# FROM THE LABORATORY TO THE LIBRARY: ALCHEMY ACCORDING TO GUGLIELMO FABRI Chiara Crisciani

In the history of Latin alchemy, much remains to be learned about the period from John of Rupescissa to Paracelsus. In particular, fifteenth-century alchemical texts, which include both examples of alchemical research and assessments of alchemy, have been among the least studied by historians. Yet these are precisely the texts that may be expected to illuminate the process whereby the three major shifts in emphasis that characterized alchemy between the end of the Middle Ages and the early modern period were disseminated and received. These changes were the relative discredit into which transmutatory alchemy had fallen, the increasing importance of therapeutic doctrines and goals in the alchemy of the elixir and fifth essence, and the emergence in alchemical literature of linked alchemical and religious themes that do not always refer to work in the laboratory.

These three developments were interrelated in various complex ways that have yet to be fully clarified. They evidently evolved from trends already present in medieval alchemy; but they also belong to a general restructuring both of the scientific disciplines of alchemy and medicine and of forms of knowledge—empirical, rational, prophetic, and magical. The work of Guglielmo Fabri that is the subject of the present paper provides one noteworthy example of a fifteenth-century alchemical text in which continuity and innovation go hand in hand and in which previously developed topics are reworked and transformed. Fabri seems to be at a crossroads between the trends and problems of late medieval alchemy and their development in the early modern period. He provides us with a useful vantage point for evaluating continuity and innovation, the utilization of traditional sources and concepts, and the introduction of new themes and approaches destined to undergo further development in the future.

I

The Liber de lapide philosophorum et de auro potabili, which as far as I know is unedited, seems to have been written about 1449 and certainly before the

end of the fifteenth century.¹ The author, Guglielmo Fabri de Die, does not present himself as an alchemist; indeed, he does not present himself at all.² From the few pieces of information that can be found about him we know that he was a doctor "of law and medicine" and that he was part of the entourage of Duke Amadeus VIII of Savoy during the years in which Amadeus was an antipope elected by the Council of Basel under the name of Felix V; Guglielmo's duties as a court functionary seem to have been chiefly connected with his legal qualifications.³ But Fabri evidently served as a faithful adviser and a cultivated secretary; no doubt, too, the pope appreciated him as a physician because of his transalpine, or French, origin and education. Thus, it was specifically to Guglielmo Fabri that the pope turned for what at first sight looks like a consilium.

De lapide opens with the pope's description of his disease and bitter remarks about the incompetence of his attending physicians (fol. 245r-v). Felix V—an uneasy duke in search of a new form of majesty, a hermit-prince, an aged pope disturbed by the choices he had made and frustrated in his hopes4—now also suffered in body. In addition to the weakness of age, he was also afflicted by a kind of paralysis of one hand and one foot, which was so painful that he groaned aloud in the course of his conversation with Fabri. The attending physicians—Italians who followed the "common way of vulgares medici"—had asserted that no cure was possible. However, he had heard of another "secret kind of healing" (medendi genus secretum) described by Arnald of Villanova and other Frenchmen, which was able to provide a remedy for the "discomforts of age" (incommoda senectutis), and therefore perhaps also for the affliction from which he was suffering.<sup>5</sup> Groaning and sighing, the pope cited some learned examples of prolongevity; he wondered, angrily, why such remedies had now vanished or were known only to very few people. Eventually, after much skirting around the subject, he came to potable gold and the transmutatory art, saying to Guglielmo: "What do you have to say about that medicine of the philosophers that they call the elixir? . . . Is it possible that something of truth or power is to be found in these things?" (fol. 245 v: "post multos circuitos devenit ad aurum potabile et ad artem trasmutatoriam dicens: 'Quod ais tu de illa medicina philosophorum quam elixir dicunt? . . . Estne possibile latere in illis aliquid veritatis et virtutis?"").

This, supposedly, is the situation and the question that gave rise to Fabri's text. *De lapide* presents itself as a report of dialogues between the author and the pope in a series of meetings. The dialogues are interspersed with short treatises, with which Fabri found it more appropriate to respond to the pope's demands, given their relevance and the pope's imperiousness. The text is thus a mixture of genres: the report of meetings and dialogues, character-

ized by a loose conversational tone and by the rhetoric of patronage, frames three treatises on specific themes mostly written in an impersonal scholastic style. They deal with (1) the possibility of transmutation, which is treated by means of a *demonstratio* based on the Aristotelian four causes;<sup>6</sup> (2) the therapeutic efficacy of potable gold, inserted in a reasoned survey on the nature and virtue of gold; and (3) the interpretation of some particularly occult terms, namely *telchem* or *thelesim* and *yxir*.

Beyond the frame of dialogue, the three texts are also unified by a limitation that the pope imposed on Fabri, as well as by Fabri's own choice. Felix V insisted that the style, forms of argument, and authorities used must be exclusively Peripatetic. Fabri was in complete agreement and chose to proceed in all three treatises by starting from authorities, moving on to rational demonstration, and ending in experimentum. On this basis, he undertook to satisfy the pontiff, travelling along "the correct path of philosophers" (semitam rectam philosophantium).7 And in fact Fabri's whole attitude is completely philosophical: he confidently handles doctrines, trends, and works (at least, some of the works) of Latin alchemy, but he has nothing to do with the opus, as at one point he declares and as his entire text reveals. Neither in the section on transmutation nor in that on potable gold does Fabri ever give any indications about specific ingredients, operations, or processes. The term opus in its technical sense never appears in De lapide; the work is a purely doctrinal treatise by a philosopher and never assumes the operative character present in other contemporary texts by physicians interested in alchemy.8

II

It will have become apparent that in presenting the pope's first question, Fabri reformulated it: where the pope sought concrete information about the truth and power of the elixir, Fabri transformed this request into a broader inquiry into the art of transmutation and potable gold. The question was only on one subject, the answer on two. Evidently, for Fabri the elixir is the pivotal concept of transmutatory alchemy and could also be linked to remedies—for instance, potable gold—pertaining to a medical alchemy. Already, then, we learn that in the mid-fifteenth century a question on the elixir suggested two objects and two different projects, which could be either unified or separate.

The so-called pseudo-Lullian tradition of the elixir combined these projects. According to that tradition, a preparation composed solely of mineral ingredients is the instrument both of perfecting imperfect metals and of healing the diseases of man, for whom it can also prolong life. In one sense,

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the medical tradition of the fifth essence was also unifying: although in *De consideratione quintae essentiae* John of Rupescissa sought only pharmacological and therapeutic results, he nonetheless maintained that quintessence of wine could reinforce the therapeutic virtues of artificially prepared gold. But the very fact that Fabri discussed the question of the elixir in two separate sections, one on transmutation and the other on potable gold, shows that—at least for the moment and formally—he opted for a distinction between transmutatory and medical alchemy. This attitude is consonant with the position of those fourteenth– and fifteenth–century physicians who considered from various points of view, and for the most part maintained a distinction between, the disciplines of alchemy and medicine. Yet in reality Fabri oscillated between distinction and convergence of transmutatory and medical projects, as we can see from his passages on alchemical theory and especially from the sources that he used.

Let us briefly examine his alchemical theory. It joins the most traditional alchemical theory of the nature of metals with a theory of transmutation that in essentials follows Albertus' *De mineralibus*, in which transmutation is explained as a process of purification of metals. Fabri cites word for word the medical analogy with which Albertus closed his analysis of the possibility of transmutation. Albertus had named the elixir, but without giving any details about its composition or role. Fabri, too, is not clear about what the elixir is. In his discussion of the formal cause of transmutation, the elixir is defined as form that will give perfection, or, rather, that will give true nature to imperfect metals, which are to be understood as matter with respect to this form that they are waiting to assume. But where does this form come from and how does it work? Here again Fabri uses suggestions from Albertus and from the *Summa perfectionis* of "Geber," decontextualizing them and depriving them of all operative reference. He uses these suggestions to construct a solution that is as original in its totality as it is oversimplified.

