

THE EARLIEST  
Printed Book on Wine



# The Earliest Printed Book on Wine

By

ARNALD OF VILLANOVA

*Physician, Surgeon, Botanist, Alchemist & Philosopher*

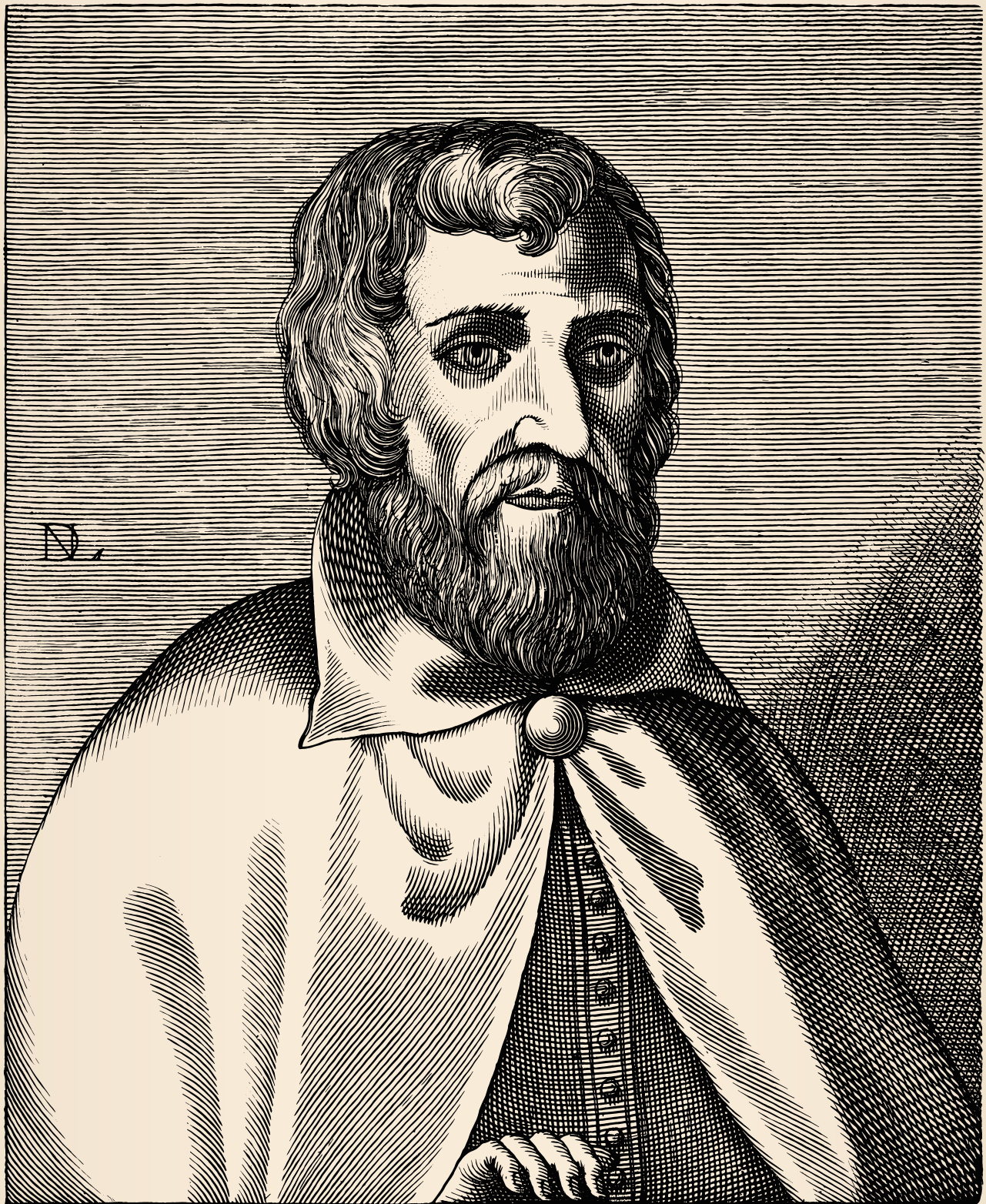
[1235? - 1311]

Now for the First Time  
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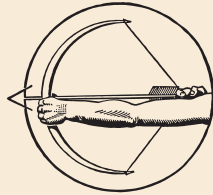


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ARNALD OF VILLANOVA

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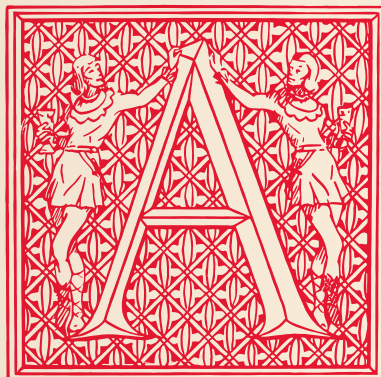
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DIGITAL FACSIMILE EDITION  
MMXXIII

# Introduction

## I

### ARNALD OF VILLANOVA



BRILLIANT scholastic physician, a prolific writer, adept in alchemy, astrology and magic, a lay theologian and reformer, adviser and ambassador of kings and popes, muddled at times, lying at times, Arnald of Villanova<sup>1</sup> was one of the most colorful figures of the Middle Ages.

Little is known about his early life;<sup>2</sup> even his birth year and birth place are uncertain. There were so many *novæ villæ*, “new burgs,” that the name is not sufficient to identify the place. From reliable contemporary sources it appears, however, that Spain was his homeland, that he came from a Catalan family and was born in the diocese of Valencia, probably between the years 1235 and 1240.

He was of humble origin and grew up in great poverty. In the preface of his treatise *De vinis* he mentions how he suffered in his youth all the anxieties of poverty.<sup>3</sup> He received his early education in one of the schools that the Dominicans had for poor boys. All his life he wrote a miserable Latin. We know little about his medical training, some of which he may have taken at Naples and some at Valencia where he mingled with Arabic physicians. Valencia had been conquered by the House of Aragon but many Moorish scholars had remained after adopting the Christian faith in order to be left in

<sup>1</sup> In manuscripts and prints the name is frequently spelled *Arnaldus Villanovanus*, sometimes it occurs as *Arnaldus de Villa Nova*, or *de Nova Villa*. The spelling *Arnoldus* is also found occasionally.

<sup>2</sup> For the biography see: Menendez Pelayos, *Historia de los heterodoxos españoles*, Madrid, 1880; Barthélemy Hauréau, “Arnauld de Villeneuve,” in: *Histoire littéraire de la France*, Paris, 1881, vol. XXVIII, pp. 26-126; Paul Diepgen, *Arnald von Villanova als Politiker und Laientheologe*, Berlin-Leipzig, 1909; Paul Diepgen, “Studien zu Arnald von Villanova,” *Archiv für Geschichte der Medizin*, 1910, vol. III, pp. 115-130, 188-198, 369-396; 1912, vol. v, pp. 88-120; 1913, vol. vi, pp. 380-400; Paul Diepgen, “Die Weltanschauung Arnalds von Villanova und seine Medizin,” *Scientia*, 1937, vol. 61, pp. 38-47. The thesis of E. Lalande, *Arnauld de Villeneuve, sa vie et ses oeuvres*, Paris, 1896, is quite uncritical and full of errors.

<sup>3</sup> The preface is not included in the German translation.

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peace. There is no doubt that Arnald knew the Arabic language and had thoroughly studied the Arabian masters. Later as a teacher in Montpellier and in his writings he showed himself to be one of the chief transmitters and interpreters of Arabic medicine.

For a period of over thirty years Arnald's life is hidden in darkness. And then suddenly, in 1285, we hear of him as a famous physician who was called to Villafranca to treat the King of Aragon, Peter III. What had happened to him during that period we shall probably never know, but it is obvious that fame did not come by itself. Arnald was ambitious and determined to get ahead in the world, to acquire wealth and fame, and those must have been years of hard work, of medical practice and study in a great variety of fields.

He then went to Montpellier where he spent many years practising medicine and teaching at the University. Montpellier was with Salerno one of the early centers of medical instruction. The Medical School antedated the University. *Magistri physici* are mentioned in documents as early as the tenth century. A free association of physicians similar to that of Salerno must have developed. An edict of 1180 decided that every physician, regardless of his origin, should be entitled to teach medicine without being molested. In 1220 the *Universitas Medicorum*, the Medical School was chartered formally, and in 1289 the University. It may well be that Arnald joined the faculty just at that time. He contributed greatly to its reputation which attracted students from all over Europe.

In 1299 a new period began in Arnald's life when he was sent to Paris as ambassador of James II of Aragon with a mission to the King of France—a new period with endless trouble. The mission concerned minor border litigations and did not create any difficulties—but the Parisian Dominicans did. Arnald had written several theological treatises. In one of them he had predicted the advent of the Antichrist and had even set a date for it. The Antichrist was to appear in 1378. This was unorthodox and on December 18, 1299, Arnald was invited to meet the chairman of the Inquisition. He came and was arrested. He was released the following morning upon the intervention of influential friends, the bail having been set at three thousand pounds. But he was tried and convicted. The incriminating treatise was condemned and was to be burned. Arnald protested against the sentence, point-

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ing out that he was the ambassador of a king, but from that time there was a permanent feud between him and the Dominicans. They were after his skin, but they never succeeded as long as he was alive because he always enjoyed the protection of powerful rulers.

