

THE MEDIAEVAL SCIENCES
IN THE
WORKS OF JOHN GOWER

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PREFACE

THE present study attempts to accomplish two ends. In the first place, I have tried to make the scientific portions of Gower's writings more intelligible to the present-day reader. In the second place, I have tried to ascertain the importance of science in Gower's thought.

The science which flourished in Gower's day has long since fallen into oblivion. If we are to understand the scientific portions of Gower and Chaucer, we must recreate an entire scientific background, involving not only those things which are said, but also those things which are not said because they are taken for granted. Individual passages can only be understood in the light of general principles. I have therefore given for each of the more important sciences a brief account of the leading doctrines, with which Gower's treatment may be compared. I have had recourse to those authors who represent either the typical views, or views which have a particular applicability to Gower. I have largely ignored chronological development, choosing illustrative material from authors who are most illustrative rather than from those whose chief claim to our attention is their contemporaneity with Gower. This method has its obvious weaknesses. There is development in mediaeval science, and the best science is always the most recent. The justification for my method is that it is the one employed by the Middle Ages. To Vincent of Beauvais, for example, the Church's stamp of approval on a particular author is of greater importance than his position in the development of scientific theory. Vincent's enormous compilations are entirely free from any hypothesis of the "evolution of thought."

In addition to explaining obscurities, I have tried to discover

whether Gower was influenced in what might be called a broadly philosophic way by his studies in science. It is clear that we have been influenced by the Darwinian hypothesis in departments of life and thought far removed from biology and palaeontology. Do we find analogous influences in Gower? Do we find him, for example, becoming profoundly fatalistic as a result of the study of astrology? Does alchemy lead him into mysticism? I have attempted to answer questions of this nature. I have also tried to discover how good a scientist Gower was, how widely he had read in the works which were conceivably available to him, and how his scientific learning compares with Chaucer's. I have further attempted to indicate the manner in which he uses scientific material in his poetry.

I have grouped in the chapter on the "macrocosm"—the greater world of which man is the microcosm—portions of Gower's science which pertain to this globe and the non-human inhabitants thereof: his meteorology, geography, geometry, and natural history. Those discussions of the greater world which have a more immediate bearing on man—astrology, alchemy, magic—are treated in separate chapters.

Professor Lynn Thorndike's *History of Magic and Experimental Science* has been invaluable to me, as a bibliography, and for summaries of authors not otherwise available. Duhem's *Le Système du Monde* is of great value in relating various astronomical theories to each other and to their sources. My obligations to these authors and to Macaulay will be apparent at every turn.

I wish to thank Professor Robert K. Root, who suggested this subject to me as an appropriate doctoral dissertation, for his valuable criticism.

GEORGE G. FOX

CHAPTER ONE

INTRODUCTION: NATURE AND FORTUNE

OUR attitude has changed so greatly since the fourteenth century that it is almost necessary to apologize for undertaking a study of Gower's knowledge of science. Why should he have any? We do not look to the modern poet for a lucid exposition of the second law of thermo-dynamics. The answer lies in Gower's use of the facts of science to adorn his poetry. Science was part of his literary equipment and general culture. It was, moreover, a preëminently satisfactory poetic theme. The first part of the seventh book of the *Confessio Amantis* is a rimed encyclopedia of astrology, cosmology, and physiology. However wearisome this "education of Alexander" may be to the modern reader, to the reader of the fourteenth century, we may well believe, it held no little interest and value.

We must approach mediaeval science realizing clearly that if Ptolemy and Galileo and Newton and Gauss represent fruitful scientific accomplishment, and if the periods in which they lived are fruitful periods, then Albert and Roger Bacon and Michael Scot and Arnold of Villanova are barren, and their times are barren.

Gower writes

For wisdom is at every throwe
Above alle other thing to knowe
In loves cause and elleswhere.

—7.15–17.

But Gower had no conception of "knowledge for its own sake." The object of knowledge for him, as for the Middle Ages in general, was a more perfect understanding of God and his plan

(3)

for the salvation of man. In the review of the false religions of the Chaldeans, Egyptians, and Greeks, Gower ascribes their error to ignorance. Had they only known more, the emptiness of their faith would have been immediately apparent.¹

Although Gower's scientific vision is perhaps extraordinarily clouded by religiosity, his ideas as to the purpose of scientific knowledge are not unusual for his time. The object of all knowledge is clearly expressed by Roger Bacon: "For by one God is all wisdom given, and to one world, and for one end."² That end is the redemption of man's soul, and all knowledge which is contrary to the truth of Holy Scripture does not merit the name *sapientia*.³

Mediaeval respect for authority was another serious obstacle to scientific accomplishment. We should neither forget this fact nor overemphasize its importance. I think we are more inclined to the latter error. It is true that the Middle Ages set great store by authority, and spent much time in attempting to reconcile men and theories which are really irreconcilable. The all-too-frequent inference is that, since the mediaeval man respected authority, if he read in a book that the sun rose in the west, and went out and saw the sun rising in the east, he would calmly affirm that the sun rose in the west. This is far from the truth. The principle that a theory must correspond to observed facts was enunciated by Ptolemy, and was ever present in the best scientific minds of the Middle Ages. Mediaeval astronomy underwent continual revision in accordance with this principle.⁴ But it must be admitted that mediaeval science was circumscribed.

¹ *Confessio Amantis* 5.747-1604.

² *Opus Maius* 2.1 (ed. Bridges, p. 33).

³ *Ibid.*, p. 34.

⁴ See Pierre Duhem: *Le Système du Monde*, vols. 2-4.

Despite Gower's announcement as to the value of wisdom "at every throwe," he had a sense of a boundary beyond which the human mind should not attempt to go. There are some departments of knowledge—sorcery, for example—which man should leave strictly alone. The following quotation from the *Mirour de l'Omme* will give some idea of the legitimate province of investigation.

Des philosophes ot plusour
 Qui dieu conustrent creatour
 Par ses foraines creatures,
 Son sens, sa beauté, sa valour;
 Mais nepourqant le droit savour
 Leur faillist, ançois d'autres cures
 Demeneront leur envoisures,
 Ly uns pour savoir les natures
 Des bestes et d'oisealx entour,
 Ly autres front conjectures
 D'astronomye et des figures,
 Q'a dieu ne front plus d'onour.

—10669-80.

Although Gower appears to be reproofing natural philosophers, careful attention reveals that he is not condemning an interest in nature, but only the preoccupation with nature which interferes with the contemplation of God. God may be known through his creatures, but when the creatures become the end of knowledge and no longer the means, then is the philosopher's light darkness.

Gower's longest disquisition on science is in the description of the fifth daughter of Prowess.⁵ He is here using the term in its broadest sense of positive knowledge. The keynote of the whole discussion is struck by the following passage:

⁵ *Mirour de l'Omme* 14593-15096.

Science que depar dieu vient
 Mesure en sa science tient,
 Q'ensi l'apostre nous aprent,
 Disant que chascun s'en abstient
 De plus savoir que luy covient,
 Mais que l'en sache sobrement.

—14617–22.

The thought contained in these lines is reiterated throughout the discussion. The wisdom of man cannot hope to know the wisdom of God and should not strive to.⁶ When Christ was asked by his disciples the exact time of the final judgment, he refused to tell them knowledge that lay beyond the province of mortals.⁷

II

A phrase which Gower never wearies of using is “be weic of kinde.” At times, the expression is little more than a filler, but the frequency of its use, combined with many allusions to nature, arouses speculation as to what Gower’s conception of nature really was. Gower’s use of the word is vague, as it continues to be in ordinary usage of the present day; but a scrutiny of the passages in which “nature” appears will help to an understanding of some of its aspects, at least.

Nature appears frequently as a personification.

Et c'estoit en le temps joly
 Du Maii, quant la deesce Nature
 Bois, champs et préés de sa verdure
 Reveste, et l'oisel font leur cry.

—939–42.

Gower’s personifications of nature are always in this same casual manner. At no time does he indulge in a lengthy de-

⁶ *Ibid.*, 14629–40.

⁷ *Ibid.*, 14641–52.

scription of the goddess, such as Alanus de Insulis makes in his *De Planctu Naturae*. That Gower’s conception of nature has points in common with Alanus will be shown below.

Gower’s view of nature at times seems to be as an abstract order of things. The failure of the alchemists to gain their end is explained by their failure to comply with the natural order.

So that thei folwe noght the lyne,
 Of the parfite medicine
 Which grounded is upon nature.

—4.2623–26

Again, in the story of Narcissus, Gower comments:

For in the wynter freysshe and faire
 The floures ben, which is contraire
 To kynde, . . .

—1.2355–57.

Here he regards the regular succession of the seasons with their individual characteristics as a manifestation of nature.

In one important particular, Gower’s view of nature closely resembles that of Alanus de Insulis—his intimate connection of nature with sex and procreation. In the conclusion of the *Confessio Amantis*, Venus addresses the lover in these words:

For Nature is under the Mone
 Maistresse of every lives kinde,
 Bot if so be that sche mai finde
 Som holy man that wol withdrawe
 His kindly lust ayein hir lawe;
 Bot sielde whanne it falleth so,
 For fewe men ther ben of tho,
 Bot of these othre ynowe be,
 Whiche of here oghne nycete
 Ayein Nature and hire office
 Deliten hem in sondri vice,

Wherof that sche fulofte hath pleigned,
 And ek my Court it hath desdeigned
 And evere schal;

—8.2330–43.

These lines indicate clearly that sexual abstinence is against nature's law. The exact nature of the more common affronts to nature's law Gower refrains from describing. Those curiously minded will find Alanus more outspoken.