The form, according to Fabri, burns whatever is corruptible and imperfect in the metal and saves "whatever humiditas radicalis there is in the metal, digesting the humidity and converting it into perfect gold" ('quod est in metallo de humiditate radicali, illam digerens et convertens in perfectum aurum'). In other words, the elixir eliminates "all the superfluitates from the metal and maintains only the parts of quicksilver existing in the metal . . . because it attracts what is similar to its nature, but repels what is contrary to it." As a result of this oversimplification, Fabri explains transmutation as a purification of corruptible superfluities followed by a digestio that reinforces the humiditas radicalis. Hence, the humiditas radicalis is the central structure both in the metal to be perfected and in the perfect metal (fols. 247v–248r). In the second sec-

tion on potable gold Fabri notes—still basing himself on Albertus—that by its own nature, gold has a matter that is totally purified from two superfluous and dangerous kinds of humidity. Therefore, among its many virtues, it can eliminate superfluous humors from the human body and can support humidity analogous to its own, that is, the radical moisture of man, given that in gold "only radical humidity remains."<sup>14</sup>

The connection that Fabri proposes between metallurgical alchemy and "medical metallurgy" rests therefore on the theoretical efficacy of the concept of radical moisture:15 as the elixir works on the humiditates of the metal, so potable gold works on the radical moisture. The connection is undoubtedly original: I have not found any trace of it, in this formulation, in other authors or in the texts that Fabri uses, in which indeed elixir, radical moisture, and gold are linked in various other ways. 16 However, in Fabri the connection is based on an analogy that maintains a distinction between the processes that it connects. Therefore the identity of functions between elixir and gold does not allow one to identify them; and it does not follow that a single agent "cures" metals and men, as was affirmed in the Testamentum, one of the main pseudo-Lullian treatises. Moreover, unlike ps.-Lull, ps.-Arnald, and Rupescissa, Fabri does not maintain that elixir transforms gold in any way and that gold, precisely because it has been treated in this way, becomes more suitable for strengthening human radical moisture. These stages in the process would make Fabri's conception into a simplified but organic whole like those proposed by those authors. But this sequence is specifically excluded by the passage he quotes from Albertus, to which I have just referred: for Albertus and for Fabri, it is natural gold, not treated gold, that is free of those dangerous humidities.

When one turns to Fabri's sources, it becomes clear that he was well-acquainted with various writings from which he could have drawn the idea of a single agent capable of curing metals and men, had he chosen to do so. In fact, throughout the second section, he makes explicit use of precisely those texts—the *Testamentum*, the *De retardatione accidentium senectutis* of "Bacon" and/or "Arnald"—in which alchemical procedures and therapeutic virtues are organically united.<sup>17</sup> Moreover, he lists most of the therapeutic properties of gold according to the canonical medical texts, but, in addition, he frequently follows word for word (although without explicit quotation) the emphatic descriptions of the virtue of the alchemical remedy found in the texts named. Finally, in what he calls an "aphorism," which is in fact a little hymn of praise, Fabri exalts the celestial sun and the terrestrial sun (that is, gold), which are linked both by analogy and by a relationship of influence, through which the first infuses the second with the most ample array of

virtues. The comparison, the praises, and the enthusiasm are those of Rupescissa in *De consideratione* and of Arnald in *De vinis*. <sup>18</sup>

In other words, Fabri uses texts in which metallurgical and medical purposes are united in order to propose a theory that instead distinguishes between these purposes. He does not justify—or even perhaps perceive—this incongruity. He has decided not to analyze the various doctrines of the texts he uses at all profoundly from a theoretical point of view but rather to exploit these doctrines in, so to speak, a rhetorical way. It is as if he were drawing on a generalized store of interpenetrating medical, alchemical, and medico-alchemical knowledge, unified in his eyes more by homogeneity of language and the possibility of intertextuality than by theoretical coherence. In this textually fluid environment, potable gold, elixir, and fifth essence can be interchangeable—especially for anyone, who, like Fabri, considers only their exceptional properties and virtues, does not inquire into the theoretical or scientific presuppositions, and does not try out the practical procedures of manufacture.

Given this oscillation between distinction (in treating transmutatory and medical alchemy in two sections), analogy (founded on the theory of radical moisture), and unification (in his use of sources), it was no accident that Fabri finally postulated the fundamental unity of metallurgical and medical alchemical projects in *thelesim*. This substance, totally vague and especially secret because of its absolute *fortitudo*, lies at the heart of the *Emerald Tablet*, which, as a generic wisdom text, served as a foundation for any and all trends within alchemy. Whoever possesses the *yxir* or *thelesim* of which Hermes speaks, concludes Fabri, obtains infinite riches and overcomes the disabilities of every disease.<sup>19</sup>

### III

The analogy drawn by Fabri between the two radical moistures—that of gold and that of human beings—is, as already noted, an original contribution that is based on considerations taken from texts of both metallurgical alchemy and medical alchemy. Fabri himself, however, does not develop this potentially fertile idea theoretically.<sup>20</sup> Indeed, the idea, however interesting, may not be the most significant contribution of his text taken as a whole. More striking is the complex image that *De lapide* presents of alchemy as a discipline—of its connections not only with medicine but also with other values and branches of knowledge.

It will already have become obvious that Fabri was well aware of the difference between the metallurgical and the medical approaches in Latin alchemy. Furthermore, Fabri knew perfectly well that metallurgical alchemy had aroused doubt and perplexity from the very beginning and that in his own day it was discredited—invalidated by ecclesiastical prohibitions and rendered suspect by the tricks of empirics and incompetent practitioners (fol. 205r). Nevertheless, his *demonstratio* guaranteed the possibility of the art of transmutation.

Certainly, Fabri had an up-to-date knowledge of the principal disputes and arguments of the "quaestio de alchimia" that in the thirteenth and fourteenth centuries accompanied the introduction and development of alchemical research in the West, finally silting up into the enormous quaestio-tractatus of Petrus Bonus of Ferrara and into the judicial accusations of the inquisitor Nicolás Eymerico.<sup>21</sup> Many of the arguments in Fabri's demonstration are in fact traceable in preceding quaestiones. They are, however, reproposed not in a quaestio but in a demonstratio—which, like a quaestio, certainly links Fabri to the use of syllogistic argument but, unlike a quaestio, allows him to avoid the listing and refutation of positions different from his own.<sup>22</sup> Moreover, his demonstratio is not "scholastic," in the sense that it does not originate from commentary on a text—unlike, for example, the quaestiones on alchemy by Themo the Jew and Pomponazzi, both of which are part of commentaries on the Meteorologica.<sup>23</sup> It is not even "alchemical," in the sense that it does not aim at removing specific doubts, errors, and perplexities—as "Geber" did in his Summa, before proceeding with his treatise on specialized alchemical theories and instructions. Fabri's demonstratio, although following the rules of the genre (to demonstrate by means of the Aristotelian four causes), is at once systematic and open: he is free both merely to hint at themes that were obligatory points for discussion in the quaestiones and to introduce digressions in which he expands on themes that he thinks significant.

Thus, for example, earlier authors who wrote on metallurgical alchemy had frequently laid great stress on demonstrating the epistemological link of *subalternatio* as a way of guaranteeing a place for their discipline in scientific naturalistic knowledge. In contrast, Fabri simply assumes a hierarchical structure in which alchemy is a *scientia* or, rather, a *pars philosophiae*, which is subalternate to natural philosophy and more specifically to *De mineralibus*. This science elaborates theories that should guide the operations of practical alchemists, who are called *mechanici* and *subalternati*: they are to be ruled and controlled by the true philosopher (*De lapide*, fols. 246r–v, 250r). Similarly, the relationship between alchemy as an *ars* and nature, which had been central to the *quaestio de alchimia*, is no longer a problem—or, at any rate, not for Fabri—and therefore is not discussed.<sup>24</sup> On this subject, Fabri repeatedly declares himself in agreement with Albertus' position and simply mentions a

relationship of *imitatio-ministratio*, like that which medicine and agriculture have with nature (fols. 246v, 252v).

However, Fabri introduces on his own account a long paragraph on the nature and virtues of fire into his discussion of the efficient instrumental cause of performing the *opus*. Here, along with physical properties and scientific authorities, appear ps.-Dionysius and his *Angelic Hierarchy*, Pythagoras and Plato, the Chaldeans, and Scripture; and an analogy is proposed between the Holy Trinity and the fiery trinity of light, live coals, and flame. Fabri was not the first author to divide fire in this way; moreover, since he (following the ps.-Baconian *Speculum secretorum*) endowed the fire of alchemists with almost the same transmutatory efficacy as the *lapis*, and since the *lapis* could be (according to Bonus) a perfect analogy of the Holy Trinity, it is not surprising that this fiery trinity could be compared to the divine Trinity. Nevertheless, the explicit analogy may be Fabri's own. At any rate, despite having checked a number of likely texts, I have not yet found any earlier sources for this trinitarian analogy, which Fabri asserts was set forth by great philosophers.<sup>25</sup>

Again, at the end and as a complement to the *demonstratio*, Fabri inserts a whole passage on the role of ethics in transmutation (fols. 249r–250v). The philosopher who is an inquirer into this art (*philosophus huius artis inquisitor*), who is content with inquiry after truth alone, "must be not only a natural philosopher but also a moral philosopher." So, in addition to a rational *subalternatio* of alchemy to natural philosophy, which makes it a true science, we find a sort of *subalternatio* to ethical values, which makes it a virtuous science. In the literature of metallurgical alchemy there were certainly admonitions and exhortations about moral qualities necessary for the alchemist. Fabri knows these moral qualities, links them to the Aristotelian *Ethics*, and amplifies them into a reflection that unites scientific knowledge with prophetic-religious knowledge, philosophical virtue, and political power.