Upset about the sentence Arnald decided to seek the intervention of the Pope, Boniface VIII, and he went to Rome in the beginning of the year 1301. The Pope solved the question in a diplomatic way. He declared that he approved of the verdict of the Paris Inquisition, but that he himself did not condemn the treatise. The Pope was a sick man; he was suffering from a chronic stone disease and was anxious to have Arnald's advice. Arnald's treatment brought him relief and he appointed him physician in ordinary, a position that he held until the spring of 1302.

From 1302 to 1311, the year of his death, we find Arnald in high positions in the service of popes and kings, treating their ailments, interpreting their dreams, serving on political missions, and writing book after book. His feud with the Inquisition continued; at times he was arrested but always released.

He served the Popes Benedict XI and Clement V, whereby he tried to convince the latter of the necessity of reforming the Church. He was at the court of James II of Aragon and at the court of Frederick III of Sicily. His religious ardor was so forceful that both the Queen of Aragon and the Queen of Sicily sold their jewels and reformed their courts. In 1310 he wrote a famous memorandum for Frederick III in which he suggested far-reaching reforms in the government of Sicily. The State was to be administered along Christian lines, and the King through the purity of his private life was to set an example to his subjects. It was in the spirit of the time that Jews were to be requested to become Christians within a year or to leave the country. Similar regulations had been passed in England and France a few years before. It also was to be forbidden for Christian patients to seek the advice of Jewish physicians. Arnald's vicious justification of this point was that it was impossible "to have faith in those who had not the faith, nor could those be loyal to others who had surrendered their Lord."<sup>4</sup>

Arnald's recommendations were actually put into practice, and he thus

<sup>4</sup> In hiis confidere non possumus qui fidem non habent, nec alis poterunt esse fideles, qui eorum dominum prodiderunt. *Acta Aragonensia*, ed. H. Finke, Berlin-Leipzig, 1908, vol. II, p. 698.

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exerted a great influence in the Kingdom of Sicily. He was also repeatedly in touch with Robert of Anjou, King of Naples, the protector of Petrarch and Boccaccio, friend of the arts and sciences. Although never in Robert's service, Arnald dedicated several of his writings to him.

Arnald's enemies would have liked to see him end by burning at the stake, but destiny had another death in store for him. He was drowned in the Mediterranean on one of his numerous sea voyages in sight of the shore, early in December 1311, and was buried in Genoa.

Physically he had escaped the Inquisition but his books were still very much alive and the more dangerous since many had been written in the vernacular, in Catalan, so that they could poison the minds of lay people and even women. On November 8, 1316, the Inquisition, at a session held in Tarragona, condemned thirteen of his theological writings as being heretic. The Dominicans had triumphed over him at last. But his other works remained and carried his fame through the centuries. He was remembered particularly as one of the great physicians and medical writers of the period.

### II

## THE TREATISE ON WINES

ARNALD OF VILLANOVA was a very prolific writer. Hauréaus<sup>5</sup> discusses seventy-eight printed and forty-five unpublished or lost writings attributed to him. While there can be no doubt that many of them are spurious, nevertheless his literary production was certainly very considerable.

Most of his works are preserved in numerous manuscripts; nine were printed before 1500.<sup>6</sup> An Italian physician from Genoa, Thomas Murchi, who in his travels had collected manuscripts of Arnald, published after four years of research fifty five of his treatises in Lyon in 1504 under the title *Hæc sunt Arnaldi de Villanova quæ in hoc volumine continentur . . .* The book was reprinted at Venice in 1505, again at Lyon in 1509, and in 1520 an edition was brought out in Lyon with several additional treatises and a very uncritical life of Arnald by Symphorien Champier. This new edition was reprinted at

<sup>5</sup> *Op. cit.*, pp. 50-126.

<sup>6</sup> See *Gesamtkatalog der Wiegendrucke*, vol. 11, Leipzig, 1926, col. 684-699.

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Lyon in 1532 and at Basle in 1585 with notes by Nicolas Taurellus. In 1586 the medical and the non-medical writings were printed separately in two volumes, again in Lyon.<sup>7</sup>

The *Liber de vinis* appears in all these editions, but it had been printed separately before, around 1500, by Félix Baligault in Paris for Claude Jaumar and Thomas Julian. The title was: *Incipit tractatus de vinis editus a Magistro Arnaldo de Villa Noua*.<sup>8</sup> It was printed again at about the same time in Leipzig by Melchior Lotter as *Arnaldi de Villanova liber de Vinis* and again around 1500 in Lyon together with the *Regimen Sanitatis* of Magninus and a number of other treatises.<sup>9</sup>

The text of the first edition and that of the Opera, although they undoubtedly reproduce the same treatise, are not absolutely identical. They were printed from different manuscripts and show the usual variations. The introduction is missing in the first edition and the later prints have a few additional chapters.

The treatise is dedicated to a king who is not named in the Latin editions. We must try to find out who the king was since this will help in dating the text. The German edition calls Arnald “eminent physician of the king of France” and states that the book was written for the King of France who would have been either Philip III (1270-1285) or Philip IV (1285-1314). This obviously cannot be correct because we know that Arnald was never in the service of the French court. He was in Paris on a diplomatic mission in 1299 when he had so much trouble with the Inquisition, but he was not “physician to the king of France.”

A Hebrew manuscript of the Bibliothèque Nationale<sup>10</sup> that contains an abbreviated translation of *De vinis* is more helpful. It names Robert of Naples as the king to whom the treatise was dedicated, and this is highly probable because Arnald dedicated other short treatises to the same king such as *De conservanda juventute et retardanda senectute* and the *Epistola super alchymia ad regem Neapolitanum*.

<sup>7</sup> Hauréau, *op. cit.*, pp. 50-51.

<sup>8</sup> Gesamtkatalog no. 2535. A copy is at the Library of Congress, photostats at the Johns Hopkins Institute of the History of Medicine.

<sup>9</sup> Arnold C. Klebs, “Incunabula Scientifica et Medica,” *Osiris*, 1938, vol. IV, p. 212.

<sup>10</sup> Fonds hébreux, no. 1128.

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If this is correct, and I have no reason to doubt it, we can date the treatise with fair accuracy. Robert of Anjou became King of Naples in August 1309 and Arnald died in December 1311, so that the book must have been written between 1309 and 1311.

Arnald's mention that he wrote the book in Africa fits these dates very well. In the Latin dedicatory preface<sup>11</sup> he said: *indiscretus fortunæ impetus . . . commovit super me aquilonem et duxit me in Africam ad miseriam ipsam*. In other words, he was sailing in the Mediterranean when he had the bad luck to be driven by the north wind to the African coast where he lived in utter misery. While waiting to be rescued, he wrote the book and found great consolation in doing it.

Now we know that Arnald travelled extensively from 1309 to 1311. In August 1309 he was in Avignon where he had diplomatic missions to Clement V and Robert of Naples. From there he went to Sicily. At the end of the year he sailed from Sicily to Almeria in Spain, and in January 1310 he sailed back to Sicily. Robert shared his interest in alchemy, and there can be no doubt that Arnald made frequent trips to Naples while he was at the court of Frederick III in Sicily. It is therefore very possible that the accident that drove him to Africa occurred on one of these many voyages.

In writing the *Liber de vinis* Arnald wrote a purely medical book. He was not interested in wine as a beverage but only in medicated wines that were to be used in the treatment of disease or as part of an individual's regimen.

Wine took an important place in ancient dietetics, and the custom of adding spices and drugs to wine is very old. Some of these medicated wines, particularly the *condita* which usually contained pepper, were drunk as appetizers.<sup>12</sup> There is a straight line of development from these early *condita* to our present vermouths, Dubonnet, Pernod, Bitter Campari, and similar aromatic wines. The tradition persisted particularly in the Mediterranean countries while the northern and Anglo-Saxon countries came to prefer hard liquors as appetizers and developed the cocktail.

Other ancient medicated wines were straight remedies prescribed by

<sup>11</sup> Not in the German edition.

<sup>12</sup> See the note of Bussemaker and Daremberg in their edition of Oribasius, vol. i, p. 649, where a number of ancient sources are listed.

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physicians to their patients. Dioscorides, Galen, Oribasius, Actius, Paulus of Ægina and other medical writers have numerous recipes for the preparation of such wines, and they also discuss the diseases for which they were supposed to be good. The mediæval physicians followed the ancient tradition. The medical use of wine is mentioned in all *regimina sanitatis* and recipes for the preparation of medicinal wines occur incidentally in the works of many mediæval medical writers. Arnald's little treatise, however, was one of the first devoted exclusively to the subject and bearing his name soon became authoritative.

Arnald was, of course, familiar with the ancient medical literature as far as it had been translated into Latin or Arabic. His treatise, however, is refreshingly original. He incidentally quotes Hippocrates, Dioscorides, Galen, Macrobius, but apparently from memory, and he never copies them. His book reflects the knowledge of his days and his own personal experience. He mentions cases, the lady from Paris who was crazy at times, the cardinal who had urinary troubles; and he often speaks in the first person singular: *ego probavi, non inveni magis præsentaneum remedium . . .* His theoretical views obviously were the traditional Galeno-Arabic ones. Drugs had elementary qualities, so had humours and diseases, and the treatment was according to the principle *contraria contrariis curantur*. In recommending the wines Arnald was certainly not very critical. Some were presented as regular cure-alls, but this was also in the spirit of the day.