It would be a mistake to assume that Gower was a prude. Upon occasion, he could face knotty problems of sex life right manfully. The change of emphasis in the tale of Iphis⁸ shows his abhorrence of the unnatural in particular reference to sex. In the *Metamorphoses*⁹ Ovid's interest is almost entirely in Iphis's grief that her love for Ianthe can never be consummated. Her transformation is effected by her mother's supplication to the goddess Isis. Gower, on the other hand, is very little concerned with how Iphis and Ianthe feel about the situation. In fact, they are totally unconscious that there is a situation.

Liggende abedde upon a nyht,
 Nature, which doth every wiht
 Upon hire lawe forto muse,
 Constreigneth hem, so that they use
 Thing which to hem was al unknowe;

—4.483–87.

The plight of these ten-year-old children presented a moral and metaphysical impasse, which only Cupid, with his supernatural power, could remove. The impulse was natural; the threatened gratification was unnatural. Cupid therefore transforms Iphis into a man, without her supplication, and simply to prevent an act which is abhorrent to him.

⁸ *Confessio Amantis* 4.451–505.

⁹ 9.666–797.

For love hateth nothing more
 Than thing which stant ayein the lore
 Of that nature in kinde hath sett;

—4.493–95.

It must be observed that Gower regards homo-sexuality with abhorrence, not because it is against the *lex positiva*, but because it is against the law of nature.

Nature, in fact, is at times in direct conflict with the *lex positiva*, as appears from the story of Canace and Macarius.

When thei were in a prive place,
 Cupide bad hem ferst to kesse,
 And after sche which is Maistresse
 In kinde and techeth every lif
 Withoute lawe positif,
 Of which sche takth nomaner charge,
 Bot kepeth hire lawes al at large,
 Nature, tok hem into lore
 And tawht hem so, that overmore
 Sche hath hem in such wise daunted,
 That thei were, as who seith, enchanted.

—3.168–78.

Gower's attitude toward the unfortunate brother and sister is decidedly sympathetic. He has reproaches only for their father, who has forgotten the irresistible power of love. He shows no abhorrence of incest such as he displayed toward homo-sexuality. The pathos of the letter which Canace writes to Macarius is as gentle and lovely as any lines Gower ever wrote. They are the words of a woman to her lover; consanguinity is forgotten.

Gower recognizes another law, however, which is superior to the law of nature.

For God the lawes hath assised
 As wel to reson as to kinde,

Bot he the bestes wolde binde
 Only to lawes of nature,
 Bot to the mannes creature
 God yaf him reson forth withal,
 Whereof that he nature schal
 Upon the causes modefie,
 That he schal do no lecherie,
 And yit he schal his lustes have.

—7.5372–81.

For beasts, the law of nature is supreme; for man, endowed with an immortal soul, the law of nature must be controlled and modified by reason. The best solution of this conflict between nature and reason as exemplified in sex is, to Gower's mind, marriage. The demands of sex are too strong to be denied,¹⁰ but they must not be allowed to run riot.¹¹ The ideal solution is illustrated by the story of Tobias and Sara.

For he his lust so goodly ladde,
 That bothe lawe and kinde is served.

—7.5362–63.

Seven husbands of Sara had had their necks wrung on their wedding night by the fiend Asmodeus because of their excessive lust. Only Tobias, with his tempered passion, lived to enjoy his bride.

Another attribute of nature is her connection with pity. Nature is considered as kind. Students of language will at once perceive the tautology of the previous sentence. We do not, however, commonly think of a kind act as a natural act. The kindness of nature was a commonplace with Gower. For example, the law of nature forbids war and commends peace.¹²

¹⁰ *Confessio Amantis* 1.770–75.

¹¹ *Ibid.*, 7.4215–19.

¹² *Ibid.*, 3.2263–64.

Again,¹³ ingratitude is "ayein kinde". Even a beast is grateful for a kindness.

Although it is possible to gain only fragmentary glimpses of Gower's conception of nature, these glimpses resemble greatly the idea which finds full expression in the *Trésor* of Brunetto Latini:¹⁴

Or avez oi iij manieres comment Diex fist toutes choses; la quarte maniere fu que quant il ot tout fait, il ordena la nature de chascune chose par soi, et lor establi certains cours, comment eles doivent naistre et commencier, et morir et finer; et la force et la proprieté et la nature de chascune. . . . Et sor ceste quarte maniere est l'ofice de nature, qui est viaires de son verai pere: il est creators, et ele est creature; il est sanz commencement, et ele fu commencée; il est commandierres, et ele est obeissanz: il n'aura jà fin, et ele finera o tout son labor; il est toutpuissans, et ele n'a pooir se de ce non que Diex li a otroié; il set toutes choses passées, presentes et futures, ele ne set se ce non que il li monstre; il ordena le monde, et ele ensuit ses ordenemenz. Ainsi poons nos conoistre que chascune chose est souzmise à sa nature. Et neporquant cil qui tout fist puet remuer et changier le cours de nature par divin miracle, si comme il fist en la glorieuse Virge Marie, qui concut le fil Dieu sanz charnel connoisement, et fu nete virge devant et après, et il meismes resuscita de la mort.

Very much the same thought finds expression in *L'Image du Monde* of Gossouin, one of the most popular mediaeval encyclopedias and the original of Caxton's *Mirroure of the World*.

Damediex fist tout premierement nature. Car ce est la chose par quoi toute riens dure et vit qui desouz le ciel est ordinée. Sanz nature ne peut riens naistre, et par li vit toute riens née.¹⁵

¹³ *Ibid.*, 5.4923–31.

¹⁴ *Trésor*, p. 13. Macaulay has suggested Gower's indebtedness to Brunetto.

¹⁵ p. 86.

Although Gower at no time makes a definite declaration that nature is the handmaid of God, he clearly considers nature to be a force subservient to God.

For yet was nevere such covine
That couthe ordeine a medicine
To thing which god in lawe of kinde
Hath set, for ther may noman finde
The rihte salve of such a Sor.

—1.29-33.

III

Another somewhat indefinite force in Gower's world is that of fortune. The Middle Ages recognized a capricious force in the world which they called Fortune and symbolized by a fickle lady with a wheel. The figure of Fortune and her wheel was one with which Gower was familiar, and to which he makes frequent allusions.

Quant l'en meulx quide a estre sire
Et monter en plus halt empire,
Fortune plus le fait despire,
Et lors le met plus en destroit:
Soudainement sa roe vire,
Que nuls au jour d'uy porroit dire
Ce que demain avenir doit.

—10938-44.

Because both fortune and love are fickle, he associates the two and gives to love a wheel upon which men are rapidly whirled from high to low estate.

Bot sche which kepth the blinde whel,
Venus, whan thei be most above,
In al the hoteste of here love,
Hire whiel sche torneth, and thei felle
In the manere as I schal telle.

—1.2490-94.

The *Confessio Amantis* is concerned primarily with love. It is not surprising, therefore, to find Gower taking her wheel from fortune and bestowing it on Venus.

For if ther evere was balance
Which of fortune stant governed,
I may wel lieve as I am lerned
That love hath that balance on honde,
Which wol no reson understonde.
For love is blind and may noight se,
Forthi may no certeinete
Be set upon his jugement,
Bot as the whiel aboute went
He yifh his graces undeserved,

—1.42-50.

The gift is not a permanent one, however, and fortune often appears in Gower's writings when love is not involved. References to fortune are so frequent that it is unnecessary to cite particular instances. Open the *Confessio Amantis* at random: you will not have read many pages before you come across such a phrase as

And thus fortune his chance ladde.
—5.314.

or

Fortune hath evere be muable
And mai no while stonde stable:
—8.586-87.

or

Bot destine, which schal betide,
Befell that ilke time so,
—6.1702-3.

or

And fell, as it befalle scholde,
—6.1026.

Macaulay calls attention to the fatalistic quality of Gower's mind, variously expressed in such concepts as Fortune, Fate, and Destiny.

It is surprising therefore to find a flat denial of the existence of fortune in the *Vox Clamantis*. The amount of space devoted to the discussion of fortune is a fair indication of the importance of the problem in Gower's thought. The final conclusion of the discussion, which runs through most of the second book, is thus summed up in the table of contents:

Capm iiii. Hic tractat ulterius de mutacione fortune secundum quod dicunt: concludit tamen in fine, quod neque sorte aut casu, set ex meritis vel demeritis, sunt ea que hominibus contingunt.

Accepting the dictum ascribed to Job, who should have known because "mala multa tulit," that "nothing which takes place on earth happens without a cause," many people attribute the parlous state of the commonwealth to fortune. But in so doing, says Gower, they are wrong.

Det quamvis variam popularis vox tibi famam,
Attamen ore meo te nichil esse puto.
Quicquid agant alii, non possum credere sorti,
Saltem dumque deus sit super omne potens.

—2.85–88.

Although disbelieving in fortune, Gower consents to describe her as she is thought of by many. She is two-faced: one face is deformed and scowling; the other lovely and smiling. She is heavier than stone, lighter than air; sharper than thorns, softer than roses. At times she is bright daylight; at others she is the dark night filled with terror. She is more changeable than the colors of the rainbow or March weather. She comes and goes like the waves of the sea. All manner of men come under her judgment: urban and rustic, black and white, learned and ig-

norant, rich and poor, the just and the unjust. So men say, but, in Gower's opinion, men are wrong.

Set fortuna tamen nichil est, neque sors, neque fatum,
Rebus in humanis nil quoque casus habet:
Set sibi quisque suam sortem facit, et sibi casum
Ut libet incurrit, et sibi fata creat;

—2.201–204.

In support of his contention that "fortune is nothing," Gower turns to Biblical and church history. At the command of the just Joshua the sun stood still in "Gabaon." By prayer did Saint Gregory rid Rome of a plague. Moses smote the Red Sea, and his people passed through with dry feet. By faith Peter walked upon the sea. The three Hebrew children remained unharmed in the fiery furnace. And all these miracles were the reward of virtue. In like manner, the apparent bad fortune of Pharaoh, Nebuchadnezzar, Saul, Ahasuerus, Ahab, Rehoboam, and the Hebrew people was in reality the punishment of God for sin.