Let us see how. Fabri here is commenting on the prologue of the *Tractatus aureus* of Hermes. From it, he infers that Hermes was a prophet because he declares that he has been divinely inspired and because he "tells in advance" (before revelation) his faith in one God, in free will, in resurrection, and in the Last Judgment.<sup>27</sup> Thus alchemy appears to be *partim divina*<sup>28</sup>—that is, it derives also from inspiration and prophetically expresses religious truth; therefore, alchemical truths are also concealed in the images and analogies used by the prophets of old. For this reason, the alchemist prays God to unveil meanings to him and to help him in operating.<sup>29</sup> Such knowledge, which is simultaneously rational and holy, necessarily required those high moral qualities that in fact the alchemists recommend. But—and here Aristotle intervenes—virtue is also the ability to choose with free will and operate *delec*-

tabiliter. How then can the alchemist—at once philosopher, illuminated by inspiration, and virtuous by reason of his freedom—allow himself to be constrained by the unjust violence of princes who too often oppress seekers after truth? Fabri has no doubts: the *valens philosophus* would prefer to die for the alchemical art rather than reveal that which is the fruit both of divine inspiration and of his free will as a researcher. Three examples of "scientific suicide" to defend knowledge from tyrannical oppression confirm the philosophical virtue of alchemist philosophers, which is inseparable from their true knowledge.<sup>30</sup>

Warnings about difficult relations between alchemists and the powerful are topoi in the literature of metallurgical alchemy.<sup>31</sup> Rupescissa too warns, with prophetic zeal, against those tyrants who, at the advent of Antichrist, will oppress evangelical men.32 Fabri transforms the warnings by weaving them together with classical examples and Aristotelian philosophy. Thus transformed, they become the basis on which Fabri constructs his concept of the correct and ideal relation between alchemists and princes, 33 to which I shall return. Finally, at the end of this passage—the themes of which are obviously very dear to his heart—Fabri stresses that theoretical knowledge is inseparable from philosophical virtue and from the proper exercise of power. Alchemy and its goals are legitimate and acquirable without those crimes that usually go along with seizing power; indeed, the acquisition of power without infamous crimes could in a certain way be favored by alchemy (fols. 249v-250r). Its legitimacy resides above all in the fact that it is a just method of searching for truth because it proceeds "first of all by theory with the true doctrine of philosophy."34 Certainly, tyrants are not virtuous, because they are ignorant and aggressive; equally lacking in virtue are the deceitful practices of fraudulent and wandering alchemists, because they proceed "casually like empirics," far from the light of theory and of true philosophy. Tyrants and empirics are thus joined at opposite but symmetrical extremes with respect to an ideal center where the powerful and virtuous knowledge of the alchemists and the wisdom of their protectors is to be found. Tyrants have power but not knowledge and wisdom. Therefore their power is crude and fragile. Empirics have only apparent knowledge; therefore it is inefficacious and deceitful. Both are in any case ethically deviant and distorted, far from philosophical virtue.

IV

This analysis, which has brought out some values—scientific, ethical, and religious—of the image of alchemy held by Fabri, will, I believe, have made

clear the sense in which I spoke of Fabri as standing at a crossroads. That will become clearer still if we consider what Fabri has to say about the other, medical, variety of alchemy. We have already seen how much Fabri uses texts from this branch, even though he did not completely accept their basic concept. More generally, Fabri is one of the earliest and most noteworthy compilers and constructors of the legend of Lull the alchemist, his relations with Arnald, his stay in England, and his relations with kings.<sup>35</sup>

This legend is important because it provided a supporting structure that, from the fifteenth century onward, accompanied the accumulation of the Lullian corpus and supplied an explanation for the resemblance between the positions held in the most ancient core of the corpus and those found in texts attributed to Arnald and John Dastin. Fabri knew these texts and was aware of the common orientation of their authors. He named them many times and described them as operating together for—or rather, with—King Edward of England. About Edward himself, he said: "How many labors King Edward of England undertook! In the dress of a hermit, he went around the whole world for the sake of this art."

Several points are worth stressing here. It was around these personages that Fabri constructed his own model of ideal alchemical patronage, which we are thus able to read. There is a king, directly interested in alchemy to the point of personally undertaking tiring tasks, journeys, and the hermit's solitary life; three wise alchemists come to him from afar, and he treats them with every honor; they instruct him; they work with him and for him; they perform the opus; and the king divides its results with them. Besides sharing knowledge and wealth, Edward would like to share his power, namely the kingdom, with them too; but they "say that to reign and to philosophize are two incompatible things" (fol. 253r), and leave their books to the king and to posterity. We can recognize elements here—the eremitical life, the refusal of power, the bequest of writings; the mastery and collaboration between the wise man and the king—which go back to two archetypes of the relation between the wise man/alchemist and king: the Liber of Morienus and the Secretum secretorum. As usual, Fabri reworks these elements in new forms; in this case perhaps he uses them also to characterize his own relationship with the pope. Indeed, just as the three alchemists put philosophy in first place, so when Felix V compliments Fabri on his excellent demonstration and wants him next to prove alchemy through experiment, Fabri replies that the philosopher must rest content solely with speculative inquiry into truth.<sup>38</sup>

Moreover, Fabri, like modern historians, perceives agreement in doctrine among the three alchemists and traces a genealogy that has its origin in Roger Bacon.<sup>39</sup> In fact, Fabri made much use of "Bacon," both *De retarda*-

tione (which, although much used without attribution, is in one instance explicitly quoted as by Arnald) and the *Speculum secretorum*—in the latter case specifying that Bacon "was a Peripatetic." This is yet further evidence of Fabri's sensitivity to the specific characteristics of medical alchemy. Also like modern historians, however, he was not able to trace explicit derivation from Bacon and had to content himself with simply pointing out a chronological relation: "Roger came before them."

V

Fabri was very familiar with and sympathetic to the authors of medical alchemy, but his sympathy fell short of complete accord. He contributed to the construction of a legend that highlights a doctrinal trend synthesizing alchemy and medicine; but he also readily broke up the synthesis or at least did not adopt it consistently. Moreover, Fabri was also theoretically competent in metallurgical alchemy. He provided a logical demonstration of the possibility of metallurgical transmutation and confirmed its legitimacy. But he did not touch on the operative doctrines and the opus, nor did he appear to value them particularly highly. In fact, he warns the pope that he has written the demonstration for him "not in order that you should spend money in trying out such secrets," but only to show "the possibility of the thing." 40 As for experimentum, which according to Fabri's own declaration at the beginning was indispensable to a Peripatetic proof, appeal to the evidence of sense experience is not lacking.<sup>41</sup> But when at the end of the demonstration the pope asks for experimenta in the sense of operative proofs, Fabri, as we have seen, reminds him of the primary value of philosophical truth alone. After that, a long silence follows. Again, at the end of the section on gold, at the moment of "descent to experiments," Fabri affirms that these would be too incredible; and in any case he prefers to replace them with the praise of gold in the aphoristic hymn about the harmony between the celestial and the terrestrial sun.42

How, therefore, did he conceive of alchemy, of trends within alchemy, of the alchemical *opus*, the elixir, and potable gold? They were not subjects to which he intended to give a profound theoretical and critical analysis in order to reach a definitive solution. Nor were they goals that would demand the operative intervention that gives rise to actual processes and tangible results. Instead, they were for him essentially, primarily, and above all exceptionally interesting textual objects. Fabri analyzed them by means of doctrinal and exegetical exercises and applied to them the techniques of erudition, namely collecting and amplifying.

This interpretation of his text explains its apparent theoretical uncertainty by highlighting Fabri's relative indifference to specific comparisons and definitive solutions. It may also explain why Fabri chose to deal with the subject not within the constraints of the quaestio format but in a more elastic demonstratio. Again, this interpretation reinforces the idea that the most convincing and substantial relation between alchemy and medicine on which Fabri focused is that which emerges from his learned and erudite gathering together and common use of the disciplines' respective texts. So it is hardly surprising that the pleasures of erudition are judged by Fabri to be among the principal aims and results of his research. Indeed, Fabri recognizes that his rational inquiry about potable gold and also his demonstration on transmutation are undertaken chiefly "as a recreation and exercise" (fol. 251r: "causa solaci et me exercitandi volo experiri ad quod potero pervenire"). What are involved are exercises in doctrine and logical ability, which are interesting, pleasurable, certainly also rigorous, but not radical. They are pleasurable for Fabri and also for the pope who, while he groans from pain at the beginning of the text and during the first meeting, in the end gets up laughing. Perhaps he has not solved his physical problems, but it has evidently done him good to devote himself "with so much pleasure to these difficult arguments" (fol. 253v).

At the same time, erudition can be a good interpretive tool. In fact, the objects (alchemy, potable gold, elixir, etc.) presented by the texts gathered and used by Fabri all involve language that is to a certain extent metaphorical and allusive, as Fabri and the pope recognized at the very beginning of their meetings. These objects, accordingly, require two kinds of exegesis. One is the reduction to univocal Peripatetic semantics undertaken by Fabri in the first section. The other, different but no less valid, is that of erudition and allegorical interpretation. I think that the excursus on fire and the story of the deeds of the three alchemists in part have this function. From this point of view, moreover, we can consider the entire third (and last) section of *De lapide*, which is devoted precisely to the analysis of mysterious terms—*telchem aut thelesim* and *yxir*: "these are two very secret words among the ancient philosophers and prophets" about which "all seers prophesied and wrote an infinite number of allegories" (fols. 251r–253v).