Two points in the book call for particular mention. One is the reference to *ocularii* or eye glasses. In the chapter *De vino eufrasiæ pro oculis*, On Eyebright Wine, Arnald says that reliable people who were unable to see without eye glasses could read small letters without glasses after having taken the wine. Spectacles came into use between 1280 and 1300, and Arnald's book written around 1310 is undoubtedly an early testimony to the use of glasses.

The other point is the repeated reference to *aqua ardens*, to alcohol. Although the distillation of wine had been practised for several centuries, and Thaddeus Florentinus (died 1303) had written a *concilium de virtute aquæ vitæ, quæ etiam dicitur aqua ardens*, alcohol was not yet in general use.<sup>13</sup>

<sup>13</sup> E. J. Rau, *Aerztliche Gutachten und Polizeivorschriften über den Branntwein im Mittelalter*, Leipzig thesis, 1914. A treatise *De aqua vitæ* was published in Venice in 1477 under Arnald's name, but its authorship is uncertain.

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The reference to alcohol may be due to the fact that Arnald was not only a physician but also an alchemist. This and the fact that he was interested in astrology is also reflected in the chapter *De vino extinctionis auri*, Wine in which gold has been quenched. The wine was a remedy for the heart because according to the alchemists and astrologers gold was the metal that corresponded to the heart, and the sun, the planet of gold, governed the blood.

Arnald's treatise on wines was soon popular. It described remedies that could be prepared not only by apothecaries but also by lay people. It was tempting therefore to have it translated into vernacular languages.

### III

#### THE GERMAN EDITION

ARNALD'S *Liber de vinis* was translated into German by Wilhelm von Hirnkofen,<sup>14</sup> called Renwart. All we know about him is what he tells us in the preface to the book. His father, Jorig von Hirnkofen, became known for military deeds in Nürnberg where he was given the surname Renwart.<sup>15</sup> He then was for thirty years in the service of the free city of Ulm in Suabia, apparently in a military capacity. His son Wilhelm went back to Nürnberg and was in the service of that city in 1478.

In the fifteenth and early sixteenth centuries Nürnberg was one of the best administered and most flourishing German cities. It was an important trading center, serving like Augsburg as an intermediary between Venice and the north. The arts and crafts were highly cultivated, and the city has some of the most beautiful Gothic buildings of the country. Famous scholars lived in Nürnberg such as the mathematician Regiomontanus, the cosmographer Martin Behaim, the humanists Willibald Pirckheimer and Hartman Schedel.

We do not know what office Wilhelm von Hirnkofen held. He certainly was an educated man who knew Latin and read a great deal. He may have been a clerk or a lawyer such as every city required for its administration. We know that he was not a physician because he was afraid that the physicians might resent his translating a medical book. He undoubtedly was a connois-

<sup>14</sup> In the first edition of 1478 the name is spelled once Hirnkofen and once Hirnkofer.

<sup>15</sup> The name is mentioned twice in the preface; once it is spelled Renwart and once Rennwart.

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seur not only of beer for which Nürnberg was famous, but also of wines. The city had vineyards and was not far from one of the best wine regions of Germany.

During a period of leisure Hirnkofen translated Arnald's treatise from a manuscript that he had found. He completed his work soon after the 2nd of October, 1478, and dedicated it to his employers, the mayor and counsellors of the city. It is worth noting the difference in tone between the dedicatory preface of Hirnkofen and that of Arnald. Arnald's servility is repulsive when he calls himself a humble little slave who always wished to kiss the earth before the feet of the sacred and ever victorious majesty,<sup>16</sup> while Hirnkofen's preface is dignified. This shows the whole difference between serving a king in the early fourteenth century and serving a free imperial city in the fifteenth century when the guilds had their representatives in the city council.

When we compare the German translation with the Latin original we soon find that the texts differ considerably. Hirnkofen's book is divided into the following seven sections:

1. Gathering of grapes and preservation of wine.
2. Signs indicating that wine is spoiling.
3. Restoration of spoiled wine.
4. Drawing off wine from one keg into another.
5. Changing the color and taste of wine.
6. Medicinal wines.
7. Making of vinegar and the preservation of beer.

Of these seven sections only one, the sixth, renders Arnald's text. The other sections, almost one half of the book, are new and have no connection with Arnald whatsoever.

The examination of the actual translation contained in section 6 shows that Arnald's text has been abbreviated considerably. The German edition has only twenty/six of the forty one wines of the first Latin edition, of the forty nine wines of the Opera of 1585. The translation of the text of the

<sup>16</sup> Sacrae ac semper victoriosae regiae maiestati vestrae humilis servulus terrae osculum ante pedes desideravi iam dudum desiderio cordis mei . . .

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individual wines is rather literal as a whole although there is a tendency to abbreviate here also.

But what about the other six sections of the book? They are not medical in any way but give us a splendid insight into the highly individualistic art of wine making. In those days many people, even city people, did not buy wine in the store. If they did not have their own vineyards, they bought grapes from the farmers and made their own wine. Or if they bought wine from the wine dealer, they bought it not in bottles but in barrels. And wine in barrels had to be watched. Hirnkofen's book, therefore, must have been a most welcome manual to all people who handled wine. It gave sound advice and many useful recipes for its preservation and restoration. Picturesque details add to the charm of the booklet, as when we are told how wine dealers tried to cheat their customers by giving them certain foods before they tasted the samples.

The question arises as to Hirnkofen's sources. Since only one half of the book is by Arnald, who wrote the other half? Did Hirnkofen himself do it, or did he translate from some other source?

In his preface Hirnkofen stated that he simply translated Arnald's treatise from Latin into German, and at the end of the preface he emphasized that he did not write the original and did not add to it or omit anything from it *without necessity*. This may or may not be true. It is quite possible that he had a Latin manuscript which already was a compilation from different sources but went under the name of Arnald, and that he translated it *bona fide* without realizing that only part of it was by Arnald. In that case, however, he should have noticed that there is a definite break in the book, namely, between section 5 and 6. In the beginning of the section on medicinal wines the text reads: "And now *in the beginning of this treatise* it shall be said how wine must be prepared with roots and herbs to serve the body's health." This is a rather startling sentence since it occurs not in the beginning but toward the middle of the treatise. It does mark the beginning of Arnald's treatise but not that of Hirnkofen's presentation, and is definite evidence that the German edition consists of several sources.

It is also possible, although not very probable, that Hirnkofen was the compiler, that he felt the necessity to omit passages from Arnald's text and to add the text on the preservation and restoration of wines, whereby he let the

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whole treatise go under Arnald's name in order to give it more authority. Such well meant frauds were customary at that time.

I think the possibility of Hirnkofen being the author of sections 1-5 and 7 can be excluded. If he had written them he would have written them in German directly, while the text impresses you strongly as being translated from the Latin. This becomes evident not so much from references to Socrates and Plato as rather from such passages as "the north wind or the wind called Aquilo," "the wind called Auster, which comes from midday," or "midnight, Septentrio in Latin."

In order to solve the problem of Hirnkofen's sources outside of Arnald, we must consult the wine literature of the late Middle Ages. It is obvious that other treatises had been written on the subject. Most of them are in manuscripts and have not yet been published. But there is one interesting little treatise which was printed, first probably in Rome and probably around 1480. It was reprinted in Padua in 1483 and in Rome in 1495.<sup>17</sup> It is anonymous and has the title: *Tractatus de vino et eius proprietate*. It begins with a preface which reads in English translation:<sup>18</sup>

I have understood that the human race suffers in our days from many diseases and incurs considerable harm which in my judgment and opinion comes from no other cause than bad management of drink. I have decided to obviate this and have set myself the task of composing a little treatise on the preservation of wine which I think will bring benefit if not to all, yet to the majority of people. If they clearly understand the precepts set forth in this treatise they will not experience such great harm in general and will escape the very serious diseases that had resulted from this cause. Farewell in happiness.

Then follows a table of content including twenty-one chapters, and the text begins: *De vindemiis Capitulum primum. Primo nota de vindemiis quod vina que ante plena maturitate fuerunt collecta, infirma efficiuntur . . .*

<sup>17</sup> Klebs, *op. cit.*, 1038. 1-4. A copy of the first edition is at the Huntington Library, one of the edition of 1495 at the Library of the College of Physicians of Philadelphia. I am greatly indebted to Dr. W. B. McDaniel, 2d, for having sent me photostatic copies of the latter edition.

<sup>18</sup> Genus hominum hac nostra etate multis laborare egritudinibus: damnaque incurrere non modica accepi que mea sententia ex alio evenire opinor nullo quam ex gubernatione mala potus. cui rei ego subvenire proposui. tractatulumque de vini conservatione componere statui qui licet non omnibus maiori tamen parti hominum utilitatem conferre arbitror. si precepta in eo posita sane intelligent nec decetero tam magna damna percipient: morbosque maximos qui ex hoc effectu causati fuerant effugient Vale felix.

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A comparison of this Latin treatise with Hirnkofen's book reveals that the Latin text is identical with Hirnkofen's sections 1-5 and 7. There are slight variations, minor additions and omissions, as always occur in this kind of text, but there can be no doubt as to their identity.