What is to be done in the face of this contradiction: the continual references to fortune and the flat denial of the existence of fortune? The answer seems to be that "fortune" is a manner of speech with Gower, a convenient phrase for an element of human experience. "Fortune" is frequently nothing more than Gower's way of saying "that which is going to happen, and of which men are in ignorance." He sometimes makes concessions to the popular conception of a fickle woman, but she is not a force: she is the representation of man's ignorance.

Men sein, a man hath knowleching
Save of himself of alle thing;
His oghne chance noman knoweth,
Bot as fortune it on him throweth:

Was nevere yit so wys a clerk
 Which mihte knowe al goddes werk,
 Ne the secret which god hath set
 Again a man mai nocht be let.

—6.1567-74.

The peculiarity of those experiences which are attributed to fortune is not primarily their lack of cause and purpose, but that their causes and purposes are obscured to the human mind. The answer to the dilemma appears again in the following lines:

For every climat hath his diel
 After the tornynge of the whiel,
 Which blinde fortune overthroweth;
 Whereof the certain noman knoweth:
 The hevene wot what is to done,
 Bot we that duelle under the mone
 Stonde in this world upon a weer,

—Prol.137-43.

What is here called "hevene" appears as "god" in an earlier passage.

What wysman that it underfongeth,
 He schal drawe into remembrance
 The fortune of this worldes chance,
 The which noman in his persone
 Mai knowe, bot the god al one.

—Prol. 68-72.

One of the peculiarities of fortune is that it can affect man only in certain particularities of his existence. Fortune is impotent to take that which fortune did not give.

. . . car la fortune
 Ne tolt al homme chose ascune
 Si ce ne soit q'a luy donna:

—14296-98.

The virtuous man need not fear fortune, because his virtue, not being the gift of fortune, is secure from her deprivations.¹⁶

IV

In turning to a more detailed examination of Gower's scientific knowledge, the prevalent religious cast of his times and of his own mind must be remembered continually. What we think to be fortune is in reality the hand of God. There is a force, Nature, but at any time God may choose to violate the laws of nature.

Contra naturam fiunt miracula, vires
 Nature deitas frangere sola potest:

—5.625-26.

Knowledge is good, but man must not seek to know too much. These general ideas are ever present in Gower's mind, coloring and determining his scientific notions. He lived in a world where

Sicut ymago viri variantur tempora mundi,
 Statque nichil firmum preter amare deum.

¹⁶ My intention in this discussion has been to illustrate Gower's actual beliefs about fortune—briefly, and without reference to other mediaeval treatments of the subject. For the general background, and for other aspects of Gower's treatment, see H. R. Patch: *The Goddess Fortuna*.

CHAPTER TWO

THE MICROCOSM

THE universe of the Middle Ages was geocentric, but with a greater truth it was anthropocentric. The earth was the center of the universe, but the center of the earth was man. This well-known fact is admirably illustrated by one of Gower's favorite conceptions, that of man the microcosm. It occurs in all three of his major works.¹

Forthi Gregoire in his Moral
 Seith that a man in special
 The lasse world is properly:
 And that he proeveth redely;
 For man of Soule resonable
 Is to an Angel resemblable,
 And lich to beste he hath fieling,
 And lich to Trees he hath growinge;
 The Stones ben and so is he:
 Thus of his propre qualite
 The man, as telleth the clergie,
 Is as a world in his partie,
 And whan this litel world mistorneth,
 The grete world al overtorneth,
 The Lond, the See, the firmament,
 Thei axen alle jugement
 Ayein the man and make him werre:
 Therwhile himself stant out of herre,
 The remenant wol nocht acorde:
 And in this wise, as I recorde,

¹ *Mirour de l'Homme* 26869 ff.; *Vox Clamantis* 7.639 ff.

The man is cause of alle wo,
 Why this world is divided so.

—Prol. 945–66.

The conception of man the microcosm is one which has appealed to many minds from Democritus to Leibnitz. It occurs in the teachings of the Manichees, Gnostics, Firmicus, Isidore of Seville, Gerbert, Hildegard of Bingen, Michael Scot, Robert Grosseteste, and Albertus Magnus.²

Robert Grosseteste in a fragment entitled *Quod Homo Sit Minor Mundus* means by the expression that man is made of the four elements just as the rest of the world is. In his flesh is earth; in his blood, water; in his *spiritus*,³ air; in his vital heat, fire. Robert carries the analogy a step further, however, in comparing the head with the sky, for there are two eyes in the head just as there are two eyes in the sky—the sun and moon. The breast is likened to the air, for from it proceeds breath. The belly resembles the sea, for all humors gather there just as they do in the sea. Finally, the arms and legs resemble the earth, for, like the earth, they are dry.⁴

Hildegard of Bingen is more extravagant in connecting the less with the great world. Near the beginning of the *Causae et Curae*, she says: "O man, look at man. For man has in himself heaven and earth and the other things which were created, and is one form, and all things are latent in him."⁵ She associates the five senses with various phenomena of the natural world: sight with the sky, hearing with the air, taste with the dew, smell with the winds, and touch with the earth.⁶ From the top

² Thorndike, 1.382, 411, 530, 633, 709; 2.153, 325, 446, 577.

³ For an explanation of *spiritus*, see p. 95–96 *infra*.

⁴ *Die Philosophischen Werke des Robert Grosseteste*, ed. Baur, p. 59.

⁵ p. 2. The authenticity of this work has been questioned by C. Singer: *Studies in the History and Method of Science*. Oxford, 1917.

⁶ *Ibid.*, p. 10.

of the cerebral cavity to the forehead of man there are seven equal spaces which signify the seven equal distances separating the planets.⁷

Gower ascribes his conception of man the microcosm to Gregory the Great. In the *Moralia*,⁸ Gregory, in commenting on Job 5, 10, "Qui dat pluviam super faciem terrae, et irrigat aquis universa," gives as the *sensus mysticus* of the passage that by *universa* is meant man. His argument concludes: "Man, therefore, because he has common existence with stones, life with trees, feeling with animals, understanding with angels, rightly is called by the name of universe." In the 29th Homily on the Gospels,⁹ Gregory comments on the verse: "Euntes in mundum universum, praedicate Evangelium omni creaturae." After he has pointed out that the command cannot mean anything so absurd as to preach the gospel to sticks and stones, his argument is virtually the same as in his commentary on the verse from Job. By *omni creaturae* is meant man, says Gregory, for it is only man that has in him the attributes of all created things.

It is obvious that Gower's conception of man the microcosm is more comprehensive than Gregory's, for Gower assumes not only that man contains in himself the characteristics of all created things, but that for that reason his actions affect the rest of nature. His theory receives its fullest exposition in the following lines:

For ferst unto the mannes heste
Was every creature ordeined,
Bot afterward it was restreigned:
Whan that he fell, thei fellen eke,
Whan he wax sek, thei woxen seke;

⁷ *Liber Divinorum Operum Simplicis Hominis. Patrologia Latina* 197.819.

⁸ *Patrologia Latina* 75.740.

⁹ *Patrologia Latina* 76.1214.

For as the man hath passioun
Of seknesse, in comparisoun
So soffren othre creatures.
Lo, ferst the hevenly figures,
The Sonne and Mone eclipsen bothe,
And ben with mannes senne wrothe;
The purest Eir for Senne alofte
Hath ben and is corrupt fulofte,
Right now the hyhe wyndes blowe,
And anon after thei ben lowe,
Now cloudy and now clier it is:
So may it proeven wel be this,
A mannes Senne is forto hate,
Which makth the welkne to debate.
And forto se the proprete
Of every thyng in his degree,
Benethe forth among ous hiere
Al stant aliche in this matiere:
The See now ebbeth, now it floweth,
The lond now welketh, now it groweth,
Now be the Trees with leves grene,
Now thei be bare and nothing sene,
Now be the lusti somer floures,
Now be the stormy wynter shoures,
Now be the daies, now the nyhtes,
So stant ther nothing al upryhtes,
Now it is lyht, now it is derk;
And thus stant al the worldes werk
After the disposicioun
Of man and his condicioun.

—Prol. 910-44.

However startling the doctrine may be that the natural world is disturbed by man's sin, it is not unique with Gower. In Philostratus's *Life of Apollonius of Tyana*, man's disregard

for justice is given as a cause of droughts. Philostratus conceives the universe as animated with a soul, which is grievously afflicted by the deeds of men.¹⁰ In the *Book of Enoch*, there is a prophecy concerning the results of sin, involving drought and famine, and concluding: "4. And the moon shall alter her order, and not appear at her time. 5. (And in those days the sun shall be seen and he shall journey in the evening on the extremity of the great chariot in the West) and shall shine more brightly than accords with the order of light. 6. And many chiefs of the stars shall transgress the order (prescribed). And these shall alter their orbits and tasks, and not appear at the seasons prescribed to them."¹¹ In the Latin version of the *Pseudo-Clementines*, commonly called the *Recognitions*, nature is represented as rising against the sins of man. Sin is the cause of pestilences, blight and hail.¹² Although nature sometimes acts in accordance with God's will, at other times God's intervention is unnecessary. "But this also I would have you know, that upon such souls God does not take vengeance directly, but his whole creation rises up and inflicts punishments upon the impious . . . And, in short, sometimes even in opposition to the goodness of the Creator, the elements are wearied out by the crimes of the wicked; and thence it is that either the fruit of the earth is blighted, or the composition of the air is vitiated, or the heat of the sun is increased beyond measure, or there is an excess of rain or cold."¹³

The thoughts of Alexander Neckam on the effect of sin on nature are more definitely Christian, and illustrate how easily the idea could have developed from, or been engrafted upon, the Old Testament account of the fall of man. In dis-

¹⁰ 3.34.