Here also, as always, Fabri starts from the texts and follows the analysis of his favorite Albertus, but in this case he uses the *Speculum astronomiae*. He distinguishes two arts to which these terms pertain. One is licit transmutatory alchemy (*yxir*); the other (linked with *thelesim-telkem*), although placed by "great philosophers" side by side with philosophy and medicine, is an ill-defined astrological-magical science.<sup>43</sup> The goals of this science, as listed by

Thebith Bencorat, are prohibited by divine and human law.<sup>44</sup> Arnald devoted some space to it in his *De sigillis*, but readily—Fabri points out—came down from the heavens of this difficult and fallible science "to the bowels of the earth," that is, to research on minerals, and found out the truth, which is alchemy.<sup>45</sup> In fact the alchemical science of the elixir fulfills in a legitimate and natural way, without danger to either body or soul, all the goals that the forbidden science of the *thelesim* promises (fols. 252v–253r). As we can see, in this section Fabri seems to distinguish two sciences—magic and alchemy—and two meanings of *thelesim*. In one sense, *thelesim* is equivalent to a magical link, pertains to magic, and is forbidden. In the other sense, *thelesim* is equivalent to *yxin*, as the permissible, efficacious, and true *thelesim* of Hermes—that is, the highly generic elixir-*thelesim-fortitudo* of the *Tablet*. Up to this point, Fabri is presenting an interesting—and unusual—reduction of magic to alchemy. He transforms the illicitness and vagueness of magic into the legitimate rationality of alchemy.

But this treatment of alchemy also makes it assume the broad ends, the power, and the sacred aura of the magic art. As a result, in this section the elixir has become highly generic and polyvalent; it therefore can be interpreted in many different ways. In fact, it becomes a nucleus of aggregation and amplification that produces a paratactic list of scriptural quotations, mythical fables, and references to poets (fol. 252r). This exuberant series of definitions, so interesting in its richness and potentially capable of amplifying the meaning of "alchemy," is not further developed in any way, and its innovative character remains implicit. It surely confirms that for Fabri, alchemy had to do with religiosity and mythology. But it also shows that at the time when he wrote, these links were not yet the basis for a concept of alchemy aimed at perfection of the soul and spirituality of the adept. Nor were they yet the basis for the elaboration of a fully developed mythological hermeneutics tracing the art back to ancient poet-philosophers and thus capable of interpreting elusive alchemical instructions by means of mythological fabule.

As is well known, these developments became obvious later, after Fabri, during the sixteenth century. 46 They had already made an embryonic but very significant appearance in the *Pretiosa margarita* of Petrus Bonus. 47 However, even a brief comparison of Fabri's work with this text reveals how different the two are in style and intention. When Bonus speaks of the ancient philosopher-alchemists, as he is considering their alchemical theories and *dicta* regarding the *lapis* (a union of body, spirit, and soul, which is finally revealed in all its glory at the end of the *opus*, arising out of depurated matter, etc.), he remarks that for the very reason they were alchemists, they were prophets too. In other words, Bonus starts out from his own theory on the

lapis; he considers some particular technical phases of the opus and the concrete features of the lapis mentioned in the alchemical texts. He thus points out that the ancients, who knew the truth of alchemical phenomena because they had seen them during their operative working, must necessarily have glimpsed some facts and truths of the Christian religion, which had the same characteristics. Fabri expresses the same opinion, but he is simply commenting on the generic statements of the prologue of Hermes' Tractatus aureus. Bonus maintains that alchemy, "partim divina," is an all-pervasive science that permeates all other forms of knowledge and draws them to itself. This is why the poets' verses and fabule can be interpreted as having reference to the opus, of which they show specific stages and features.<sup>48</sup>

Unlike Petrus Bonus, Fabri rests his list of scriptural and poetic allusions neither on a fully articulated, explicit conception of alchemy nor on a philosophical analysis of alchemical language. Moreover, he has no interest or competence in the operations and techniques of alchemists, on which Bonus had based his reflection on alchemist-prophets and poet-alchemists. Therefore, Fabri's references to Scripture and the poets do not serve to explain. Rather, he uses wide erudition and symbolic amplification to stress and exalt just one concept: the power of a *thelesim*-elixir, the mysteriousness and elusiveness of which are more and more emphasized and not explained.<sup>49</sup>

## VI

Other physicians more or less contemporary with Fabri also took an interest in alchemy and in the relation of alchemy and medicine. In 1456 a petition was presented to King Henry VI of England that was very different from many others in which a license to practice transmutatory alchemy was requested. The signatories, among whom were various medical practitioners and court physicians, proposed researches aimed at utilizing the philosopher's stone as a medicine that would be much more powerful than those handed down by the ancients. It is the "mother of medicines," the agent of perfection for all bodies in the pseudo-Lullian tradition. The petition was accepted; but we are better informed about the manuscript of the *Testamentum* prepared by Kirkeby, one of the signatories, than about the outcome of the research.<sup>50</sup>

Moving on to other cases closer to Fabri, either culturally or professionally, we can better describe the position of Michele Savonarola, university professor and physician at the Estense court from 1440; he wrote a *Libellus de aqua ardente* for Leonello d'Este.<sup>51</sup> In this work, following the tendency of fourteenth-century physicians, Savonarola distinguished between

alchemy and medicine. He doubted the possibility of manufacturing the quintessence, praising instead the therapeutic value of *aqua ardens*, which can prolong life. In his treatise, gold maintains its traditional properties and as such is an ingredient in numerous medicinal recipes. However, he held it to be indigestible; he therefore defined potable gold as "something to laugh at," while *aqua ardens* was a "precious treasure," especially useful in times of plague.<sup>52</sup> Savonarola's position on the relation of medicine and alchemy is characterized by distinction of fields, attention to the possibility of the exchange of ingredients and techniques, and knowledge of alchemical theories and operations.

Antonio Guaineri, professor at the University of Pavia and court physician to Amadeus VIII, appears more confused about the subject. Perhaps he was one of those physicians incapable of curing Amadeus because they were following "the way of vulgar medical practitioners," whose ignorance the pope lamented with Fabri at the beginning of our text. Certainly, Guaineri's texts, which collectively amount to a practica, are dedicated to operative medicine. In them he competently describes tools and techniques of distillation, sublimation, and fermentation; and he is very attentive—with a mixture of contempt and professional interest—to the practices and remedies of the vulgares and to the skills of pharmacists, goldsmiths, and gemmarii. In Guaineri's work, texts are cited that are unusual to find in a practica, such as Albertus' De mineralibus and the Secretum secretorum. He reports some alchemical remedies and products of techniques that are common to alchemy and pharmacology. He describes a recipe for an excellent ointment for paralysis (evidently not very efficacious on his august patient), which he got from a hermit who, having become expert in compounding medicines during years of vain alchemical research, subsequently became a physician. As for potable gold, it appears "absurd" to him for the same reasons as it did to Savonarola, but he adds: "I have, however, heard from two alchemists worthy of faith that they can undoubtedly manufacture it."53 Finally, one member of Piedmont's Albini di Moncalieri family of physicians, all of whom were linked to the court of Savoy, left a splendid recipe for potable gold; in his dryly technical instructions, Albini stressed that with a little quantity of this gold, "in three days wonders will occur."54

In their diversity, these positions bear witness to the widespread interest in alchemy among physicians and in particular to the physicians' lively attention to potable gold. Moreover, all these authors and their ideas are in various ways linked to courtly needs and culture. Fabri has only these two very general characteristics in common with this group; in many specific features, his text is quite different.

Fabri's distance from the opus and from practice allows him to isolate and define specific themes and comparisons, as well as to devote his analysis exclusively to aspects of his own choice, avoiding the standard contexts in which alchemical themes are developed in medical texts. Moreover, if we agree that Fabri's way of writing is to be understood primarily as a form of erudition, we can see how this erudition enriches and enlarges the themes under discussion, when it is set against the narrow technicality of Albini's recipe for potable gold, Guaineri's casual anecdotes about alchemists, and Savonarola's sober considerations on aqua ardens. In other words, having defined his subject and removed it from practice, Fabri made it into a new object—specifically, a textual object—around which he could collect anthropological notes, poetic and mythological references, and ethical evaluations of a kind that we cannot find in most medical texts. Indeed, the rules governing the writing of such texts would make these subjects inappropriate and out of place. Thus, Fabri proposed to the pope neither efficacious remedies nor experimenta; instead of the "secret medicine" (medendi genus secretum) which the pope had requested, he offers a self-sufficient collection of quotations, symbols, interesting stories, unforeseen textual interweavings, and themes developed in unusual ways. That is, he offers not a cure for the pope's physical disease but satisfaction for his intellectual curiosity in a context not of therapy but of erudition. This has to be intended as an edifying pedagogy as well as a development giving a new connotation to the ancient motto continually repeated by the alchemists: "Liber aperit librum."