Now we have Hirnkofen's second Latin source and we can imagine what the literary process must have been. In the middle of the fifteenth century there were manuscripts of Arnald of Villanova's treatise on medicinal wines but there was also an anonymous manuscript treatise on the preservation of wine. I cannot find who the author was. He may have been a fifteenth century Italian since all prints were made in Italy. The references to Plato and Socrates would point to an early humanist. Then someone, again we do not know who it was, had the idea of combining the two treatises for the greater benefit of the reader. Since one treatise had a name attached to it and the other did not, the whole compilation went under the name of Arnald. Hirnkofen obtained a manuscript of that compilation and translated it faithfully from Latin into German as he tells us.<sup>19</sup> The Latin compilation was never printed and was therefore known only to the few people who had manuscripts of it. Hirnkofen's German translation was printed and therefore became very popular.

There is one last problem which I am unfortunately unable to solve at the moment. Sudhoff mentions a print of 1497,<sup>20</sup> a booklet of eight leaves printed in Erfurt by Hans Sporer under the title: *Von Allen gebrechen der wein: Wie man in helfen sol mit bewertter meysterlicher Und Natürlicher kunst: On. alle böse Schmir: Zw bewaren die gesuntheit der menschen.*

This little booklet may be another German translation of the Latin treatise *De vino et eius proprietate* or may have some connection with it, but I cannot ascertain this because the book is not in any American library and in these days of war it is impossible to consult European libraries.

By translating the compilation on wines that went under Arnald's great name and by succeeding in having it printed, Hirnkofen produced a little book which soon became tremendously popular. The first edition was printed

<sup>19</sup> The possibility of Hirnkofen having been the original compiler who first combined the two treatises cannot be excluded, although to me it seems rather unlikely in view of the preface.

<sup>20</sup> *Deutsche medizinische Inkunabeln*, Leipzig, 1908, no. 136, pp. 131-133.

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without indication of place and year, but actually soon after October 2, 1478, in Esslingen by Konrad Fyner. Eleven editions were published from 1478 to 1500 and ten more from 1503 to the middle of the sixteenth century.<sup>21</sup> Twenty one editions in less than a century was indeed a great success.

### IV

#### REMARKS TO THE PRESENT EDITION

THE PHILOLOGIST does not like the idea of translating a translation. When Henry Schuman asked me to translate Arnald's wine book into English from the first German edition I was shocked. I felt that if the book was to be translated at all, it should be from the Latin original. I looked up the Latin prints, found that they differed a great deal and decided that a critical edition had to be made first before a translation could be attempted. A critical edition, however, would require a survey of all existing manuscripts, traveling to European libraries, the collecting of photostats and microfilms, whereupon it might be possible to reconstruct the original text which then would be published with an *apparatus criticus* indicating the variants of all important manuscripts. Then and then only would it be permissible to translate Arnald's treatise into English. But was the text worth all this trouble: Philologists are very conscientious and consequently leave a great deal of work undone. I decided that the text was not worth the trouble and, besides, I probably felt unconsciously as a result of my past philological training that people who cannot read Latin do not deserve such texts anyway. And so I wrote to Henry Schuman that much to my regret I was unable to undertake the job.

If philologists are conscientious, publishers are persistent. Henry Schuman did not give up, but sent me a photostatic copy of the first German edition in order to tempt me. I read it and was delighted. This was much more than Arnald: it was a book of its own. It discussed not only medicated wines for melancholics or splenetics that you drink when you have a stomach ache, but wine at large, real wines that you drink for the joy of it. I soon overcame my scruples and undertook the job.

<sup>21</sup> Sudhoff, *op. cit.*, pp. 133-138.—*Gesamtkatalog der Wiegendrucke*, vol. II, Leipzig, 1926, cols. 694-699 [See the explanation in col. 694 for the irrelevant eight lines at the bottom of page 46].

## Book on Wine

A reproduction of the first German edition is more than justified, not only because it is the earliest printed book on wines but also because it is very rare. Books like this one that served a practical purpose were used up. There are still many excellent copies of Vesalius' *Fabrica* because the number of people who read the book from cover to cover repeatedly was relatively small. The *Epitome*, however, that served a practical purpose and was used in the dissecting room is very rare. In a similar way Hirnkofen-Arnald's little book must have been read by many people who took it down to the cellar when they went to inspect their wines or consulted it when they needed vinegar, when something was wrong with their beer, or when some member of the family was ailing.

I am sure that the English translation will also be welcome because even those who know modern German well will find Hirnkofen's fifteenth century south German anything but easy. I freely confess that the translation gave me many a headache. The Latin text of Arnald was a great help whenever Hirnkofen follows it closely, but this is the case only in part of the book and I do not think that I would have succeeded if I had not been thoroughly familiar with the Swiss German dialects and the language of Paracelsus. Even so, I hope that I have not blundered too egregiously.<sup>22</sup>

Once more I wish to express my appreciation to my co-worker, Genevieve Miller, for the effective help she has given me in the preparation of the translation as well as of the introduction. And Henry Schuman is to be congratulated on his initiative.

We all hope that this little book will find many friends. It will tell them how centuries ago people cared for their wines and nursed them; and its medical section may even give them suggestions on how to improve their cocktails to the benefit of their livers, spleens, brains and other organs.

HENRY E. SIGERIST

*The Johns Hopkins Institute of the History of Medicine*  
*January 1, 1943*

<sup>22</sup> Unfortunately, I found the Latin original of sections 1-5 and 7 only after I had completed the translation, but it gave me a welcome opportunity to check the translation and to improve it in a few dubious points.

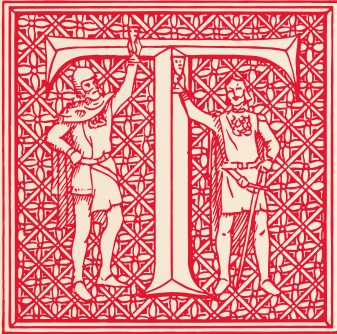
ARNALD OF VILLANOVA'S  
*Book on Wine*



TRANSLATED INTO ENGLISH FROM  
THE GERMAN VERSION OF WILHELM VON HIRNKOFEN  
BY HENRY E. SIGERIST, M.D.

FOLLOWED BY  
A FACSIMILE OF THE EDITIO PRINCEPS  
ESSLINGEN, KONRAD FYNER, 1478

## Book on Wine



O THE prudent, honorable and wise Mayor and Counselors of the praiseworthy city of Nuremberg, my very dear Lords and Masters, I, Wilhelm von Firnkofen, called Renwart, offer joyfully my services as is my duty at any time and in full devotion. When I recently entered the service of Your Wisdom and was inactive for awhile, I nevertheless did not wish to remain idle, remembering the words of the sacred teachers who said that when the human mind is idle it is tempted by many evils and succumbs to them. Conforming to an old habit that drives me to read whenever I have the leisure, I looked up several books and found a Latin treatise by a very learned physician called Arnoldus de Nova Villa dedicated to the King of France, about kinds, qualities and the preparation of wines, also how to make and use such for the body's health. And since it appeared to me that it was useful to human reason to have knowledge of such subjects, I have, for my own amusement and in honor of Your Prudent Wisdom, simply translated this treatise from Latin into German, and I did not want it to get into anybody's hands before it had reached Your Prudence first of all. I transmit it herewith to Your Wisdom in good intention, in case Your Wisdom all or some of you wished or felt like preparing and using wine following these instructions, for your own benefit or that of others particularly dear to you. It comes now at the right time when we

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*are having such a plentiful autumn during which we may with God's help be able to obtain the best and choicest of all wines. I earnestly beg Your Honorable Wisdom not to despise but to accept graciously the gift of my little book as a token of good intention and to grant me your favor. As is my duty, I would like to serve Your Prudence to your satisfaction and thus win from you honor, praise and good will, just as my deceased father, Jorig von Hirnkofen did. He received his surname Rennwart here in this praiseworthy city of Nuremberg when he conquered the fortress. Thereafter he was for such a long time in the service of the honorable imperial city of Ulm. For thirty years he served them well and honorably, shed his blood with them and ended his life there, thus acquiring commendable reputation for himself and his children. I am ready and eager to follow in his footsteps not to spare my life and goods, recognizing that we all can have no better lot on earth until the day we die. I also want to be understood that my writing should not be blamed or resented by the very learned Doctors of Medicine as if I had from sheer stupidity dared to usurp their art. I declare that I did not write the original of this treatise and did not add anything to it or omit anything from it without necessity. And in my opinion I need not be ashamed to have rendered into German according to my ability what Master Arnold saw fit to write down in Latin. Given on Friday after Saint Michael's Day, in the year of our Lord MCCCCLXXVIII.*

~ Herewith follows the Treatise of Arnold de Nova Villa,  
eminent physician of the king of France, on the preservation  
and preparation of wines, written for said king. ~



TO KISS THE EARTH at the feet of the Sacred and ever Victorious Royal Majesty was my, your humble servant's, deeply felt desire. And I often prayed to Him who grants all favors that from my modest faculties might come some praiseworthy work that would reach your gracious royal ears. My prayer has been answered. Now the time has come to prepare the wines that are used for medicinal purposes, and particularly the white wine that suits the human body best. For it is more subtle and more receptive to all the vapors of everything pressed into it. It carries the virtues of incorporated substances through all members, with delectation and in a natural way. This is why its virtues are highly praised by experienced philosophers and physicians, for wine has in itself great quality in the order of human nature. Ruffus, indeed, says speaking about it: Wine not only strengthens the natural heat but also clarifies turbid blood and opens the passages of the whole body. It strengthens also the members. And its goodness is not only revealed in the body but also in the soul, for it makes the soul merry and lets it forget sadness. It sharpens it to investigate subtle and difficult matters. It gives it also audacity and generosity, and well prepares the instruments of the spirit so that the soul may operate with them. If wine is taken in right measure it suits every age, every time and every region. It is becoming to the old because it opposes their dryness. To the young it is a food, because the nature of wine is the same as that of young people. But to children it is also a food because it increases their natural heat. It is a medicine to them because it dries out the moisture they have drawn from their mother's body. No physician blames the use of wine by healthy people unless he blames the quantity or the admixture of water. The sages have compared wine with the great treacle because it has opposite effects. It warms the cold bodies by its own nature, and on the other hand cools the hot bodies accidentally because its subtilty enables it to reach distant spots, bringing water to members in need of cooling. Thus it also

## Translation

moistens. Hence it comes that men experienced in the art of healing have chosen the wine and have written many chapters about it and have declared it to be a useful embodiment or combination of all things for common usage. It truly is most friendly to human nature. It accepts the admixture of all good spices and corrects the effect of bad food. This is testified by the physician Avenzoar who said that neither food nor medicine were ever spoiled by wine. Wine, therefore, deserves to be kept in order. Many useful medicinal preparations can be made with it—as shall be described below—preparations devised in praise and in honor of his Sacred Royal Majesty.