¹¹ Tr. R. H. Charles, ch. 80.

¹² 8.45-47, in *Ante-Nicene Fathers*, v. 8.

¹³ *Op. cit.*, 5.27.

cussing the shadows on the moon, he gives the opinions of some that the surface is cavernous, so that the rays of the sun cannot enter; of others, that the surface alternates with valleys and mountains with resultant shadow and light. Still others say that certain portions of the moon are more luminous than others. "But it must be known that this has been done for a sign and for our instruction." At the time of man's fall, all the planets and stars suffered a dimming of their light. The moon retained its stain as a perpetual reminder to man that there must always be a stain on holy church.¹⁴ The fall of man also caused the wildness of animals, pestiferous insects, poison, and disease.¹⁵

Hildegard of Bingen presents an interpretation of the theory with which Gower is most in accord. "The elements are subject to man and they exercise their functions according as they are affected by the deeds of men. For when men meet one another with battles, terrors, hatred, and envy and in pernicious sins, then they [the elements] deviate into another and conflicting manner either of heat or of cold or of great rains and deluges. And this is from the first arrangement of God, since it has been so constituted by God that they ever operate in accordance with the works of men, since they are affected by their works, when man acts in them and with them. When men are on the right road and do good and evil in moderation, then they perform their functions by the grace of God according to the necessities of men."¹⁶

II

As Gower's theory of man the microcosm is perhaps the most striking feature of his scientific thought, it is an appropriate point of departure for a more detailed examination of his

¹⁴ *De Natura Rerum* 1.14.

¹⁵ *Ibid.*, 2.156.

¹⁶ *Causae et Curae*, p. 57.

knowledge, and the rest of this chapter will be devoted to his references to the physical make-up of this microcosm, his physiology and medicine.

In the *Mirour de l'Omme* (25597-680), Gower indulges in an attack on physicians and apothecaries. Not much confidence can be placed in the justice of the criticism, for in all ages physicians have been the object of ridicule beyond all other professions; and it is no great wonder to find them excoriated by Gower, who spared no profession, or trade, or art in his portrayal of the lamentable state into which the world had fallen. The value of his diatribe is in the light it casts upon the activities of physicians and apothecaries in the late fourteenth century. These activities are enumerated in illustration of the vice of fraud, along with the tricks of goldsmiths, furriers, tailors, cobblers, and saddlers.

The apothecary does a thriving and nefarious business in cosmetics and aphrodisiacs.

Triche Espiecer du pecché gaigne,
 Qant les colours vent et bargaigne
 Dont se blanchont les femelines
 Et la bealté, q'estoit foraine,
 Du viele face q'est baraigne
 Fait revenir des medicines,
 Siq'elles pieront angelines:
 Et d'autre part de ses falsines
 Il fait que lecchour et putaine
 A leur pecché sont plus enclinez,
 Q'il lour fait boire les racines
 Que plus excitent cel ovraigne.

—25609-20.

The fraud does not seem to be perpetrated on the customer in the above accusation, but Gower's categories of vices and vir-

tues are highly elastic. He explains that the apothecary has many more forms of trickery, but that his single-handed operations are venial when compared with his crimes in conjunction with the physician. The first act of a physician upon arriving in a town is to make an alliance with the apothecary. The physician prescribes and the apothecary compounds syrups and electuaries which are sold at an extortionate figure. The drugs do no good: the patient might as well give up hope of recovery before taking a single dose. It is interesting to note, however, that the failure of recovery is not due to the ineptitude of the physician, but to his guile.

Car maintefois de leur falsine
 Cil q'est malade a la poitrine
 Un tiel cirimp luy font confire
 Q'auci luy fait doloir l'eschine,
 Pour plus gaigner en long termine
 De luy qui sa santé desire.

—25675-80.

Gower makes the same accusation of a physician's deliberately retarding the cure of his patient to increase the bill in his arraignment of lawyers, where he ascribes the tedious delays of the courts to the same tactics on the lawyers' part. The physician operates upon the stomach: the apothecary upon the patient's purse. The purpose of each operation is to remove "le superfluer," but whether, in the case of the stomach, by purgative or emetic, Gower does not say. He is sure, however, that the stomach is "voided" by the physician much oftener than nature demands. The expression "le superfluer" alludes to the theory that sickness results from an excess of one of the four humors.

Thorndike states as a principle of mediaeval treatises on medicine that freedom from superstition is to be found only

in those writers whose work is slight in quantity. "The less medicine, the less superstition."¹⁷ Even Galen was not free from theories and practices which seem to us almost unbelievable. He recommends, for example, filling cavities in teeth with toasted worms or spiders' eggs diluted with unguent of nard.¹⁸ He mentions the blood of a bedbug as a depilatory.¹⁹ The drinking of the water in which a patient's feet have been washed will cure pain in the intestines.²⁰ Pliny records that a corn may be extracted successfully the moment a star shoots; that warts may be removed on the twentieth day of the moon by lying in a path and while looking steadfastly at the moon, rubbing the warts with any object the hand touches when stretched above the head; that toe and finger nails of a patient mixed with wax and attached to the door of a house will transfer the patient's disease to the occupant of the house. This last is mentioned as a claim of the magicians, but Pliny grants the possibility of its truth.²¹

In general, the Middle Ages accepted the medical superstitions of Pliny and Galen, and of their own invention made additions of a similar nature. These superstitions are to be found in the best mediaeval scientists, existing side by side with keen logic and accurate observation. Albertus Magnus, for example, writes that the brain of the lion causes madness, if eaten, but cures deafness if inserted in the ear with oil;²² that a root of parsley hung about the neck cures toothache;²³ that certain stones have the virtue of curing ulcers and counteracting poisons.²⁴

¹⁷ Thorndike, 1.734.

¹⁸ *Opera Omnia* 12.860.

¹⁹ *Ibid.*, 14.349.

²⁰ *Ibid.*, 14.471.

²¹ *Natural History* 28.23.

²² *De Animalibus* 22.2.61.

²³ *De Vegetabilibus et Plantis* 6.2.2.

²⁴ *Mineralium* 2.1.1. I have been directed to these examples of superstition by Thorndike.

Gower may be an illustration of the principle "the less medicine, the less superstition." At any rate, there is very little superstition. It must also be admitted that there is very little medicine. A reminiscence of some of the barbarous medical practices is to be found in the cure prescribed for Constantine by his "grete clerkes."

So longe thei togedre dele,
That thei upon this medicine
Apointen hem, and determine
That in the manner as it stod
Thei wolde him bathe in childes blod
Withinne sevene wynter age:
For, as thei sein, that scholde assuage
The lepre and al the violence,
Which that thei knewe of Accidence
And nocht be weie of kinde is falle.

—2.3202–11.

The use of human blood in effecting cures was not unknown in Antiquity and the Middle Ages, although it is usually associated with magic. Pliny mentions with horror the drinking of human blood from a fresh wound as a cure for epilepsy.²⁵ Alexander of Tralles recommends the application of the blood "qui primus a virgine fuerit excretus" to the patient's right hand or arm as a cure for quartan fever.²⁶ Isidore of Seville accuses sorcerers of using the blood of their victims.²⁷ Michael Scot describes the use of blood in necromancy, giving as an explanation that demons are especially fond of human blood.²⁸ Gower makes no comment on the efficacy of the proposed cure, but as the moral of the story is Constantine's cure by Silvester as

²⁵ *Natural History* 28.2.

²⁶ Thorndike, 1.581.

²⁷ *Etymologiae* 8. *Patrologia Latina* 82.

²⁸ Thorndike, 2.320.

a reward for his pity in refusing to take his blood bath, it is to be supposed that he disapproved.

Although hermaphroditism in man is extraordinarily rare, Gower cannot be greatly censured for making the vigorous children of the World and the Seven Deadly Sins hermaphrodites.

Trestous sont mostre hermafodrite :
Sicome le livre m'en recite,
Ce sont quant double forme habite
Femelle et madle en un enfant :
—1026–29.

It is likely that he thought of the hermaphrodite not only as an allegorical concept, but also as a reality, and in so doing was in accord with the belief of his age. The cause of being of the hermaphrodite is gravely described by Michael Scot: "Et est notandum, quod si semen sit multum et intret in omnes cellulas matricis, et ibi debite conservetur, septem filii generantur, et septimus est hermaphroditus scilicet qui in medio generatur. Et plus quam septem non speret habere in uno partu."²⁹ The same explanation is given in the *De Secretis Mulierum*, where it is attributed to Avicenna.³⁰

In the enumeration of discoverers and inventors in the *Confessio Amantis* (4.2396–2450), Gower refers to the science of physiognomy.

And Philemon be the visage
Fond to describe the corage.
—4.2405–2406.

The story of Philemon is found in the *Secretum Secretorum* at the beginning of the section on physiognomy.³¹ The disciples of

²⁹ *De Secretis Naturae* 227.

³⁰ p. 89.

³¹ Ed. Steele, 165.

Hippocrates took a portrait of their master to the physiognomist Philemon, who rendered the judgment: "Iste homo luxuriosus est, deceptor, amans coitum." The disciples were very angry and threatened Philemon's life. They were later assured by Hippocrates that the judgment was absolutely correct, and that he had overcome his natural inclinations by the force of his will. The story was originally told of Zopyrus and Socrates,³² but it appears in the form I have given in Albertus Magnus.³³ Peter of Abano mentions Philemon, Aristotle, Palemon, and Loxius as the founders of the science of physiognomy.³⁴

The only other reference to physiognomy which Gower makes is in an address of the Confessor to the Lover:

Of such Phisique I can a part,
And as me semeth be that art,
Thou scholdest be Phisonomie
Be schapen to that maladie
Of lovedrunke, and that is routhe.
—6.107–11.