#### VII

After having described the formation of an ideal alchemical patronage in which king and alchemists work together with practical success, Fabri embarks on a different kind of relation, which he presents as based principally on pleasurable study. This transformation does not escape the pope, nor does he seem happy with a textual object that he can possess only by erudition. Therefore, eventually, he exclaims "with a certain vehement outcry": "Who can say, in these days, 'I have the true elixir?" (fol. 253v).

To this last cry—a lament more than a question—not even historians can give a precise response, because of the many different directions in which alchemy moved during the fifteenth century, in which the elixir could have so many different meanings. Certainly Fabri had no response. But as others had dedicated texts to the pontiff in order to produce the *opus* or had produced the *opus* for kings, so too Fabri offers an *opus* to his august interlocutor. What Fabri produces is a literary opus, manufactured by working on

textual ingredients that he manipulates and assembles, thus transforming them. This opus is evidently produced in the library, not in the laboratory. When Fabri leaves the pope—as he informs us—he retires to his house (perhaps into his *studiolo?*), entrusts himself to his *ingeniolum*, peruses a great many books—and writes.

The lack of operative referent and the distance between the opus and manual work, typical of many alchemical texts written in the Middle Ages and the early modern period, have justly been viewed as a sign and result of a process of "spiritualization" of alchemy. In this view, the art was deemphasizing the program of transmutation and turning either into medicalpharmacological research or into a search for spiritual perfection of the adept. But much remains to be learned about fifteenth-century alchemy. Fabri's is only one of many little-known texts; perhaps we should not attach too much weight to a work that does not seem to have circulated or exercised subsequent influence. Nevertheless, it seems to me to represent an example of a possible third line of development within Renaissance and early modern alchemy. In fact, one can retreat from the laboratory not only to the "oratory"55 but also to the library and reach for the shelves of erudition. Here, in a doctrinal and erudite context, transmutation, wondrous remedies, therapeutic goals, and alchemico-religious intuitions could continue to be maintained in some unity; in any case, their textual basis could be preserved, even if they were transformed and mixed together in strange combinations. In this way, a textual and conceptual complex, which had already been organized and enriched, was transmitted. Such a complex could be elaborated even further, either leading to the pleasures of erudition or perhaps becoming the basis on which subsequent researchers could work according to different goals.

I believe that this third way of erudition was of considerable significance, especially in the fifteenth century, when the newly venerated classical authors met the venerable alchemists. Even in later alchemical projects—more engaged and coherent, based on more solid and better-thought-out philosophical grounds—erudition remains a feature and above all a mental attitude that is never entirely absent.

#### **NOTES**

I would like to thank Michela Pereira, who first drew my attention to Fabri's text, and Nancy Siraisi, who helped me in translating this paper.

1. Bologna, Biblioteca Universitaria (Fondo Caprara), MS lat. 104 (Frati, no. 138), fols. 245r–253v: "Incipit Liber Guylielmi De Dya de lapide philosophorum et de auro potabile ad summum pontificem. Gratulanti mihi dudum . . . " (hereafter cited as *De lapide*).

On this manuscript and Fabri's text, see Lodovico Frati, "Indice dei codici latini conservati nella R. Biblioteca Universitaria di Bologna," *Studi italiani di filologia classica* 16 (1908): 155–158; Lynn Thorndike, *A History of Magic and Experimental Science* (New York: Columbia University Press, 1923–1958), 4:342–344; on the Fondo Caprara, see Didier Kahn, "Le fonds Caprara de manuscrits alchimiques de la Bibliothèque universitaire de Bologne," *Scriptorium* 48, no. 1 (1994): 62–110. MS lat. 104 contains several other alchemical treatises; see notes 16 and 54, below.

- 2. De lapide seems to be the only work under Fabri's name. I do not deal here with problems concerning his identity and career, which would require too lengthy an analysis: see, however, Thorndike, Magic and Experimental Science, 4:342–344; Ernst Wickersheimer, Dictionnaire biographique des médecins en France au Moyen Age, new ed. with supplement by Danielle Jacquart (Geneva: Droz, 1979), 1:242; Elisa Mongiano, La cancelleria di un antipapa: Il bollario di Felice V (Amedeo VIII di Savoia) (Turin: Palazzo Carignano, 1988), p. 114; Concilium Basiliense, vol. 7, Die Protokolle des Concils 1440–1443, ed. Hermann Herre (Basel, 1910; reprint, Nendeln/Lichtenstein: Kraus Reprint, 1971), p. 201; Heribert Müller, Die Franzosen, Frankreich und das Basler Konzil (1431–1449) (Paderborn: F. Schöningh, 1990), 1:159, 2:603. See also the (not entirely reliable) notices and summary of Fabri's work provided by Giovanni Carbonelli, Sulle fonti storiche della chimica e dell' alchimia in Italia (Rome: Istituto Nazionale Medico-farmacologico, 1925), pp. 84–93.
- 3. Fabri's name is not recorded in medical documents related to the Savoy Court. Antonio Guaineri was the most famous of the physicians who officially worked at the court in that period. See discussion later in this paper; Danielle Jacquart, "De la science à la magie: Le cas d'Antonio Guainerio, médecin italien du XVe siècle," *Littérature, Médecine et Société* 9 (1988): 137–156; and eadem, "Theory, Everyday Practice, and Three Fifteenth-Century Physicians," in *Renaissance Medical Learning: Evolution of a Tradition*, ed. Michael R. McVaugh and Nancy G. Siraisi, Osiris, 2nd ser., 6 (Philadelphia: History of Science Society, 1990), pp. 140–160.
- 4. On the multifaceted personality and political attitude of Amadeus VIII/Felix V and the courtly culture that he promoted, see Bernard Andenmatten and Agostino Paravicini Bagliani, eds., Amédée VIII-Félix V, premier duc de Savoie et pape (1383–1451), Colloque International, Ripaille-Lausanne, 1990 (Lausanne: Bibliothèque Historique Vaudoise, 1992), especially the contributions of Jacques Chiffoleau, Catherine Santschi, Elisa Mongiano, Sheila Edmunds, Robert Bradley, and Terence Scully. See also Enea Silvio Piccolomini, De viris illustribus, ed. Adrianus Van Heck (Vatican City: Biblioteca apostolica vaticana, 1991), pp. 74–79; and idem, Commentarii rerum memorabilium . . . , ed. Adrianus Van Heck (Vatican City: Biblioteca apostolica vaticana, 1984), 1:54, 435–441.
- 5. On aging and prolongevity, besides the classic introduction of Gerald J. Gruman, A History of Ideas about the Prolongation of Life: The Evolution of Prolongevity Hypotheses to 1800, Transactions of the American Philosophical Society, new series, 56, part 9 (Philadelphia: American Philosophical Society, 1966), see now Agostino Paravicini Bagliani, Medicina e scienze della natura alla corte dei Papi del Duecento (Spoleto: Centro Italiano di Studi sull'Alto Medioevo, 1991), esp. chaps. 6, 7, 9, and 10; Faye M. Getz, "To Prolong Life and Promote Health: Baconian Alchemy and Pharmacy in the English Learned Tradition," in Health, Disease, and Healing in Medieval Culture, ed. Sheila Campbell, Bert Hall, and David Klausner (New York: St. Martin's Press, 1991), pp. 135–145; Michela Pereira, "Un tesoro

inestimabile: Elixir e 'prolongatio vitae' nell'alchimia del Trecento," *Micrologus* 1 (1993): 161–187; Luke Demaitre, "The Care and Extension of Old Age in Medieval Medicine," in *Aging and the Aged in Medieval Europe*, ed. Michael M. Sheehan (Toronto: Pontifical Institute of Mediaeval Studies, 1990), pp. 3–22.