Since I have set myself the task of writing about wine and its virtue, I will discuss first how the grapes are gathered and how the wine should be kept so as not to spoil; second, how to recognize whether the wine is deteriorating; third, how wine that has already spoiled can be regenerated; fourth, how and when wines should be drawn off; fifth, how to change color and taste of a wine and how to treat boiled wine and other beverages; sixth, how to spice the wine with spices and how to prepare and make wine with herbs that serve as a remedy and for the body's health; seventh, about vinegar, how to make it in a natural and subtle way; also how to make beer and how to preserve it a long time.

First, about the gathering of grapes, you should know that grapes which have been gathered before the time are sick and weak, and since they are weak and premature they lose their virtue and do not last. Similarly, grapes that have been gathered after the right time are ailing and numbed by frost, cold and heat. One must, moreover, pay attention to the vats in which one puts the grapes that have been gathered at the right time. The vats must be well washed and cleaned with salt water, and when they have dried must be fumigated assiduously with incense and myrrh. In vats that have been thus prepared wines are well protected and do not spoil. When the must begins to ferment, one must put chips of juniper wood into it and remove them when fermentation has stopped; or one must suspend in the vat at the same moment a clean linen bag containing flowers of hops or seeds of rye, also fennel, or wood of the tree called myrtle or aloes wood. Whichever you suspend in the must, in the beginning of fermentation it protects it from spoiling. If the weather was rainy at the time of grape-gathering or if perhaps too much water

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was added to the must and you want to separate it from the wine, so that the wine will not spoil from having been mixed with water, then pour the wine immediately after the first fermentation into another cask; the watery part will remain on the bottom on account of its heaviness, coarseness, and its earthy nature. In order to test whether water has been added to the wine, one must put a pear into it. If the pear floats on top, the wine is without water; if, however, the pear sinks to the bottom, the wine is mixed with water. Or take some of the wine, put it into a new jar, close it well and let it stay for three days, or suspend it in the air. If the wine is mixed with water, the water will trickle out on account of the wind, or the wine will turn into vinegar.

There are many signs that indicate if wine is becoming sick or is beginning to spoil. First, in the grape-gathering season take wine lees, or if outside the gathering season you want to pour wine into another cask, take lees of the same wine and put them into a new jar that is well closed so that the vapors cannot escape. Let it stay for three days well closed, open it and test it by smelling. If it then has a good smell, the wine will preserve well. If, however, it has a bad smell, the wine will spoil. Or take from the cask some of the wine you wish to test and boil it on the fire in a new pot. Let it cool again, and judge it according to its flavor. Some people smell the bung of the cask, and from its odor they recognize the signs of wine becoming spoiled. Or take some wine from the keg that you want to test, and beat and whip it in a clean pot until it foams. If the foam breaks down and disappears immediately, it is a sign of a sound wine but if the foam remains for a long time, it is a sign of a sick wine. Also when you pour good and sound wine into a glass or goblet, the foam that comes from the pouring collects in the middle while the foam of spoiled wine collects on the side. Also when you pour wine and it splashes and little drops spring out of the glass, it is a sign of an unspoiled and sound wine. But if the wine is soft as if it had been mixed with oil and its drops fall down slowly like a syrup and when you drink it it feels slimy in the mouth, such a wine is spoiled or not far from it. If you want the wine never to spoil as long as it lasts, put roots of juniper into the wine as long as it is must. Or suspend a small clean linen bag into it with grape or rye blossoms, also flowers of hops. It then remains unspoiled. For these things not only protect the wine from spoiling, but they also regenerate wine that has already become spoiled.

## Translation

If the water in beer is protected from spoiling by hops, why should not wine be protected also and in a much higher degree since it is much stronger? One should also note that some wine dealers cheat people when they taste the wines. They make bitter and sour wines appear sweet by persuading the wine-tasters to eat first licorice or nuts or old salty cheese or dishes that have been well cooked with spices. They also try to have their wines tasted and tested when the north wind or the wind called Aquilo, the wind that comes from midnight, blows, for at this time, which is in winter, wines are the sweetest and the strongest. The wine-tasters can protect themselves against such doings by tasting wine in the morning after they have rinsed their mouths and eaten three or four bites of bread dipped in water, for whoever tries out a wine on a quite empty or on a quite full stomach will find his mouth and his tasting spoiled. It is also good that the wine be tasted when the wind called Auster, which comes from midday, blows, for at that time, which is in autumn, wines are changed easily and reveal whatever weakness they may have.

The time, however, when wine is most likely to change and when the reasons for it are most apparent, as Socrates says, is the time of any solstice, when the sun is highest on our part of the firmament or when it stands lowest. This is the case around the day of St. John the Baptist and St. Lucy and also when the vines are in blossom. Wines also spoil and turn in a natural way from heat, from cold, particularly from soft winds and much rain, also from thunder and lightning. But to prevent wine from spoiling from thunder and lightning, take some dough made from rye and wrap it in a linen cloth and put it into the bung hole, closing it well. Nobody should think it impossible for wine to become spoiled from thunder and lightning, because many wise people say that beer yeast also spoils from thunder and lightning, and also from the fragrant thorn flower so that afterwards it can no longer be used as bread yeast. There are many such things which human reason cannot understand, although they are true. The Philosopher says: Human intelligence stands to the apparent things of nature as the eye of the bat stands to sunlight. And although the causes of many things are apparent to us, nevertheless, as Plato says in *Timeus*, there is no thing whose origin has not been preceded by difficult matter. And thus you may protect wines against harm that comes to them from winds and sudden changes. In winter the cellars must be heated

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on account of the cold. They must have few and small windows that can be opened and closed when so desired. The doors to the cellars should be facing midnight, Septentrio in Latin, for those winds are cooler and breezier than the others.

Now we must discuss the spoiled wine and the different kinds of spoiled wine; also how one can and may restore it.

Wine that has lost its color is restored thus: For a barrel of cloudy wine take a cupful of cow's milk and a number of grains of wheat from which bread is made. The grains must be ground until the external chaff comes off. Then wash them in pure water and mix them thoroughly with the milk. And thereafter draw off from the cask that you want to restore enough to make room for the matter. And when the milk with the wheat has been poured into it, immediately stir and shake the wine roughly with a split stick or one that has holes so that everything be thoroughly mixed. Thereafter fill up the cask and store it, and after fifteen days you will find the wine fine and of strong taste, for the milk restores the color and the wheat the taste.

Another restorative for a barrel of cloudy and discolored wine. Take the whites of 24 eggs and stir them violently until they become clear. Then take the best flour, the kind used to make white rolls, and pure sand or gravel, a cupful of each, and the same amount of wine. Mix all this well and divide it into three parts. Then put one part after another into the cask, stirring it roughly with a club or a stick with holes until it has all been added. Thereafter let the wine stand; it will become pure.

For a barrel of cloudy and weak wine take I pound of well-ground almonds. Add the same measure of white wheat flour and take a cupful of the wine. Mix it all well and pour it into the cask. Then stir it roughly with a club as mentioned before and let it stand. It will regain its taste and look fine.

Also, to make wine clear, take for a barrel of wine a cupful or more of grape-vine ashes that have been well sifted. Pour some of the wine on them and mix so that it becomes a thin mush. Divide it into three parts and pour them one after another into the cask as mentioned before. Then stir it roughly with the stick, and if you let it stand for awhile it becomes fresh and fine.

Or take ashes from oak bark, well-sifted, I cupful, and pour them into the cask as mentioned above. Some extinguish burning ivy in the wine or

## Translation

must. Others put into the wine unburnt ivy which prevents it from changing. Also, aspen bark put into the cask, restores spoiled wine.

Also, to prevent wine from spoiling and changing its color as long as it lasts, extend a piece of linen cloth over the bung-hole of the cask and put well-sifted grape-vine ashes on it to the thickness of two or three fingers so that the wine cannot evaporate, and on the ashes put a piece of green sod cut from the earth, drilling three or four holes through it with a spindle towards the bung-hole, down to the linen so that it may have ventilation. The wine will not change as long as it stays there. Or close the bung-hole of the cask so that it be well sealed and drill a new hole on top with an auger and make a stopper for it. And whenever you wish to take wine from the cask, open the stopper, and when the wine has been let out, close it again as before. Thus the wine will remain unchanged in its color.