The "Phisique" referred to is medical science, of which physiognomy was a recognized department. Galen, for example, endorsed the use of physiognomy in diagnosis, and mentions stiff, straight, red hair as a sign of a cold brain.³⁵ Michael Scot gives this definition: "Physionomia est doctrina salutis et electio boni et vitatio mali, comprehensio virtutis, et praetermissio vitiorum."³⁶ As the work in which this definition is to be found is a treatise on physiognomy, the magnitude of Michael's claims

³² Bibliography of studies of this story given by G. L. Hamilton in *Modern Philology*, ix, 336, n.1.

³³ *De Animalibus* 1.2.2.

³⁴ Thorndike, 2.910.

³⁵ *Opera Omnia* 1.325–6.

³⁶ *De Secretis Naturae* 207.

may properly be ascribed to the pride of authorship. The treatise actually contains a seemingly irrelevant account of the processes of human generation and certain practical rules for the physiognomist. The titles of some of the chapters indicate the close connection with medical practice: *Signa complexionis cerebri*; *Signa phlegmatis*; *Signa corporis calidae complexionis*; *Signa corporis temperati et sani*; *Somnia significantia dominium Melancholiae*. The concluding section discusses the various parts of the body, describing the human characteristics of each variation.

In addition to Philemon, the physiognomist, the only other reference which Gower makes to the prominent names in mediaeval medicine is to Aesculapius. There is no mention of Galen, Hippocrates, or Averroes. Avicenna is mentioned only as an alchemist (*Confessio Amantis* 4.2610). Aesculapius is named as god of medicine in the account of the false belief of the Greeks (*Confessio Amantis* 5.1059-1082). The facts mentioned are biographical, not doctrinal.

A bit of practical medicine appears in the story of Apollonius. The first aid given the apparently lifeless corpse of Apollonius's wife seems highly reasonable.

With that this worthi kinges wif
 Honestely thei token oute,
 And maden fyres al aboute;
 Thei leide hire on a couche softe,
 And with a scheete warmed ofte
 Hire colde brest began to hete,
 Hire herte also to flacke and bete.
 The Maister hath hire every joingt
 With certain oile and balsme enoingt,
 And putte a liquour in hire mouth,

Which is to fewe clerkes couth,
 So that sche coevereth ate laste:
 —8.1190-1201.

In the prose *Historia Apollonii Tyrii*, which is here followed, the treatment is virtually the same, with the exception that no medicine is administered internally.⁸⁷ The reference to the secret remedy which "is to fewe clerkes couth" is an accurate reflection of the jealousy and mystery which obscured the mediaeval pharmacopoeia. The titles of medical or quasi-medical works are indicative of this condition: *De Secretis Mulierum*, *De Mirabilibus Mundi*, *De Secretis Naturae*, *Secretum Secretorum*. The prescription of the medicine called the "Inestimable Glory," in the *Secretum Secretorum*, is given as the revelation of a great secret. "It is fitting therefore that you know the great medicine which is named *gloria inestimabilis*, and which is also called *thesaurus philosophorum*. I have never found out nor truly known who discovered it. Some say that Adam was the inventor. Others say that Aesculapius, and Hermogenes the physician, Hirfos, and Donasties, and Vatildos the Jew, and Dioris, and Caraus, who are eight glorious philosophers to whom it is given to know the secrets of the sciences which lie hidden from other men."⁸⁸ It should be remembered that although the *Secretum Secretorum* appears to us an extremely unscientific work, Roger Bacon thought it well worth editing, and regarded the "Inestimable Glory" as one of its chief treasures.

Gower makes a number of references to definite diseases: lethargy, leprosy, hectic consumption, "cardiacre," quartan fever, acute fever, "blanche fievre," cotidian fever, dropsy,

⁸⁷ S. Singer: *Apollonius von Tyrus* 153.77.

⁸⁸ Ed. Steele, 98.

melancholy, and "loup roial." These names occur chiefly in the connection of particular diseases with particular vices. The connection is usually by way of analogy, as when he compares avarice with dropsy, because

Cil q'ad le mal d'idropesie,
Comme plus se prent a beverie,
Tant plus du soif desnatural
Ensecche;

—7603–7606.

In the same manner gluttony is likened to the "loup roial"; vice, in general, to lethargy; jealousy to cotidian fever; lechery to leprosy; wrath to "cardiacre."³⁹ Two vices, however, not only are like diseases, but actually have a destructive effect on the human body.

Car la tristesce en sa folie
Les oss ensecche, et puis la vie
Escourte et la vielesce meine,
Avant que l'oure soit complie
Que nature avoit estable:
C'est maladie trop vileine.

—5719–23.

Envy, the "werste vice of alle," has the same dessicating effect.

For thilke blod which scholde have ese
To regne among the moiste veines,
Is drye of thilke unkendeli peines
Thurgh whiche Envie is fyred ay.

—2.3122–25.

The influence of the mind upon the body is a recognized cause of disease. It is one of the "accidents" or "non-natural" causes.

³⁹ *Mirour de l'Homme* 5093–97, 6157–59, 8521–32, 9649; *Confessio Amantis* 5.464.

Averroes gives the particular effects of wrath, fear, joy, and grief. "This is known of itself, that wrath excites the heat of the body, and generates fever in the body, which is called ephemeral, and if the body is in the proper condition, causes putrid fever. And sometimes it drives the humors from member to member and causes the generation of abscesses."⁴⁰

III

Although these scattered bits of physiological and medical lore which I have assembled above do not indicate an extensive knowledge, it is interesting to note that the physical composition of man is the only portion of science to receive exposition in the Prologue of the *Confessio Amantis*. The *Confessio* is a book

Somewhat of lust, somewhat of lore,
—Prol. 19.

but the author assures the reader that

. . . this prologe is so assised
That it to wisdom al belongeth:
—Prol. 65–6.

At times there may be cause for doubt whether Gower would have classed his scientific remarks as "lust" or "lore." The physical nature of man, however, is an integral part of his metaphysical, almost mystical view of man the microcosm, and, as such, must have seemed to him a highly important part of scientific knowledge. Following the explanation that man by his sin causes all nature to go awry, Gower gives the physical explanation of the frailty of man. Having named division as the cause of all evil, he writes:

It may ferst proeve upon a man;
The which, for his complexioun

⁴⁰ *Avicennae Cantica cum Averrois Commentariis* 1.2.155.

Is mad upon divisioun
 Of cold, of hot, of moist, of drye,
 He mot be verray kynde dye:
 For the contraire of his astat
 Stant evermore in such debat,
 Til that o part be overcome,
 Ther may no final pes be nome.
 Bot other wise, if a man were
 Mad al togedre of o matiere
 Withouten interrupcioun,
 Ther scholde no corrupcioun
 Engendre upon that unite:
 Bot for ther is diversite
 Withinne himself, he may noht laste,
 That he ne deieth ate laste.

—Prol. 974-89.

Gower uses this theory of death in support of his thesis that division is the cause of evil, but the facts of which he makes use are in accord with the medical opinion of his day. Averroes mentions that certain writers deny that man is composed of the four elements, and refutes them by the following argument:

This is the proof of Hippocrates that bodies of animals are not composed of indivisible parts and of one nature, just as a house is composed of stones and beams. For if the body of an animal were composed of indivisible parts, it would not be at all corrupted by disease; for the corruptible is doubtless corrupted from the rule of contradiction (*ex dominio contrarietatis*) in it. But if bodies were of one and the same nature, there would be no contrariety corrupting them, neither from without nor in themselves. . . . Since therefore contraries are of different natures, it follows that bodies themselves have not one nature, and are not of one nature.⁴¹

⁴¹ *Ibid.*, 1.19.

Gower expounds the theory of the complexions more fully in the education of Alexander in the seventh book of the *Confessio Amantis*, where he again reiterates the principle of the opposition of the elements in man's body.

He which natureth every kinde,
 The myhti god, so as I finde,
 Of man, which is his creature
 Hath so divided the nature,
 That non til other wel acordeth:
 And be the cause it so discordeth,
 The lif which fieleth the seknesse
 Mai stonde upon no sekernesse.

—7.393-400.

Gower then enumerates the four complexions of man, and gives certain characteristics of each. The Melancholy man is of the nature of earth, cold and dry, lacking both desire and potency in love, full of fears and anger. The Phlegmatic man is of the nature of water, moist and cold, is forgetful, slow, easily tired, and physically capable of love, but without desire. The best complexion is the Sanguine, of the nature of air. He is light and fair, and has both physical power and desire in love. The Choleric man has the nature of fire, dry and hot. He is quick-witted, swift of foot, wrathful, and not of great value as a lover.

The final information regarding the complexions locates the seat of each in the body—Melancholy: Spleen; Phlegmatic: Lungs; Sanguine: Liver; Choleric: Gall.

Most of this information was derived either from the *Trésor* of Brunetto Latini or from the French version of the *Secretum Secretorum* by Jofroi de Watreford.⁴² Except for the theory of

⁴² G. L. Hamilton, "Some Sources of the Seventh Book of Gower's *Confessio Amantis*," in *Modern Philology*, ix, 323-46.

the war of the elements in the body of man, Gower's knowledge of the complexion theory is lacking in certain refinements. His only reference to "humors," so important a part of the complexion theory, is in naming the seat of each complexion in a particular organ of the body, and except for these indefinite comments he displays little interest in physiology.

CHAPTER THREE

THE MACROCOSM

THE connecting link between the lesser and the greater world is the elemental nature of both. Man

Is mad upon divisioun
Of cold, of hot, of moiste, of drye,
—Prol. 976-7.

and all other sublunary bodies are of the same composition.

Macaulay has pointed out that Gower's discussion of the elements is based upon Brunetto Latini's *Trésor*, and to illustrate the extent of dependence, I print the correspondences.

