieval», I, León 1998, 515-524.

16. Sebastià GIRALT, *El autor del Contra calculum y de otros tres tratados médicos: Arnau de Villanova o Galvano da Levanto?*, in «Sudhoffs Archiv» (in press).

It might also be true that the praise of coriander expressed in these works was a local phenomenon, though not a general European one, so that Arnau was simply repeating an endorsement that was widespread at Montpellier. But this too seems not to be the case. Arnau's contemporaries at the school did certainly make occasional medicinal use of prepared coriander. Henri de Mondeville, for example, who had studied there c. 1300, recommended 'coriandi sicci pulverizati' as an ingredient in a drink effective against bee-stings.<sup>17</sup> Bernard Gordon, Arnau's colleague on the Montpellier faculty of medicine, made references to it here and there in his *Lilium medicine* (1305): 'coriandrum siccum preparatum' was one of six constituents of a powder to be drunk as a treatment for a hangover; 'coriandrum preparatum' was one of seven ingredients used in a comfit to help indigestion, and was one of twenty in an electuary for hiccoughs.<sup>18</sup> But Bernard's citations are infrequent and far less explicit than Arnau's, and he did not recommend the medicine for the conditions Arnau addressed -hectic fever, quartan fever, vertigo. There is a distinctiveness about the Arnaldian passages that seems to confirm that even among his colleagues at Montpellier his enthusiasm for the virtues of prepared coriander was exceptional, and that it was peculiar to his practical medical writings.

The authorship (and to some extent the dating, or at least the sequence) of Arnau's works on medical theory -e. g., *De intentione medicorum*, *De humido radicali*, *De dosibus tyriacalibus*, the *Speculum medicine*- has been firmly established by a series of cross-references within these works, but hitherto it has been impossible to identify any comparable cross-references within his works on 'practica' that would serve the same purpose. Arnau's fondness for coriander, boiled in vinegar and dried, suggests that it may be possible to identify additional specific medicinal preparations that will help characterize his practice and further assist us in establishing the authenticity, or falsity, of the practical writings attributed to him.

17. *Die Chirurgie des Heinrich von Mondeville*, ed. Julius Leopold PAGEL, Berlin 1892, 302.

18. Bernard GORDON, *Lilium medicine*, Venice 1498, II.10, f. 26ra; V.2, f. 63rb; V.7, f. 66ra.