Notice must be taken of other disorders of the wine. If the wine has acquired a bad smell, take a handful of sage, the same amount of hops, and also a big root of galingale which has been split in two. Put them into a linen bag which you suspend for three or four days in the cask. The bad smell will stop. But if you notice and know that the smell comes from the pitch or from the cask, you must draw off the wine into another clean cask and thereafter suspend into it the materials mentioned before. For the same trouble take fresh crisp bread that has just been taken from the oven. Break it into two parts and put one part hot as it is on the bung-hole of the cask, and put the other part back into the oven until the part on the bung-hole has become cold. Then put the hot part on it and so change over and over again, because in this way you may extract all evil smell from the wine. Some people put into evil smelling wine splinters or shavings of juniper-wood and hyssop and bark of myrtle-wood on which resin sticks. Thus all evil smell vanishes. But every wine that smells badly needs to be drawn off into another cask before you apply any remedy.

Also, if wine has become like whey and you would like to give it a wine color, take virgin honey well-toasted in a pan and half a pound of peach-kernels ground to a powder. Strain it with wine through a linen cloth, add a cup of the wine to it, mix it well and pour it into the cask. The wine will acquire a good wine color. If the wine is so clear that it looks like water and

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has not the color of wine, take saffron, as much as the size of an egg, suspend it into the cask for three days. It gives you fine-looking wine. Note that a wine that has a smell of pitch is restored thus. Pour it from the cask into a large bucket or other vessel so that the pitch taste may evaporate, and then put a sufficient quantity of clean parsley into it, but see to it that the parsley be wrapped in a clean linen cloth so that the wine may not be changed by it. Let it stand for two days and thereafter pour the wine back into a cask that has not been pitched, and if the taste of pitch persists regardless of all and refuses to disappear in spite of the parsley, then cover it with thorns and suspend sage and hops into it. In the same way you can restore wine that has an unpleasant odor of earth. If you want to refresh flat wine, take a cup of well-ground tartar for a barrel and the same amount of grape-vine ashes. Draw two cupfuls of wine from the cask and mix it all well and pour it three times into the cask, stirring it violently with a club until the wine foams. Collect the foam and pour it back into the cask. But never fill the cask entirely, otherwise the wine will overflow when it is stirred. Or suspend a handful of nettles with the roots well cleaned into the cask. And if the nettles have seeds at the time, whether the seed is ripe or not, remove the seeds or then wrap the nettles with the seeds in a linen cloth and suspend them thus into the wine. It will become fresh. Also, a cupful of well-ground mustard suspended in the wine for three days makes it fresh. Also, take a cup of the wine that you want to refresh and a quarter of the measure of salt. Let it boil in a new pot on the fire and when it has boiled and foamed well, pour it thus hot into the cask and stir it violently, as has been said so often, until it begins to ferment. Thereafter, suspend a leaf of steel or lead into the cask. The wine becomes fresh.

Also, if a wine turns into vinegar or spoils, suspend a cup of leek seeds into it. The wine is restored and becomes sweet as before. Or take for a cask of wine a cup of well cleaned wheat from the upper ears and a pound of fresh new wax and suspend it in the cask. It protects the wine from spoiling.

Since I have mentioned the drawing off of wine from one cask into another, I intend to say something useful and necessary about it. Namely, whoever wants to draw off wine from one cask into another should do it with weak and sick wines in winter, but with strong wines in the spring or summer. And it strengthens weak wines when you pour them over lees of better wines.

## Translation

One should note that wines that are drawn off at full moon or when the moon increases, when the wind called Auster blows which is in autumn, such wines spoil easily. Therefore, for the sake of quality and health wines should be drawn off when the wind called Boreas blows which is in winter and when the moon decreases. And the drawing off of the wine must take place in good weather, so as to avoid the wine's changing when the wind and weather change, since the motions above rule those below. The drawing off of wine must also be undertaken underground so that weather and wind do not spoil the wine. These things are useful and necessary when you draw off wine from one cask into another.

Sometimes additions can change the taste and the color of a wine. Thus if a wine be weak and one wishes to make it stronger, one should take for a barrel of wine caraway seeds, sugar, shavings of hartshorn, a quarter of each, and should suspend each one separately in the wine in a small linen bag. The wine becomes much stronger. Or take for a barrel of wine one pound of seeds of rue and grind them well to powder. Add a quarter of sugar and suspend both separately in the wine. It becomes so strong that it makes those who drink it inebriated because the rue has the quality of affecting the head.

Whoever wants to make a wine red that is white by nature shall take seeds of barberry, berberis in Latin, or shavings of barberry-wood, according to the season. Dry them well and whenever you wish, suspend them in a clean linen bag in the vessel that contains the wine. After a little while you will see that the wine is red. Or take the red poppy flowers that grow in the wheat, dry their petals and make a powder. Put it in the wine in a small linen bag.

And now, in the beginning of this treatise it shall be said how wine must be prepared with roots and herbs to serve the body's health.

First, if you want to have a wine made with spices to strengthen the body or the natural complexion, take whatever spice you want, well ground, add the same amount of galingale and as much sugar as the other substances put together. Put all this in a clean linen bag and pour the wine through it. Repeat it three or four times, straining the wine through the substances in the bag until the wine has absorbed all the power of the spices. Thereafter keep this wine in a clean keg and close it well. This gives you a strong drink which is most appropriate for the body's health and natural complexion. And when-

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ever in the following pages we discuss wine made with spices or herbs and do not give precise indications about its preparation, it must be understood that the wine is to be tempered as has just been said or will be said.

We have indicated in the beginning how to prepare remedies from wine with herbs and spices. Now you must be careful that the keg that will receive the wine must be made from good clean wood and must be cleansed from all impurities. And the must has to be pressed from ripe grapes from which all spoiled parts have been removed in order to avoid the wine's becoming vinegar as a result of green grapes. There are three ways or methods of preparing or incorporating the things that are mixed with the wine.

The first and better way is to boil the spices or herbs in a definite quantity of must until one-eighth of the must has been consumed. Skim it and let it stay overnight, and in the morning strain it through a linen cloth. Thereafter mix it with other must of which you take as much as suits your taste, put it in a cask and cover the bung-hole with a dish which should be slightly raised on one side. Keep it in this way until the wine has fermented. Then close the bung-hole well and use the wine whenever you need it.

The other way is to take the herbs fresh, or if you do not find them green or fresh, put them dry and ground into a small linen bag. Put this in a pot with white must, boil until it foams and then mix it with another wine. And when it has become clear take as much as you need.

The third way is to boil such matter in old wine on a slow fire and this can be done rapidly and at any time. And such a wine can be used whenever it is needed, either pure or mixed with another wine or water, and since wine, as has been said, easily accepts any color, taste or flavor, one must consider whether there are substances in wine that has been prepared with spices or herbs which overpower other substances too much. If this is the case, one must temperate it with matters of opposite quality. For instance, if there is bitterness in it, it must be removed by the sweetness of sugar or virgin honey. And if it is too hot, it must be soothed with a cold matter and vice versa, and in such way contraries are rectified by their opposites. One must also note that some wine preparations must be made with fire, as we said before, either because it cannot be done otherwise or because they are not found already made in nature, and necessity does not allow us to wait for the right moment.

## Translation

Hence it comes that the sons of Hermes call the fire the sun, and others call it a substitute for heat. And some of them said in their secret books that what the heat of the sun achieves in the bowels of the earth in a hundred years, the same could be done by fire in one day. For fire effects that the quality of things becomes apparent and is discovered. And therefore whenever one needs fire for these things, one should use it safely. For in the preparation of such matters cautiousness and diligence are not a small matter. But many do not know what is achieved with fire in many crafts and therefore they fail in many of their judgments and are disappointed. Now I will discuss in the following chapters the preparation of medicinal wines.

### *A marvellous wine useful and good for the melancholics and other diseases*

A marvellous wine useful and good for the melancholics, that is, for those people who are of cold and dry nature and complexion, and also for the cardiacs, and for those who have trouble with the burned bile, particularly in the passages of the liver and the urine. And it is wholesome for those who are of bilious nature, that is, of hot and dry complexion, for it removes sadness, brings joy, and makes man composed and reasonable. It improves the whole body of the melancholic and rectifies the gravity of the humours. It makes good blood and makes you obtain praiseworthy ability according to the reasonable soul. It is made thus:

Take roots of oxtongue from which the interior marrow has been removed, follicles or skins of senna, red roses, flowers of borage, flowers of oxtongue, I pound of each. Shake all this in a bag and put the bag in a cask which holds as much as 3 donkey loads. Then take freshly pressed white must and add half of it to the above-mentioned items. The other half shall be boiled and skimmed immediately and shall then be poured into the cask just mentioned, and the cask shall be filled with such wine. And when it has fermented and has become clear, you can use it throughout the year and particularly in the spring, in the autumn, and in the winter for the diseases mentioned above.

# Book on Wine

## *Borage wine*

Borage wine is good for the cardiac illness, mania, melancholy and tremor of the heart. It purifies the blood, removes evil thoughts and is useful in all forms of corruption, of scabies and leprosy. It brings joy and eases the bowels. This wine must be made thus:

Take three pounds of borage. This shall be put into 7 or 14 pounds of must and shall be boiled without interruption until it becomes quite clear. Such wine strengthens the vision and makes one energetic. When its pure juice is being drunk, it also purifies the blood. And you need not sweeten it because its juice is sweet.