- 6. More or less contemporaneously, the Savoy court cook, Master Chiquart, was imperiously asked (as he repeatedly remarks) by Amadeus VIII to write a treatise on the courtly culinary art. Cookery is considered here as a "science et art, science de l'art de cuysinierie et de cuysine." In the prologue, Chiquart, too, lists "les quatre causes principales que doyvent estre en toute bonne oeuvre, c'est assavoir, cause efficient, material, formal et final"; see *Du fait de cuisine par Maistre Chiquart, 1420*, ed. Terence Scully, in *Vallesia 40* (1985): 130, 127. Chiquart remarks that, in several cases, the good cook should follow the dietetic directions of the physician; for his part, Fabri stresses the theoretical value of the true science of cooking as opposed to the mere practice of "coquus mechanicus" (fol. 250r).
- 7. De lapide, fol. 245v: "Si peripateticorum solis auctoritatibus insistere opporteat et eorum conclusionibus uti, non est necesse ut degenerem ab eorum stillo et ideo fortassis sermo videbitur minus cultus. Sane malo cum philosophis sedere mensa inculta coloribus quam cum philologis gladium semper accuere et numquam percutere; sententie enim philosophie sui natura pulchre sunt et facunde." Fol. 246r: "Quia autem sanctitas vestra peripatetichorum scholam deligerit credo quia sola ista inter ceteras pauca protulit que non sint digna fide. Omnia enim que dixit Aristoteles eleganter probat ratione aut experimento."
- 8. In addition to the scientific and philosophical authors (mainly Aristotle and Avicenna) whom learned physicians were normally expected to master, Fabri also competently handled philosophical and patristic sources unusual in both medical and alchemical treatises: *De unitate et uno*, ascribed to Boethius; Boethius, *De consolatione philosophiae*; Isidore of Seville, *Etimologiae*; ps.-Dionysius, *Hierarchia angelica*; Apuleius, *De Deo Socratis*; Ambrose's commentary on Luke.
- 9. The basic text of this tradition is the pseudo-Lullian *Testamentum*. A critical edition of this work by Michela Pereira is forthcoming. For the time being I use the *Testamentum* edited in Jean Jacques Manget, *Bibliotheca Chemica Curiosa* (Geneva, 1702), 1:707–777; regarding the wonderful powers of the lapis/elixir, see pp. 776B–777A. Among the many studies she has devoted to this tradition, its theories, and development, see Michela Pereira, *L'oro dei filosofi: Saggio sulle idee di un alchimista del Trecento* (Spoleto: Centro Italiano di Studi sull'Alto Medioevo, 1992); eadem, "Teorie dell'elixir nell'alchimia latina medievale," *Micrologus* 3 (1995): 103–148; eadem, "Mater medicinarum': English Physicians and the Alchemical Elixir in the Fifteenth Century," in *Medicine from the Black Death to the French Disease*, ed. Roger French et al. (Brookfield, Vt.: Ashgate, 1998), pp. 26–52; see also above, note 5.
- 10. See John of Rupescissa, Liber de consideratione quintae essentiae (Basel, 1561), liber primus, pp. 22-23.
- 11. See Chiara Crisciani, "Medici e alchimia nel secolo XIV: Dati e problemi di una ricerca," in *Atti del Congresso internazionale su medicina medievale e scuola medica salernitana* (Salerno: Centro Studi Medicina 'Civitas Hippocratica,' 1994), pp. 102–118; see also later discussion in this paper.

12. See *De lapide*, fol. 247r, and compare Albertus Magnus, *De mineralibus*, book 3, tractatus 1, in his *Opera omnia*, ed. P. Jammy (Lyon, 1651), 2:252a-b. On different forms of analogy between alchemy and medicine, see Chiara Crisciani, "Il corpo nella tradizione alchemica: Teorie, similitudini, immagini," *Micrologus* 1 (1993): 189–233, and Barbara Obrist, "Alchemie und Medizin im 13. Jahrhundert," *Archives internationales d'histoire des sciences* 43 (1993): 209–246.

- 13. See Pereira, "Teorie dell'elixir," p. 125.
- 14. De lapide, fol. 251v: "Quia [aurum] igitur est in complexione temperatum, ideo habet vim temperandi, et quia materia illius fuit summe depurata duobus humiditatibus superfluis, videlicet unctuosa et inflamabile et aquosa seu flematica evaporabili . . . ideo habet vim summe depurandi humores superfluos et confortandi suum simile videlicet humidum radicale, cum in eo sola humiditas que est radicalis remaneat." The remarks about the two dangerous humidities are virtually quoted from Albertus Magnus De mineralibus, book 4, tractatus unicus, chap. 7, "De natura et commixtione auri," in Opera Omnia, ed. Jammy, 2:264b–265a.
- 15. For the medical concept of radical moisture, see Michael R. McVaugh, "The 'Humidum Radicale' in Thirteenth-Century Medicine," *Traditio* 30 (1974): 259–283; see also Gad Freudenthal, "The Problem of Cohesion between Alchemy and Natural Philosophy: From Unctuous Moisture to Phlogiston," in *Alchemy Revisited*, ed. Zweder R. W M. von Martels (Leiden: Brill, 1990), pp. 107–116.
- 16. To give only a few examples, something of the kind can be found in Roger Bacon, De retardatione accidentium senectutis, ed. A. G. Little and E. Withington, in vol. 9 of Opera hactenus inedita Rogeri Baconi (Oxford: Clarendon, 1928), esp. pp. 43–46; idem, De conservatione iuventutis, in ibid., especially pp. 133–134, 139–140; ps.-Arnald of Villanova De vita philosophorum, ed. Antoine Calvet, Chrysopoeia 4 (1990–1991): 62, 68, 72–74; idem, De conservanda iuventute, in his Opera omnia (Basel, 1585), col. 818; ps.-Lull, Liber Mercuriorum (third part of Testamentum), chap. 18: "De aquis et medicinis pro humano corpore," Oxford, Corpus Christi College, MS 244, fol. 63va; John of Rupescissa, De consideratione, p. 23; Tractatus de investigatione auri potabilis editus a quodam solemni medico, Bologna, Biblioteca Universitaria (Fondo Caprara), MS lat. 104, fols. 271r–283v (a very interesting anonymous text in the same codex as Fabri's De lapide), at fol. 282v.
- 17. See, among the many studies he devoted to the "Alchimica" of ps.-Arnald, the contribution of Antoine Calvet, "Mutations de l'alchimie médicale au XVe siècle: A propos des textes authentiques et apocryphes d'Arnaud de Villeneuve," *Micrologus* 3 (1995): 185–209. See also Giuliana Camilli, "Scientia mineralis' e 'prolongatio vitae' nel 'Rosarius philosophorum," *Micrologus* 3 (1995): 211–225; Michela Pereira, "Arnaldo da Villanova e l'alchimia: Un'indagine preliminare," in *Actes de la I trobada internacional d'estudis sobre Arnau de Vilanova* (Barcelona: Arxiu de Textos Catalans Antics, 1995), 2:95–174; and note 5 above. These and other recent studies on the relationship between alchemy and medicine in the fourteenth and fifteenth centuries point out the pivotal role of "Arnald" in the development of this network of medical-alchemical conceptions. Arnald, a famous and authoritative physician and alchemical *auctoritas*, involved in several texts on prolongevity (authentic, attributed, or with paternity as in the case of *De retardatione*—variously ascribed to Arnald or Bacon), became a more and more important and reliable reference, especially for those physicians interested in potable gold and alchemical remedies.

- See, for some witnesses of this role, Chiara Crisciani and Michela Pereira, "Black Death and Golden Remedies: Some Remarks on Alchemy and the Plague" in *The Regulation of Evil: Social and Cultural Attitudes to Epidemics in the Late Middle Ages*, ed. Agostino Paravicini Bagliani and Francesco Santi (Florence: Società Internazionale per lo Studio del Medioevo Latino, 1998), pp. 7–39.
- 18. Rupescissa, *De consideratione*, pp. 22–24, 48–53; Arnald of Villanova, *De vinis* in his *Opera omnia*, cols. 586, 591. Outstanding praises of the two "suns" can also be found in the treatise of the *Solemnis medicus* (see note 16 above), fols. 279r–280v. Danielle Jacquart pointed out the relevance of *héliocentrisme* also in the sober ideas on alchemical remedies of Michele Savonarola: see "Médecine et alchimie chez Michel Savonarole (1385–1446)," in *Alchimie et philosophie à la Renaissance*, ed. Jean-Claude Margolin and Sylvain Matton (Paris: Vrin, 1993), pp. 109–122.
- 19. De lapide, fols. 252v–253r: "Non credo fore aliud telkchem permissum nisi verum yxir Hermetis quem Aristoteles vocat patrem omnis telchem vel thelesim"; "Est enim yxir recte factum fortuna fortunarum, quia divitias largitur ad plenas quadrigas, ut dicit Raymondus in Testamento. . . . Itaque nullum impedimentum morborum nec aliud potest prevalere adversus habentem."
- 20. The idea would later be developed, for instance, by Giovanni Bracesco in his *Lignum vitae*, edited in Manget, *Bibliotheca Chemica Curiosa*, 1:911–938; cf. Sylvain Matton, "Marsile Ficin et l'alchimie: Sa position, son influence," in Margolin and Matton, *Alchimie et philosophie*, pp. 155–156.
- 21. Petrus Bonus of Ferrara, *Pretiosa Margarita Novella*, edited in Manget, *Bibliotheca Chemica Curiosa*, 2:1–80; Nicolás Eymerico, *Contra alchimistas*, in "Le traité 'Contre les alchimistes' de Nicolas Eymerich," ed. and trans. Sylvain Matton, *Chrysopoeia* 1 (1987): 93–136. On the *quaestio de alchimia*, see Chiara Crisciani, "La 'questio de alchimia' fra Duecento e Trecento," *Medioevo* 2 (1976): 119–168; Barbara Obrist, "Die Alchemie in der mittelalterlichen Gesellschaft," in *Die Alchemie in der europäischen Kultur und Wissenschaftsgeschichte*, ed. Christoph Meinel (Wiesbaden: Harrassowitz, 1986), pp. 33–60; William Newman, "Technology and Alchemical Debate in the Late Middle Ages," *Isis* 80 (1989): 423–445.
- 22. The quaestio format would still be used later—for instance, by Benedetto Varchi, Sulla verità, o falsità dell'archimia, questione, ed. Domenico Moreni (Florence, 1827); see Alfredo Perifano, "Benedetto Varchi et l'alchimie," Chrysopoeia 1 (1987): 181–208.
- 23. Thaemo Judeus, Quaestiones in quattuor libros Metheororum, ed. George Lockert (Paris, 1515–1518), fols. CCIva–CCIIIra. Pomponazzi's quaestio is transmitted by three reportationes: Paris, Bibliothèque Nationale, MS lat. 6535, fols. 334r–350r; Osimo, Biblioteca del Collegio Campana, MS 45, fols. 122r–126r; and in his commentary on Aristotle, Meteora, in Milan, Biblioteca Ambrosiana, MS lat. R 96 sup., fols. 162r–241v, which I have not been able to consult. The last of these manuscripts has recently been edited. See Paola Zambelli, "Pomponazzi sull'alchimia: da Ermete a Paracelso?" in Studi filologici e letterari in memoria di Danilo Aguzzi-Barbagli, ed. Caniela Boccassini, Filibrary series, no. 13 (Stony Brook, N.Y.: Forum Italicum, 1997), pp. 100–122. See Bruno Nardi, Studi su Pietro Pomponazzi (Florence: Le Monnier, 1965), esp. pp. 79–84; Franco Graiff, "I prodigi e l'astrologia nei commenti di Pietro Pomponazzi al 'De caelo,' alla 'Meteora' e al 'De