Tofore the creacion
Of eny worldes stacion,
Of hevене, of erthe, or eke of helle,
So as these olde bokes telle,
As soun tofore the song is set
And yit thei ben togedre knet,
Riht so the hihe pourveance
Tho hadde under his ordinance
A gret substance, a gret matiere,
Of which he wolde in his manere
These othre thinges make and
forme.

For yit withouten eny forme
Was that matiere universal,
Which hihte Ylem in special.
Of Ylem, as I am enformed,
These elementz ben mad and
formed,

Of Ylem elementz they hote
After the Scole of Aristote,
Of whiche if more I schal reherce,
Foure elementz ther ben diverse.

—7.203-22.

Il fu voirs que Nostre Sires, au commencement, fist une grosse matiere sans forme et sanz figure mais ele estoit de tel maniere que il en pooit former et faire ce que il voloit, et sanz faille de ce fist il les autres choses. Et porce qu'ele fu faite de neant, devance ele les autres choses, non mie de tens, ne de eternité, mais de naissance, a-tressi comme li sons devance le chant; car Nostre Sires fist toutes choses ensemble. Raison comment: quant il crea cele grosse matiere dont ces autres choses sont estraites, donc fist il toutes choses ensemble; mais, selonc la distinction et le devisement de chascune chose par soi, les fist il en vi jors, selonc ce que li contes a devisé cà arrieres; et là meisme dist il que cele grosse matiere est apelée ilem. Et porce que li iiii element que on puet veoir sont estrait de cele matiere, sont il apelé element par le nom de li, ce est por ilem.

—pp. 104-105.

A careful examination will reveal that, although Gower is probably following Brunetto, he falls into the trap of heresy which Brunetto carefully avoids. Without having the slightest idea that he was doing so, Gower takes away from God the act of creation. Brunetto states definitely that God "fist une grosse matiere." Gower says that God had "under his ordinance a gret substance, a gret matiere," thereby revealing his ignorance of the conflict between the Book of Genesis and Aristotelian physics, and of the ecclesiastical battles which had been waged about this conflict. The Fourth Lateran Council had condemned as heresy the denial that God had created the universe "ex nichilo."¹ Although Gower echoes Brunetto in regard to the relation of sound to song, it is clear that he does not understand the significance of the figure. Brunetto's point is that God, in creating "ilem,"² simultaneously created all things because all things existed *in potentia* in "ilem." The description of the creation of all things in six days has to do with the familiar Scholastic conception of change from *potentia* to *actum*. This conception was apparently *not* familiar to Gower.

The derivation of "element" from $\epsilon\lambda\eta$ is found frequently. It is, for example, given by Isidore of Seville.³ Another derivation was from "alimentum" or the nourishment of all created things.⁴

The doctrine of the four elements arose in an attempt to discover a principle of unity in matter, a final substance to which all material substances might be reduced. Thales considered the basic substance to be water. Anaximander held it to be "the moist." For Heraclitus, it was fire. Empedocles aban-

¹ See article on "Creation" in the *Catholic Encyclopedia*, iv, 470-73.

² "Hyle" is the Aristotelian term for primordial matter.

³ *Etymologiae* 13.3. *Patrologia Latina* 82.473.

⁴ Bartholomaeus Anglicus: *De Proprietatibus Rerum* 10.2.

doned the monistic hypothesis, and taught that there were four elements: earth, air, fire, and water; and in this form the natural world was described until modern times.

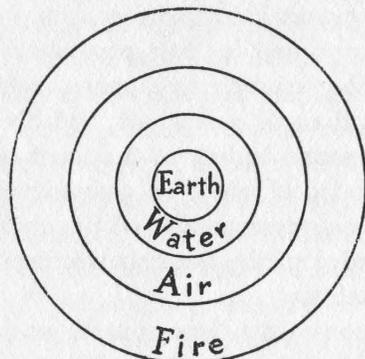
In its simplest expression the theory is as follows: the four elements are never found in their pure states. Each element has a corresponding quality: dry, moist, cold, hot. The objects which we call earth, water, air, and fire are not simple elements but compound bodies, so that earth is dry and cold, water is moist and cold, etc. For convenience, some writers speak of bodies being compounded of the qualities. In reality, they are compounded of the elements which become known to us through the qualities.⁵

For Gower, however, the element earth was what he walked on, the element air what he breathed. The arrangement of the elements may be illustrated most simply by the diagram on page 40, in which the central solid sphere of the earth is enclosed successively by the spheres of the other elements. The idea is not original with Gower. It is to be found in the *Trésor* thus expressed:

Et ce est la raisons por quoi la terre, qui est li plus griez elemenz et de plus soude sustance, est assise au milieu de touz cercles et de toz environemenz, ce est au fons des ciels et des elemens. Et porce que l'aigue est après la terre li plus griez elemenz, est ele assise sor la terre, où ele se soustient: mais li airs environe et enclot l'aigue et la terre tout entor, en tel maniere que l'aigue ne

⁵ I have nowhere found a single explanation as clear as I have here made. My statement is a synthesis of scattered statements and inferences. The nearest approach to my statement that I have found is in Galen. "Alterum est solis philosophis usurpatum, quum ajunt elementa corporum esse terram, aquam, aërem, et ignem. Corpus namque extreme siccum ac frigidum terram nuncupant. Secundum hos ergo nullum compositorum corporum terra censetur elementaris, ajunt tamen ea plurimum habere terrae, puta adamantem et saxa, et quanto corpore fuerint duriore, tanta magis ea dicunt esse terrea, contra quam agricolae."—*Opera Omnia* 12.166.

la terre n'ont pooir de remuer dou leu où nature les a establies.
 Environ cestui air qui enclost l'aigue et la terre, est assis li quars
 elemenz, ce est li feus, qui est sor touz les autres.⁶



Although Gower does not make so definite a statement as the one just quoted, there can be no doubt that it represents his view. In addition to the four elements, Gower mentions

That yit ther is an Element
 Above the foure, and is the fifte,
 Set of the hihe goddes yifte,
 The which that Orbis cleped is.
 And thereupon he telleth this
 That as the schelle hol and sound
 Encloseth al aboute round
 What thing withinne an Ey belongeth,
 Riht so this Orbis underfongeth
 These elementz alle everychon,
 Which I have spoke of on and on.

—7.610–20.

Gower names Aristotle as the formulator of the hypothesis of the fifth element. His probable source of information, as Macaulay has pointed out, is Brunetto,⁷ for all that he says, even

⁶ p. 112.

⁷ p. 110.

down to the comparison of *orbis* to the shell of an egg, is in the *Trésor*. But there is also in the *Trésor* more about *orbis* than Gower makes use of, and the absence of speculation so characteristic of his mind is illustrated by this omission. Brunetto's account is not long, but in it he succeeds in suggesting that he understood the significance of the fifth element. *Orbis* does not undergo the process of generation and decay; it is fixed and immutable; it is the principle of unity in a world of flux.⁸ The beauty and grandeur of the poetic insight underlying and suffusing the philosophic concept does not appear in Gower. For him, *orbis* encloses the other four elements as the shell does an egg. It is quite simple—and as a piece of human thought, wholly inert.

Gower discusses each element in turn, beginning with the earth. Brunetto has a great deal more to say about the earth than I here quote. What I quote illustrates that Gower adds nothing to Brunetto's discussion and is at times verbally indebted to Brunetto.

The ferste of hem men erthe calle
 Which is the lowest of hem alle,
 And in his forme is schape round,
 Substantial, strong, sadd and sound,
 As that which mad is sufficient
 To bere up al the remenant.
 For as the point in a compas
 Stant evene amidde, riht so was
 This erthe set and schal abyde,
 That it may swerve to no side,
 And hath his centre after the lawe
 Of kinde, and to that centre drawe
 Desireth every worldes thing,
 If ther ne were no lettyng.

—7.223–36.

Or poez vos veoir que la terre est
 au plus bas leu de tous les elemenz.
 . . .

Et à la verité dire, la terre est aussi
 comme li poins dou compas, qui toz
 jors est au milieu de son cercle, si
 que il ne s'esloigne pas d'une part
 plus que d'autre . . . et d'autre part
 toutes choses se traient et vont toz
 jors au plus bas;—p. 113.

⁸ For the great importance of this hypothesis in an intelligent belief in astrology, see Chapter 4, *infra*.

In the discussion of the second element, water, Gower says nothing which may not also be found in Brunetto.

Above therthe kepth his bounde
The water, which is the secounde
Of elementz, and al withoute
It environeth therthe aboute.
Bot as it scheweth, noght forthi
This soubtil water myhtely,
Thogh it be of himselve softe,
The strengthe of therthe perceth
ofte;

For riht as veines ben of blod
In man, riht so the water flod
Therthe of his cours makth ful of
veines,

Als wel the helles as the pleines.
And that a man may sen at ÿe,
For wher the hulles ben most hyhe,
Ther mai men welle stremes finde:
So proveth it be weie of kinde
The water heyher than the lond.

—7.237–53.

The discussion of the air, however, deviates from Brunetto. Gower begins with a passage that shows close verbal similarity to Brunetto.

And over this nou understand,
Air is the thridde of elementz,
Of whos kinde his aspirementz
Takth every lifissh creature,
The which schal upon erthe endure:
For as the fissh, if it be dreie,
Mot in defaute of water deie,
Riht so withouten Air on lyve
No man ne beste myhte thryve,
The which is mad of fleissh and
bon;

Ther is outake of alle non.

—7.254–64.

Sor la terre, de cui li contes a tenu
lonc parlement, est assise l'aigue.
. . . La terre est toute pertuisie de-
dans et pleine de vaines et de
cavernes par quoi les aigues, qui de
la mer issent, vont et viennent parmi
la terre, et dedanz et dehors sour-
dent, selonc ce que les vaines les
maintent cà et là; autressi comme
li sangs de l'ome qui s'espant par
ses vaines, si que il encherche tout
le cors amont et aval. Et il est voirs
que la mers siet sor la terre, . . .
donc est ele plus haute que la terre;
et se la mers est plus haute, donc
n'est il mie merveille des fontaines
qui sordent sor les hautismes mon-
tagnes, car il est propre nature des
aigues que eles montent tant comme
eles avalent.—p. 115.