## *Oxtongue wine*

Oxtongue wine is made thus according to Macrobius: Its roots shall be well cleaned and shall be macerated in wine until the wine has taken the taste and potency of the roots. This wine shall be drunk steadily for it drives out the melancholic, choleric and burnt humours through the urine. It restores the brain that has been poisoned by the vapor of melancholy. And I wish to add that it heals the insane and the demented who have to be bound, and restores their reason. I can testify this on my conscience because I saw a woman, born in the city of Paris, who very frequently was deprived of her senses by some anger and melancholy and became garrulous and was using loose talk so that she had to be bound in her home until her wrath had gone. She was given the above-mentioned remedy by a pilgrim who came to her house asking for charity, and thus she was cured.

## *Raisin wine*

Raisin wine is prepared thus: Take 3 pounds of fat raisins, 2 ounces of peeled, well-ground cinnamon. Boil this with an amount of must and thereafter pour it into a cask of must. It clarifies in 12 days and is then good and tasty. While it is in the cask it must be stirred frequently, and when it has thus clarified use it, particularly in winter. It is a wine that is proper for sick old people, also for melancholics and phlegmatics, and it particularly makes women fat. It eases the chest, strengthens the stomach, adds substance to the liver and strengthens it. It warms the blood, opposes putrefaction, and removes nausea

## Translation

and mucosity of the stomach. It is also useful for coughing and asthma, and it naturally loosens the hardened bowels and astringes the loose bowels, such as in dysentery and similar conditions. It has the faculty of strengthening the retentive and expulsive function. It is good for short breath and for the cardiac disease, and its strongest virtue is that it consumes superfluous humours and vagrant moisture or aquosity. When it is used, ulcers cannot develop in the body. And whoever uses it steadily will never have any disease from evil humours, so God will.

### *Purgative wine*

Wine that purges naturally is reliably made thus: Growing vines are cut lengthwise, and the marrow is extracted. Then put into the vines hellebore, in Latin *elleborus niger*, spurge, *esula* in Latin, or some other strong laxative. Close the vine branches and bind them as is usually done in grafting. Thus the inserted substance will enter the humours and when the grapes grow, will be mixed in them. Purgative grapes will result and from them purgative wine.

### *Rosemary wine*

About wine made from rosemary Galen says, “When I was in Babylon I met an old heathen doctor. After much soliciting and begging I learned from him the virtues of rosemary which he kept as a great secret not to be divulged to anybody. He said that its potency has unsurpassed effects when a wine is made from it, and a bath, also when an oil is made from its flowers which has the same effect as balm; and finally when an electuary is made from the flowers of the herb and brandy.”

Rosemary wine is prepared in the same way as the other wines mentioned above. This wine has marvellous qualities for it is good in all cold illnesses. It corrects the appetite. The soul is exhilarated by its pleasant smell. It strengthens all members. It rectifies the sinews, makes the face beautiful when washed with it, gives a good taste to the mouth when you use it. When you wash your head with it, you do not lose your hair, on the contrary it makes it grow. It protects man from all evil ulcers and consumes bad humour and melancholy. It strengthens by its own virtue the substance of the heart and thus keeps people young. And perhaps the body of those who use it perma-

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nently will not decay. If you clean the teeth with it, it strengthens them and the gums, and gives a good taste to the mouth. Cancer washed frequently with it is cured. Fistulas and similar ulcers are dried out and corrected by it. And when somebody has become very weak from long illness and then eats bread soaked in this wine, it corrects the appetite and strengthens the weakened members. This wine tempered with rain water and particularly with a decoction of its flowers and drunk steadily, cures the phthisics and the hectic—which is a collection of pus in the chest. This wine is also good for quotidian and quartan fevers, and for the disease of the back part of the brain from which forgetfulness comes. It is also wholesome for the cardiacs and for nausea and dysentery. Also, and this is one of its highest qualities, it is a substitute for treacle against poison and poisonous food, and it is a great protection in drink and food. It strengthens the weakened forces and is good for those who have paralysis and tremor. It is good for gout. It is also convenient for all women and particularly those of moist complexion. It also rectifies the uterus in the body and helps in childbirth.

### *Wine for the congestion of the spleen and of the liver and for jaundice*

A wine for the congestion of the spleen and of the liver and for jaundice is made thus: Take roots and leaves of chicory, cicorea in Latin, spleenwort which has leaves three span long and is called in Latin scolopendria, endive from which milk comes when it is torn, and a little absinthe. All this shall be boiled somewhat or shall be warmed up well and put in a little bag. Pour the wine repeatedly through the herbs as if you were making claret. If necessary on account of the bitterness, you can add raisins or some other sweet, and thus it is marvellous. The efficacy and potency of the wine is also increased and reduced according to whether the wood of the cask is good or bad.

### *Wine in which gold has been quenched*

Wine in which gold has been quenched has great virtues in many conditions and is made thus: A gold leaf shall be quenched four or five times in good wine. Hereafter let the wine clarify and store it. The wine strengthens the heart. It dries out the superfluity of all bad matter of the blood and of the substance of the heart. Through its purity it clarifies the spirit and through its

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solidity it strengthens it, and being thus tempered, it moderates it. It protects the blood from disturbing admixtures and purifies it. Through its potency it helps to expel superfluities. It preserves youth, and its mineral virtue makes people persevere in their work. It drives out the repressed urine. It helps epileptics and lunatics. It is good for the lepers.

### *Wine for memory*

A wine that brings back the memory and which is good for forgetfulness. Make it thus: Take ginger, long pepper and galingale, 2 ounces of each; cloves, cubibs,  $\frac{1}{2}$  ounce of each; Indian nut, 1 ounce and  $1\frac{1}{2}$  drachms. Make a powder of all this, bind it carefully into a little bag and put it into 7 pounds of good fermenting wine. Cover it well, so that it does not lose its flavor, and let it clarify. Use it whenever you need it and do not remove the little bag. It is also good for warming cold people and for drying moist people. It helps also against all flatulence of evil moisture.

### *Eyebright wine*

Wine from eyebright, euphrasia in Latin, is made by putting the herb into must which then becomes eyebright wine. When such a wine is used, the eyes lose all uncleanliness and are rejuvenated. It also removes the impediments of the eyes and the defects of vision in all people, whatever their age and complexion is, whether they are by nature phlegmatic or fat. For this herb is hot and dry, and when this wine is used it undoubtedly has no equal in the treatment of the eyes. This has been testified by reliable people who have tried it on themselves. For while they were unable to see without eyeglasses before, they were able to read small letters without glasses after its use. Should the wine be too strong, it should be tempered with fennel water. And if necessary add sugar to it.

### *Elecampane wine*

Elecampane wine is made thus: Take roots of elecampane, which in Latin is called enula campana, wash and dry them well and cut them in pieces. Then take must fresh from the press and cook the roots therein in a cauldron or new pot until the bark of the roots can be peeled off. After that, strain it and throw

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the roots into it. And when it is lukewarm, pour it into a cask with must and let it ferment. You can do the same with sage. This wine is good when the sinews are stiff from frost. It also helps the stomach-ache that comes from cold causes, pains in the chest and cold coughing. Master Yppocras says that elecampane wine removes anger and sorrow, that it strengthens the cardia, cleanses the chest and drives out the superfluity of the kidneys through the urine, and in women also through their period. Wine in which elecampane, in Latin *enula campana*, has stood for three days purifies the vision marvellously.

### *Sage wine*

Sage wine is made in many different ways. Some suspend the sage in a keg, many boil it. However it is made, it must be made so that it will not be spoiled or changed but will preserve its virtue. You will then find it marvellous for the treatment of all illnesses of the gums, for loose and aching teeth, and particularly for all sinewy members. It strengthens the members that have been weakened and made sick by evil mucous and watery humours such as happens in paralysis and spasms. And I have tried it on many people who had spastic pains and ailments of the sinews. By being rubbed with the wine and by drinking it with the meals they were cured ever so often, and the result you obtain in such a case is certain and marvellous. This wine helps also against epilepsy, and particularly in ailments of the stomach and womb because they are sinewy members.

### *Hyssop wine*

Wine from hyssop has the power to drive out, to consume and to attract. One must add licorice to it. It is a wine that becomes old people. It is good for wet cough and epilepsy which it frequently drives out, and particularly in children. It also dries and cures humid parts such as the lungs and the womb when they are washed with it. It gives a clear voice because the herb is hot. This wine is also good for people suffering from dropsy.

Wine that strengthens all principal members and keeps them in health is prepared thus: Take white ginger, 2 ounces; cardamon,  $\frac{1}{2}$  ounce; bark of cinnamon,  $\frac{1}{4}$  ounce; mastic, 1 drachm; coriander, 1 ounce; red roses,  $\frac{1}{4}$

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ounce; honey or sugar, 1 pound; and a keg of good wine. And such a wine must be made like claret.

### *Wine that strengthens the whole body*

Wine that strengthens the whole body is made thus: Take 1 drachm each of cubibs, cloves, ginger, raisins. Boil them in 3 pounds of the best wine until it has decreased by one-third. Boil with it also 3 ounces of rose-water and sugar. Drink 2 ounces of it or less in the morning and evening. This wine when used fortifies the brain and the natural strength. It stops cold flux from the nose. It is appropriate for all old people, and is good for short breath, for ailments of the heart, for all pains in the limbs, for coldness of the stomach, and it consumes superfluous humidity left over from various functions of the body. It warms properly and causes ailments to be digested and produces good blood. It is good for flatulence of the belly, and also for ailments of the womb caused by cold or superfluous humidity which prevents women from conceiving children. It is also useful for the treatment of nausea and dysentery and all kinds of indigestion. It strengthens all spiritual parts, and its use is good for the healthy and also for the chronic and the cold diseases from which the principal members have become cold and ailing. It is also a treacle of life, and it is marvellously useful for the cough and for the heart.