generation," *Medioevo* 2 (1976): 331–361; and Amalia Perfetti, "Aristotélisme et alchimie dans l'anonyme 'Trilogio della trasmutatione dei metalli," in Margolin and Matton, *Alchimie et philosophie*, pp. 223–251.

- 24. See Crisciani, "La 'quaestio de alchimia" and "Il corpo nella tradizione alchemica"; Newman, "Technology and Alchemical Debate"; Barbara Obrist, "Art et nature dans l'alchimie médiévale," *Revue d'histoire des sciences* 49.2–3 (1996): 215–286; Michela Pereira, "L'elixir alchemico fra 'artificium' e natura," in *Artificialia*, ed. Massimo Negrotti (Bologna: CLUEB, 1995), pp. 255–267.
- 25. De lapide, fol. 247r-v. Fire as light, flame, and glowing coal is introduced by Aristotle merely as an example of a possibly misleading attribution of species in Topics 5.5, 134b-135a. These three forms of "fire" appear later (with the correct reference to Aristotle) in Alexander Neckam, De naturis rerum libri duo, ed. Thomas Wright (London, 1863; reprint, Nendeln/Lichtenstein: Kraus Reprint, 1967), 1.17, "De igne," p. 57; they are also present in Bartholomaeus Anglicus, De proprietatibus rerum book 10, "De igne et eius proprietatibus" (chap. 4, "De igne"; chap. 5, "de flamma"; chap. 7, "de carbone"—I thank Jole Agrimi for this reference) and in Berthold Blumentrost, Questiones disputatae circa tractatum Avicennae de generatione embryonis et librum meteorum Aristotelis, ed. Rüdiger Krist, Würzburger medizinhistorische Forschungen 43 (Pattensen: Horst Wellm, 1987), p. 59; A very similar exemplum, based on the ignea lux that could be both in carbo and in flamma, is used by John of La Rochelle to explain the link between the rational soul and the body and the threefold nature of the soul; see Jean de la Rochelle, Summa de Anima, ed. Jacques Guy Bougerol (Paris: Librairie Philosophique J. Vrin, 1995), prima consideracio, VI (40), "De anima quantum ad corpus," pp. 125–130, esp. p. 127 (I owe this reference to Michela Pereira). However, John does not go on to develop the analogy between the threefold fiery soul and the Trinity.
- 26. For a survey of these moral qualities, see Chiara Crisciani, "Aspetti della trasmissione del sapere nell'alchimia latina: Un'immagine di formazione; uno stile di commento," *Micrologus* 3 (1995): esp. 158–162.
- 27. De lapide, fol. 249r. After having quoted the initial paragraph of *Tractatus aureus* ("Cum tanta etatis prolixitate experiri non desisterem . . . "), Fabri interprets it as follows: "In istis verbis Hermes unum deum confitetur et liberum arbitrium et diem judicii, resurrectionem et fidem."
- 28. De lapide, fol. 252v; see Bonus, Pretiosa margarita, p. 29A: "ipsa (alchimia) partim est naturalis et partim divina sive supra naturam."
- 29. De lapide, fol. 249r: "Venit [Deus] igitur multiplice prece placandus, ut apperiat artificit typos, figuras et analogias vatum et prophetarum antiquorum et ut auxilietur artificem in operatione sua." Besides Bonus, another outstanding interpretation of prophecies in alchemical terms is to be found in ps.-Arnald of Villanova, Exempla in arte philosophorum. See now the edition of Antoine Calvet, "Le 'tractatus parabolicus' du pseudo-Arnaud de Villeneuve," Chrysopoeia 5 (1992–1996): 145–47. See also Barbara Obrist, "Le rapport d'analogie entre philosophie et alchimie médiévales," in Margolin and Matton, Alchimie et philosophie, esp. pp. 56–64.
- 30. De lapide, fol. 249v: one of these cases (the philosopher who prefers to bite his own tongue rather than reveal the alchemical secret) is clearly a "modern" adaptation of

the political resistance of Zeno of Elea described by Diogenes Laertius, *De vitis philoso-phorum* . . . *libri decem* 10.5, 25–29.

- 31. See, among others, ps.-Albertus, *Libellus de alchimia*, in his *Opera omnia*, ed. Jammy, 21:3–4.
- 32. See John of Rupescissa, *De consideratione*, esp. the prologue; see also his *Liber lucis*, chap. 1, in Manget, *Bibliotheca Chemica Curiosa*, 2:84A. The cruel attitude of the oppressive tyrant against the brave, honest alchemist is also outlined in Thomas Norton, *Ordinall* (second half of fifteenth century), especially in the second part, where the virtuous deeds of the alchemist Thomas Daulton are told. He, although imprisoned, condemned, and hard-pressed by the king and other powerful personages, firmly kept secret the *magisterium* (in Manget, 2:293–294).
- 33. De lapide, fol. 249v: "Non debet igitur cogi philosophus directe vel indirecte nec male tractari, sed multipliciter honorari et verbis et factis dulciter attrahi."
- 34. *De lapide*, fol. 250r: "Et hic est verus modus inquirendi veritatem rerum, primo per theoricam cum vera doctrina philosophie, et non casualiter sicut empirici deceptores, vagi, omni prorsus lumine destituti vere theorice."
- 35. See Michela Pereira, *The Alchemical Corpus Attributed to Raymond Lull* (London: Warburg Institute, University of London, 1989): on the relevance of Fabri's contribution to the legend she notes, "Fabri is the first writer, so far as I know, to bring together the two parts of the legend—Arnald and the visit to England" (p. 43).
- 36. Fabri mentions Dastin, although he never quotes from his works; he uses both ps.—Lull, *Testamentum*, and Arnald (*De vinis*, *De sigillis*), and he explicitly attributes to the latter the *De retardatione*, usually ascribed to Roger Bacon. Note that Fabri changes the title of the Arnaldian medical work "De vinis" into "De vinis seu elixir," thus clearly showing that in his own view, this text deals mainly with alchemy.
- 37. De lapide, fol. 249v: "Quot labores sumpserit rex Anglie Odoardus, qui in habitu heremite pro hac arte circuivit orbem terrarum"; cf. Visio Edwardi, edited in Pascale Barthélemy and Didier Kahn, "Les voyages d'une allégorie alchimique: De la 'Visio Edwardi' à l' 'Oeuvre royale de Charles VI," in Comprendre et maîtriser la nature au Moyen Age: Mélanges d'histoire des sciences offerts à Guy Beaujouan (Geneva: Droz, 1994), p. 519: "Circuivi ego mundum ad ipsum inveniendum. . . . "The editors point out (pp. 495–496) that a version of the Visio with a prologue (in which Edward is represented as king, philosopher, and hermit) did indeed appear in the fifteenth century, when the legend of Lull in England also spread. The Visio and Fabri's De lapide are literally linked at least as regards the image of the king-hermit wandering in search of alchemy.
- 38. De lapide, fol. 249r: "Et utinam posses experimento rem sic probare uti probasti perypateticorum clarissima ratione. . . . Cui demum dixi philosophum contentari sola veritatis inquisitione indeque secutum est silentium et sic finis, pro tunc."
- 39. De lapide, fol. 253v; see Pereira, L'oro dei filosofi, esp. chap. 4.
- 40. *De lapide*, fol. 250v: "non ut es vestrum effundatis in experientia tantorum secretorum, sed ut videatis possibilitatem rei maxime fundatam in principiis nature."

41. See *De lapide*, for instance at fol. 247r, where some *experimenta* concerning heat and fire are mentioned; see above, note 7.