Li contes a dit cà arriere que li airs
environne la terre et l'aigue et les
enclost et sostient dedanz soi; neis
les homes et les autres animaues
vivent par l'air, car il aspirent enz,
et font autressi comme li peisson
en l'aigue;—p.117.

At this point in the discussion, Gower introduces a refinement which is to be found nowhere in the *Trésor*, and which deserves close attention, because Macaulay's explanation is to a large extent erroneous.

This Air in Periferies thre
Divided is of such degre,
Benethe is on and on amidde,
To whiche above is set the thridde:
And upon the divisions
There ben diverse impressions
Of moist and ek of drye also,
Whiche of the Sonne bothe tuo
Ben drawe and haled upon hy,
And maken cloudes in the Sky,
As schewed is at mannes sihte;

—7.265–75.

Macaulay states that Aristotle divided the atmosphere into two regions only. Although this is true, the three-fold division is not without authority. In a discussion of the air, Vincent of Beauvais quotes Seneca as giving three sections. There are no verbal similarities to indicate that Gower is specifically indebted to this source. According to Vincent, the highest part is the hottest and driest because of its proximity to the element fire, and because of the heat engendered by the friction of the stars in their courses. The lowest part is dense and misty because it receives the vapors from the earth. The middle part is neither so dry as the driest nor so moist as the lowest. It is, however, colder than either, being further removed from the warming effect of the breath of the earth on the one hand and of the stars on the other.⁹

As will appear below, this division fits Gower's classification,

⁹ *Speculum Naturale* 5.22.

in which mist, dewes, and frost are produced in the first "periferie"; rain, snow, and hail in the second; and lightning, thunder, and various forms of light in the sky in the third.

The word "impressions" in line 270 is a technical word. It means "a change produced in some passive subject by the operation of an external cause." It appears in a meteorological work by Albertus Magnus: *Liber de Passionibus Aeris sive de Vaporum Impressionibus*. Albert gives *impressiones vaporum* as the technical phrase for meteorological phenomena. The material of the impressions is vapor. "And we will distinguish between the impressions which are from dry vapor only, or from moist vapor, or from both."¹⁰ In the light of this statement, Gower's line

Of moist and ek of drye also

is not meaningless, but in accordance with excellent scientific authority.

The first Periferie of alle
Engendreth Myst and overmore
The dewes and the Frostes hore,
After thilke intersticion
In which thei take impression.

—7.280–84.

Macaulay is mistaken in his explanation of "intersticion." In a very long note, he quotes from Vincent of Beauvais the use of the term by Albumazar to the effect that every body which undergoes the process of generation and decay passes through three stages: the first increasing, the second stationary, the third decreasing in vigor. These steps are called "interstitia." Macaulay concludes "so that the word is almost equivalent to condition or quality." All this is needlessly elaborate and off the

¹⁰ *Opera Omnia* 9.660.

point. Gower's use of the word shows clearly that he does not use it in this sense, but in the much simpler sense of interstice, a space between, and as a synonym for "periferie." This usage has sanction. In the following quotation, Bartholomew of England uses the word as the equivalent of strata of the air. In regard to heat he writes:¹¹

Nam vi sua activa attractiva vapores varios siccos et humidos ad diversa aeris intersticia elevat.

The second "periphery" of the air is the place of origin of rain, snow, and hail.

Fro the seconde, as bokes sein,
The moiste dropes of the reyn
Descenden into Middilerthe,
And tempreth it to sed and Erthe,
And doth to springe grass and flour.
And ofte also the grete schour
Out of such place it mai be take,
That it the forme schal forsake
Of reyn, and into snow be torned;
And ek it mai be so sojorned
In sondri places up alofte,
That into hail it torneth ofte.

—7.285–97.

Much more could have been said on the subject of the first and second peripheries than Gower says, but within his limits he is scientifically accurate. For example, Albertus Magnus explains that although the original material of rain, snow, dew, and hail is the same, that is, moist vapor, that the immediate material is different. The immediate material of dew is a temperate and rarefied vapor; of snow, a warm cloud which has

¹¹ *De Proprietatibus Rerum* 3.1.

been greatly rarefied by the air; of rain, a cold cloud; of hail a very warm cloud from which the heat is taken quickly.¹²

Gower is also accurate in describing the material of the third periphery as dry vapor.

The thridde of thair after the lawe
Thurgh such matiere as up is drawe
Of dreie thing, as it is ofte,

—7.298–300.

It is to be remembered that Albertus Magnus classified all the “impressions” of the air as being made of moist vapor, dry vapor, or of both. It is simple to understand what is meant by moist vapor, but what is dry vapor? The opening chapter of the *Liber de Passionibus Aeris* explains the distinction.

It must be known therefore that all vapor is either from water or from earth. For the air is not vaporable. For either it is rarefied beyond that which is of its nature, and then immediately is fire; or its density is increased, and then it is not vapor, because vapor is generated through subtilization or rarefaction, but then it is produced from water or from earth.

Moist vapor is therefore that which the sun draws up from water; dry vapor proceeds from the earth.

When the dry vapor rises to the third periphery

Among the cloudes upon lofte,
And is so clos, it may nocht oute,—
Thanne is it chased sore aboute,
Til it to fyr and leyt be falle,
And thanne it brekth the cloudes alle,
The whiche of so gret noyse craken,
That thei the feerful thonder maken.

—7.300–306.

¹² *Meteororum* 2.1.16.

As Macaulay has indicated, this is clearly based on a passage in the *Trésor*,

mais li fors deboutemenz dou vent la destraint et chace si roide-
ment que ele fent et passe les nues et fait toner et espartir.

A more detailed explanation of the phenomenon of thunder and lightning is given by Albertus Magnus. Lightning and thunder are atmospheric manifestations resulting from the combination of dry vapor and moist vapor. In a manner not clearly defined, dry vapor is sometimes shut up within the moist vapor of a cloud. The dry vapor seeks to escape; the moist vapor contracts; the resulting friction kindles the dry vapor to fire. The fire splits the cloud with the roar of thunder.¹³ Another theory mentioned by Bartholomew of England—that thunder is the result of two clouds bumping into each other—finds no expression in Gower.¹⁴

Gower concludes his discussion of the element air with a description of those appearances which we call today heat lightning and falling stars. These appearances are frequently elaborately classified. Albertus Magnus names eleven different shapes.¹⁵ Gower names only four: *Assub*, *Capra saliens*, *Eges* and *Daaly*.¹⁶ The *Margarita Philosophica*, a compendium of learning, compiled by Gregory Reisch, and published at Strassburg in 1504, helps to clarify Gower's meaning. A wood-cut occurring in the ninth book of this volume pictures ten different forms of impressions of the air. The *Margarita* gives two forms

¹³ *De Passionibus Aeris* 18.

¹⁴ *De Proprietatibus Rerum* 11.13.

¹⁵ *Meteororum* 1.3.5.

¹⁶ Macaulay's note on 351 ff. must be regarded with caution. It is quite possible that Gower's confusion comes from a misinterpretation of such a picture as occurs in the *Margarita Philosophica*. It would be very easy to identify a name with the wrong picture, and there is no reason why Gower should know the meaning of αἴρες.

of *assub*, one *ascendens*, and one *descendens*, depending on whether the flames turn upward or downward. The "skipping goat" is pictured—very lifelike. The form called *Eges* by Gower resembles either the *ignis perpendicularis* or *lancca ardens* of the *Margarita*. It is

Lik to the corrant fyr that renneþ
Upon a corde,

—7.352–53.

The *Margarita* also has a lifelike picture of the *draco volans*, which Gower calls Daaly, but describes thus:

Daaly, wherof men sein fulofte,
'Lo, wher the fyri drake alofte
Fleth up in thair'.

—7.361–63.

These "impressions" are varied by two determining factors: (a) the distance from the earth at which they occur; (b) the nature of the vapor out of which they are made.¹⁷

Gower has discussed the element of air at so great length that he seems glad to dispose of fire in a few words.

And forto tellen overthis
Of elementz which the ferthe is,
That is the fyr in his degre,
Which environeth thother thre
And is withoute moist al drye.

—7.375–79.

With this he concludes his discussion of the elements. In it he displays a knowledge more extensive in some respects than Brunetto, and demonstrates that he was not depending on a single source. At the same time, it is evident that he is interested

¹⁷ Albertus Magnus, *loc. cit.*

in facts rather than causes, and is satisfied with facts which do not appear to the modern mind particularly illuminating, nor do they seem to have shed in Gower's mind the clear bright light of knowledge which is power.

II

After discussing the four complexions of man, Gower displays his geographical knowledge, which is far from extensive.¹⁸ The three continents were apportioned to the three sons of Noah when the waters of the flood had subsided: Asia to Shem, Africa to Ham, Europe to Japhet. Shem was the eldest and received the best portion. Asia was the most desirable and twice as large as Africa and Europe combined. Its limits were from the mouths of the Nile and the Don to the gates of Paradise. Gower does not explain, as does the *Trésor*,¹⁹ that Paradise is the garden of Eden. These boundaries are somewhat vague. In the case of Europe and Africa, Gower makes no attempt to give the boundaries.

Other geographical references in Gower are rare. In the *Confessio Amantis* 4.2148, he mentions "Pafagoine" whence came "Philemenis" to fight in the Trojan war. By these he undoubtedly means Paphlagonia, a district in northern Asia Minor and Pylaemones, mentioned in the *Iliad* 11.851. It is fairly certain that Gower had no idea of the location of "Pafagoine," and is merely following the *Roman de Troie* 25663–25704.