### *Fennel wine*

Wine made from fennel seeds is good for darkness of the eyes. It stimulates sexual urge, consumes dropsy and leprosy. I have tried it on children and found this true. It counteracts poisonous and bad foods. It is good for the cough and for ailments of the lungs. It increases the milk and the natural sperm. And when this wine is made with fennel roots, it helps in ailments of the kidneys and cures the diseases of the bladder, for it purifies the matter and releases the women's ailment. And the wine made from fennel seeds stops nausea particularly and relieves pleurisy. It drives out flatulence and strengthens digestion. It relieves the congestion of the spleen and of the liver and soothes pains of the members.

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## *Anise wine*

Wine made from anise opens up congestion of the internal ways and passages. It protects one from colic and flatulence and rectifies digestion and stops humid belching. Its use is particularly appropriate for nursing women, for by opening the pores, by making the blood subtile and by warming it increases the milk and corrects watery milk. And when sugar is added, it drives out pains of the kidney. For ailments of the kidneys caused by flatulence and stones, I have never found any quicker remedies than this wine and the electuaries diadragantu and dianisu. For they soon make the pain subside and by purging the kidneys they drive out the stones. And this wine may be made with or without the use of fire.

## *Winter cherry wine*

Wine from winter-cherries called in Latin alkekengi, that is, red apples. You collect them in the grape-gathering season. They are red like cherries, are full of seeds like fig-seeds and have red husks and are tasty and quite bitter. You can keep them the whole year round in their husks to avoid their rotting or getting dry. When you want to work with them, take 5 or 6 or more of these apples, grind them with good wine, strain and drink. It drives the urine immediately, whatever the retention may have been, and extracts the sandy matter from the kidneys and bladder in great quantities and so apparently that you could collect it with the hand. And this wine when used frequently, remedies such pains. There was a cardinal in my time who had not passed any urine for three days and was swollen and bloated. No other remedy would help him. Then upon the advice of an unknown doctor he drank this wine and discharged urine in great quantities. So the good sir was cured.

## *Clove wine*

Clove wine is made in such a way that you put cloves in a little bag and suspend it in a cask of must. This wine is of a very dry nature and has the power of driving out, of consuming, of drying out and of attracting. It is good for old asthma and for old putrid cough, also for epilepsy and shortness of breath. It strengthens digestion and gives a good breath. Sugar, however, and licorice make it less dry.

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Aromatic wine is made in such a way that you put the spices in a little bag and suspend it in a cask of wine or must. Thus the taste and effect will be according to the spices cold or warm, this or that.

Wine for a cough and huskiness and asthma is made by having the power of anise, fennel, and licorice added to wine, in such a way that the licorice be twice as much as the others. This you shall drink continuously for it is pleasant and reliable.

To beautify women a tasty wine which gives a white, subtle and pleasant complexion is made thus: Put ginger and cinnamon bark into wine and distill it like rose-water. It is also good for all cold complexions and ailments and particularly for paralysis which is an ailment of the limbs.

A wine to which you can give, if you wish, any taste you like. It is worthy of a court, and is particularly appropriate for gentlemen who want to show what a variety of marvellous wines they have. It is also a useful remedy for various ailments according to the spices you use. Briefly spoken the matter is this. You shall keep herbs or spices, whichever you like, for one day and one night in brandy so that the power of these things be incorporated in the brandy. It will assume the taste and favor of those spices or herbs. Put a little of this brandy into the wine that you intend to drink, and the wine will acquire the taste and flavor of the substance.

The noblest wine that restrains bloody flux and strengthens the stomach is made from juice of quince, clear wine and rose-water in equal quantities.

### *Wormwood wine*

Although wormwood wine has a dry taste, yet it has great powers in the so-called melancholic complexion of man. It is made by suspending green or dry wormwood in wine. But there is another and still better way, namely, to take fresh or dry wormwood, put it in a little bag or other container, and strain the wine hot or cold through it as many times as needed until the wine absorbs its taste and power. Add sugar and honey to it in adequate measure. This is the better method because the potency is better extracted in this way. The wine is good for the intestines. It is good for intestinal worms and for mucous matters which are hidden in the cavity of the belly and in secret parts. It drives out, opens and consumes. In addition it has the power and virtue to

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strengthen. It is good for the flux from the stomach, for congestion of the spleen and liver, and for jaundice. It is useful when somebody loses his wits, and it brings back the lost speech. It helps against poisoning and against poisonous cold. When used, it purifies the vision, helps the stomach and the liver, drives out the urine and purges the women's ailment. It drives out crude humour from the belly, resists all poison, and when the vapor of the wine is let into the ears through a funnel, it helps deafness. When a wound is washed with it, no fistula or bad flesh grows in it. It cures the scabious skin. And if one has drunk some of it before a sea voyage, it helps for nausea and vomiting. It is also wholesome in times of pestilence, when someone moves around and visits sick people, for it does not permit poisonous air to do harm. There are also people who take it all the time in the spring and say that they do not fear illness for the whole year. It induces sleep and cures pains from swellings and ailments of the limbs. Poured into the throat in gargling, it is good for tumor of the tongue. It is good for many other ailments. According to Macrobius, this herb was held in such high praise in former days that its juice was given to the commander of an army to drink as a sign of luck before a battle, and they believed that in this way he would win victory and glory.

### *Watered wine*

Watered wine is very wholesome. I knew a physician of great repute who drank no other wine. There also is no better wine for sick people. For wine and water mix well. The vapor and fury of the wine, namely, is taken away by the water, and the coldness and humidity of the water is naturally changed by the dryness and heat of the wine. And the heat and dryness of the wine is added to the coldness and humidity of the water so that it becomes a mixed and tempered substance. The water, however, must come from a good fresh fountain, and the wine must be mixed before it is brought to the table. It happens that many gentlemen and prelates have the water poured into the wine at the moment when they want to drink. This leads to disturbance, flatulence and indigestion of the stomach, and the cause of such indigestion is that wine and water are opposites so that digestion cannot be even. When, however, the qualities of wine and water which were opposite before are mixed, then the water is tolerated by the wine in spite of its coldness and

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humidity, and also the wine with its heat and dryness has become milder and more temperate and a mixed substance more apt to be digested. This can be demonstrated quite convincingly, for when the water is mixed with wine one sees clearly in the glass the motion between the two. The wine rises and the water sinks like two opposite substances which are struggling while they are mixed. But if it stands for awhile, the mixing stops. And then is the time to drink it.

After having mentioned in the beginning the making of vinegar, I would like to say something more about it. You must know that there are many kinds of vinegar and many ways of making it. Take a vinegar jar half-full of old wine and put it into the sun or to the fire so that it gets very warm and until it becomes vinegar. Also, take a jar in which there was vinegar before so that it still has retained the smell of it. Fill it first half-full of wine and close it well; then put it into a kettle full of boiling water and let it boil therein for awhile, whereupon the wine becomes vinegar. Also, take a clean jar and fill it with wine, half-full or more. Take sour rye yeast of the size of an egg or fist, bind it into a linen cloth, put it in and place the jar close to the fire so that it becomes nicely warm. It then becomes vinegar. Or take a leaf of steel, heat it well and quench it first three times in good vinegar. Keep this steel leaf and when you are in a hurry to make vinegar from wine, heat this leaf and when it has become hot, quench it in wine which becomes vinegar immediately.

Also, take wine, boil it in a clean pot or kettle and skim it. Thereafter close the pot well, bury it in the earth for three days, and after three days take it out and let it boil again. It becomes vinegar.

Also, take grape seeds and plenty of skins from pressed grapes. Dry all this well and then grind it into a powder and mix it with the best vinegar. Then let this powder dry in the sun and repeat this three times. Then keep the powder and when you want to make vinegar in a hurry, put a little of the powder into wine. It then becomes vinegar immediately. The same can also be done with tartar. It gives you vinegar soon.

Note that with all kinds of vinegar, the potency of which you want to preserve, it is good to have a big stopper made from white willows to cover the bung-hole. It should also be long, but so that it will not touch the bottom.

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This wood has a sour taste like vinegar, and on account of its taste it has the particular power of preserving and increasing the vinegar acid.

Also, very strong vinegar is made from beer thus: Take the first and best malt and heat it near the fire so that you can hardly hold it in your hand. Then mix it with moist lees from old beer. They make the beer malt ferment and change it into vinegar. And should the vinegar not be strong enough, add wood from white willow and soon it begins to be strong.

It has been discussed before how beer can be preserved. If you want the beer to keep long, take in the summer plenty of ears of wheat which are mild, and dry them in the sun. Then around St. Michael's day put them into a clean beer keg and pour the beer on top. The beer then keeps long. And when you drink from the beer, fill the keg again with good pure beer and be careful to preserve the ears of wheat. And also to keep beer from becoming flat or turning into vinegar, put ears of wheat into it. Some grind bryony and suspend it in the keg. They do the same with laurel, etc.

# The Earliest Printed Book on Wine

By

ARNALD OF VILLANOVA

*Physician, Surgeon, Botanist, Alchemist & Philosopher*

[1235-1312?]

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