- 42. De lapide, fol. 251r: of the therapeutic virtues of gold Fabri, following Avicenna, maintains that in many cases "redducimus nos ad experimentum, cum magis conferat medico de talibus experiri quam ratiocinari"; fol. 252r: "Quibus omnibus contemplatis descendi ad experimenta et vidi aurum operari in corpore humano talia que si scriberem crederentur impossibilia."
- 43. De lapide, fol. 252r–v. In the thirteenth and fourteenth centuries, the possible link between alchemy and magic was addressed—either to deny or maintain it—in some texts by jurists evaluating the legitimacy of alchemy, in several decrees of religious orders prohibiting their members from its study and practice, and by some theologians (e.g., Thomas Aquinas and Giles of Rome). The link was strongly asserted by the inquisitor Eymeric, who accused all alchemists of making a pact with the Devil. See William Newman, introduction to The "Summa perfectionis" of Pseudo-Geber, ed. Newman (Leiden: Brill, 1991), pp. 30–40; Chiara Crisciani and Michela Pereira, L'arte del sole e della luna: Alchimia e filosofia nel medioevo (Spoleto: Centro Italiano di Studi sull' Alto Medioevo, 1996), pp. 45–53.
- 44. De lapide, fol. 252v: the forbidden goals are "fortuna et impedimentum, substantia et negotiatio, principatus et prelatio, coniunctio et separatio"; cf. Albertus Magnus, Speculum astronomiae, ed. Stefano Caroti, Michela Pereira, and Stefano Zamponi, under the direction of Paola Zambelli (Pisa: Domus Galilaeana, 1977), p. 33. This edition has been reproduced: see Paola Zambelli, The "Speculum astronomiae" and Its Enigma: Astrology, Theology, and Science in Albertus Magnus and His Contemporaries, Boston Studies in the Philosophy of Science 135 (Dordrecht: Kluwer, 1992).
- 45. De lapide, fol. 252v. Fabri here is commenting on the proem of "Bacon," De retardatione, p. 1, taken by him to be by Arnald; in quoting the passage, he radically alters its meaning: instead of "et inveni ibi vanitatem et temporis perditionem," he quotes and comments "et inveni veritatem quia per artem alkimie inveni yxir." Once more, he is thus endorsing the image of Arnald as an alchemist.
- 46. Even if we consider only Italian culture, it will suffice to mention the works of Augurelli, Bracesco, Quattrami, Percolla, Nazari. On alchemy and mythology, see H. J. Sheppard, "The Mythological Tradition and Seventeenth-Century Alchemy," in *Science, Medicine, and Society in the Renaissance: Essays to Honor Walter Pagel*, ed. Allen G. Debus (New York: Science History Publications, 1972), 1:47–59; François Secret, "Mythologie et alchimie à la Renaissance," in his "Notes sur quelques alchimistes italiens de la Renaissance," *Rinascimento*, 2nd ser., 13 (1973): 203–206; Joachim Telle, "Mythologie und Alchemie: Zum Fortleben der Antiken Götter in der frühneuzeitlichen Alchemieliteratur," in *Humanismus und Naturwissenschaften*, ed. Rudolf Schmitz and Fritz Krafft (Boppard: Boldt, 1980), pp. 135–154.
- 47. Petrus Bonus (first half of the fourteenth century) was perhaps one of the first authors who, in his coherent image of alchemy as both *scientia* and *donum Dei*, stressed its rational as well as its religious features and pointed out its links with prophecy, mythology, and poetry. See, for instance, *Pretiosa margarita*, pp. 29–30, 34, 42, and the titles of some

- chapters— e.g., 6: "... quod haec Ars sit naturalis et sit divina, et quod per ipsam philosophi antiqui fuerunt vates de futuris miraculis divinis"; 9: "In quo ostendit... quod Philosophi hujus scientiae tetigerunt eam cum omnibus aliis scientiis." See Chiara Crisciani, "The Conception of Alchemy as Expressed in the 'Pretiosa Margarita Novella' of Petrus Bonus of Ferrara," *Ambix* 20 (1973): 165–181; Obrist, "Le rapports d'analogie." Although Fabri never refers explicitly to Bonus, it seems plausible to me that he knew *Pretiosa margarita*.
- 48. See Bonus, *Pretiosa margarita*, p. 4B: "cum ipsa (alchimia) omnes artes et scientias ad se trahat, et immisceat se eis"; p. 34A: "ita quod scientia ista nihil dimisit, quin a se detraheret, et sibi componeret."
- 49. That Fabri is here extolling, not explaining, the *lapis* was evidently clearly perceived by the pope, whom the text at this point represents as firmly interrupting the author's praises with "Satis est, de laudibus eius est superius" (fol. 253r).
- 50. See Getz, "To Prolong Life and Promote Health"; Pereira, "'Mater medicinarum."
- 51. Michele Savonarola, *I trattati in volgare della peste e dell'acqua ardente*, ed. Luigi Belloni (Pel 59 Congresso nazionale della Società italiana di medicina interna, Roma, 12–14 ottobre 1953; Milan, 1953); see Jacquart, "Médecine et alchimie," and the article of Katharine Park in this volume.
- 52. Savonarola, *Trattati*, pp. 75, 80, 88.
- 53. Antonio Guaineri, *Opus preclarum ad praxim* (Pavia, 1518), fols. 219vb; see also fols. 28ra-b, 218-220, 238r, and above, note 3.
- 54. Karl Sudhoff, ed., "Eine Herstellungseinweisung für 'Aurum potabile' und 'Quinta essentia' von dem herzoglichen Leibartze Albini di Moncalieri (14. Jahrhundert)," Archiv für die Geschichte der Naturwissenschaften und der Technik 5 (1914): 198–201. Bologna, Biblioteca Universitaria (Fondo Caprara), MS lat. 104, the codex containing Fabri's De lapide, also contains three other texts, each different in scope and style, focused on potable gold, of which Albini's recipe (fol. 310r) is one. Besides the long treatise (fols. 271r–283v) of the Solemnis medicus, there is also a Practica de auro potabili (fols. 254r-255v), composed of a collection of short recipes plus one excerpt from ps.-Lull, Liber Mercuriorum. It is clear that the collector of these texts was very interested in this old remedy (the therapeutic virtues of gold were well known and easily to be found in practical medical texts), which came to be of outstanding importance precisely during the fifteenth century, perhaps because it was undergoing a new alchemical characterization and preparation: see Crisciani and Pereira, "Black Death and Golden Remedies," and Chiara Crisciani, "Oro potabile fra alchemia e medicina: due testi di peste," in Atti del VII Convegno Nazionale di Storia e Fondamenti della Chimica, 1997, published as Rendiconti dell'Accademia Nazionale delle Scienze detta dei XL, 21,2 (1997): pp. 83-93.
- 55. The reference is, of course, to the famous image, engraved by Hans Vredemann de Vries and inserted in Heinrich Khunrath, *Amphitheatrum sapientiae aeternae* (Hanover, 1609). The picture shows the adept working and praying in a dual purpose room: his laboratorium/oratorium.

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# THE HOMUNCULUS AND HIS FOREBEARS: WONDERS OF ART AND NATURE William Newman

## HOMUNCULI DUO

The intrepid reader of the Chymical Wedding of Christian Rosencreutz (1616) will encounter the following bizarre sequence of events. The hero of the romance, Rosencreutz, receives an anonymous invitation to the mysterious wedding of a king and queen, delivered to him by a beautiful, winged lady. After seeing a castle with invisible servants; a mysterious play featuring lions, unicorns, and doves; and a roomful of wondrous self-moving images, Rosencreutz finally meets the bride and groom. At the end of a sumptuous dinner accompanied by an elaborate comedy, the joyful couple, along with their royal retinue, are abruptly beheaded by a "very cole-black tall man." After their blood is carefully collected, the bodies are then dissolved into another red liquor by Rosencreutz and a group of fellow alchemists. These laborants summarily congeal the fluid in a hollow globe, whereon it becomes an egg. The alchemists then incubate the egg, which hatches a savage black bird: the bird is fed the previously collected blood of the beheaded, whereupon it molts and turns white, and then iridescent. After a series of further operations, the bird, now grown too gentle for its own good, is itself deprived of its head and burned to ashes.2

This panoply of processes is an obvious recitation of the traditional regimens or color stages that were supposed to lead to the agent of metallic transmutation, the philosophers' stone.<sup>3</sup> Indeed, the philosophers' stone was often described as the end result of processes figuratively pictured in terms of copulating kings and queens who are murdered and reborn. But in the end, the bodies of *this* bride and groom are reassembled out of the ashes of the unfortunate bird by placing the moistened mass into two little molds. As they are heated, there appear "two beautiful bright and almost *Transparent little* Images . . . a Male and a Female, each of them only *four* inches long," which are then infused with life. These are identified in the margin as *Homunculi duo*.<sup>4</sup> The reader, having expected the end result to be the philosophers' stone, may be somewhat surprised at the outcome. This at least was the reaction