He also speaks of the pillars of Hercules, which he places in the Indian desert.²⁰ According to Chaucer, one pillar was placed in the extreme east and one in the extreme west, marking

¹⁸ *Confessio Amantis* 7.521–600.

¹⁹ p. 161.

²⁰ *Confessio Amantis* 4.2053–2055.

the boundaries of the world.²¹ The fact is that the "pillars of Hercules" is an expression very loosely used even by the ancients.²² For the most part, Gower merely repeats his source in the case of geographical names.

III

Geometry had for Gower a meaning much closer to the etymological sense than it has in our modern usage. Geometry is a branch of mathematics

Thurgh which a man hath thilke sleyhte,
Of lengthe, of brede, of depthe, of heyhte
To knowe the proporcion
By verrai calculacion
Of this science: and in this wise
These olde Philosophres wise,
Of al this worldes erthe rounde
Hou large, hou thikke was the ground,
Controeveden the experience;
The cercle and the circumference
Of every thing unto the hevne
Thei setten point and mesure evene.

—7.179–90.

Gower is not greatly interested in geometry, and further discussion is unnecessary.

IV

No mediaeval encyclopedia was complete without at least one book *De Animalibus*, and an account of Gower's science would be incomplete without some mention of *his* animals, although this topic also does not require much discussion. There

²¹ *Canterbury Tales*, B 3307 ff.

²² Smith's *Classical Geography*.

are many animals there: the owl, the raven, the dove, the hawk, the nightingale, the lapwing, the peacock, the eagle, the cock, the kite, the bee, the scorpion, the glow-worm, the asp, the elephant, the chameleon, the dog, the lion, the cat, the horse, the boar, the ass, the wolf, the goat, the lynx, the hyena, the camel, the tiger, the spotted panther, the grasshopper, the oyster, the siren, the basilisk, Behemoth. It is unnecessary to seek possible sources for these. Such information as Gower imparts must have been well-known to all in the Middle Ages, and a great part of his knowledge was probably acquired by word of mouth. The point to be noticed, however, is that these animals are introduced to point morals. They exist, as I suggested in the first chapter, for the edification of man. A single example will illustrate the whole category.

In the desert near Scythia lives a very horrible species of animal called the griffon. It has the body and neck of a lion; the feet, wings, and head of an eagle. In the desert where they dwell is found the precious emerald, which they jealously guard. Only the Arimaspi, a nearby tribe, can wrest the emerald from its fierce custodians. The Arimaspi have a single eye, but it is so sensitive that their sight is superhuman.²³

The peculiarly mediaeval touch follows: the griffons, and emeralds, and Arimaspi do not exist as interesting phenomena. On the contrary—

Pour nostre essample est tout ce fait.

The desert is the human heart; the emerald is God; the griffons are devils; the Arimaspi are symbols of the single eye by which God may be seen. Gower is not always so elaborate in his treatment, nor are his animals usually fabulous, but the principle of use is the same—the animal exists as a moral lesson.

²³ *Mirour de l'Homme* 10717–88.

CHAPTER FOUR

ASTROLOGY

GOWER is credited by a recent writer with having re-established the distinction between astronomy and astrology, made by Isidore of Seville in the seventh century, and commonly obscured through the intervening time.¹ It is true that Gower does define astrology and astronomy in accordance with modern usage, but the distinction was verbal only and represents no clear difference in his actual thought. Astronomy is defined:

Astronomie is the science
Of wisdom and of hih connyng,
Which makth a man have knowleching
Of Sterres in the firmament,
Figure, cercle and moevement
Of ech of hem in sondri place,
And what betwen hem is of space
Hou so thei moeve or stonde faste,
Al this it telleth to the laste.

—7.670–78.

Astrology is defined:

Assembled with Astronomie
Is ek that ilke Astrologie,
The which in juggementz acompteth
Theffect, what every sterre amonteth,
And hou thei causen many a wonder
To tho climatiz that stonde hem under.

—7.679–84.

¹ T. O. Wedel: *Mediaeval Attitude toward Astrology*, 134. *Yale Studies in English*, LX.

The distinction made in these lines is precisely the one we should make today, but we may be sure that the clarity of definition is due to the author whom Gower is here following and not to his own scientific accuracy. Before he has concluded the section on astronomy and astrology which the lines quoted above introduce, he has used astronomy in the modern sense of astrology.

The science of Astronomie,
Which principal is of clergie
To dieme betwen wo and wel
In thinges that be naturel,
—7.1439–42.

In the address to the moon (4.3246), in the description of Proteus (5.3083), in the discussion of sorcery (6.1347) “astronomie” or “astronomien” is used in the sense of astrology or astrologer. In the discussion of the “periferies” of the air, “astronomien” is used in the modern sense of astronomer. From these examples it is evident that in Gower’s usage, astronomy includes both astronomy and astrology. The word “astrologie” occurs only in the definition quoted above.

Astrology and astronomy were so intimately connected throughout the Middle Ages that I have chosen astrology for the title of this chapter as being the more comprehensive title. This reverses Gower’s usage, but is more in accord with our own. It is evident that astrology, the art of divination from the stars, presupposes a knowledge of the stars, and the chapter will therefore deal with astronomy to the extent that it is found in Gower’s works.

By the fourteenth century the acceptance of astrology in western civilization was widespread. Gower is aware of opposition to divination by dreams and to magic, but astrology is the science without which all knowledge is in vain.

The science of Astronomie
 I thinke forto specefie,
 Withoute which, to telle plein,
 Alle othre science is in vein
 Toward the scole of erthli thinges:
 For as an Egle with his winges
 Fleth above alle that men finde
 So doth this science in his kinde.

—7.625–32.

The process of acceptance had not been without serious opposition. Astrology played so great a part in the thought and writings not only of scientific men, but also of philosophers and theologians, that I cannot hope to give a full historical account of its development to the time of Gower; but a selection of a few of the treatises will illustrate the nature of the problems discussed.

One of the earliest writers on astrology was Adelard of Bath. In the *De Eodem et Diverso*, written before 1116, he states that a careful study of the stars reveals not only knowledge of the present state of the world beneath them, but also of things past and to come. He explains that the brevity of his treatise and the complexity of his art prevent his explaining the exact manner in which this is done.

Another twelfth century writer, John of Salisbury, is less favorable to astrology. He classifies the science of the stars as the fourth subdivision of mathematics, the other three being arithmetic, music, and geometry. This, of course, is the familiar *quadrivium*. The science of the stars, as John calls astrology, treats of the true position of the stars and of the influence of the heavens. Although he recognizes the two-fold character of astrology, it is the astronomical portion which is the legitimate field for investigation.²

² *Polycraticus* 2.18.

John does not deny the possibility of a force emanating from the stars. To do so would be to question the wisdom and economy of God, who has made nothing in vain. What he objects to is the extravagance of the astrologers in their attempt to preëempt the prerogatives of Him

Qui stellas numerat, quarum ipse nomina solus
 Signa potestates cursus loca tempora novit.³

He derides the division of the signs of the zodiac into masculine and feminine with the sarcastic comment that they are no doubt deprived of progeny because the vast spaces between them prevent intercourse.⁴ Astrologers confidently describe Saturn as cold and old, and exerting an evil influence, Jupiter as propitious, Mars as warlike, and the other planets with a like degree of exactness. John insists that it is folly to pretend to so elaborate and precise knowledge, when no astrologer has yet been able to settle the problem of whether the stars are made of the four elements, or of a fifth essence, as Aristotle taught. The astrologers cannot even answer a boy's question as to whether the stars are hard or soft. To show that he is not ignorant of the science he is talking about, John discusses briefly the houses of the planets. All except the Sun and Moon have two, one *naturale*, the other *accidentale*. The natural house is the one in which the planet was created, "if the genethliologists grant that they were created by God," he adds with some bitterness.⁵

The cause of John's bitterness is not far to seek. The astrologers are committing a sin in ascribing to the stars the

³ *Ibid.*, 2.19. Quotation from Sedulius.

⁴ The use of the terms masculine and feminine in reference to the signs of the zodiac indicates relative strength or weakness. John was either ignorant of the significance or deliberately ignored it. See Roger Bacon: *Introductory Treatise to Secretum Secretorum*, ed. Steele, 5.20.

⁵ *Polycraticus* 2.19.

power which belongs to God, and in depriving men of free will. "See in what an abyss of error they fall from the very stars."⁶ Astrology in one of its aspects leads to idolatry. The astrologers go so far as to maintain that images made in certain celestial conjunctions retain the virtue proceeding from the stars at that time, and have the power of disclosing things otherwise unknown.⁷

John's discussion of free will is too lengthy to be treated fully. He rejects the argument of Plotinus that God foreknew all things, and therefore the force of the stars, and that the stars are an intermediate step between God and man. Most of John's opposition to astrology appears as sarcastic comment rather than deliberate and reasoned criticism. His whole attack seems to be a frantic and futile attempt to resist the irresistible force of growing interest in astrology, for he saw in it a formidable enemy of the church.

Several influences effected the reconciliation of astrology and church doctrine which took place in the thirteenth century. Although the final expression of this reconciliation is found in Albertus Magnus and Thomas Aquinas, the translations of Aristotle and the Arabic astrologers into Latin were not without considerable influence.

Albumazar's *Introductorium in Astronomiam* was translated from Arabic into Latin by Herman of Dalmatia in the middle of the twelfth century.⁸ This treatise, one of the most important in the history of mediaeval astrology, is divided into eight books. The first book is an introduction to, and defense of, the science. As the stars do not suffer change and decay, they must therefore be composed of some other material than the four

⁶ *Ibid.*

⁷ *Ibid.*

⁸ Thorndike, 2.84.

elements—namely, the fifth essence of Aristotle. The motion of the stars is circular, the motion of perfection. Circular motion occurs on the earth too; in particular, in that process of growth and decay which modern biologists call the life cycle. This process on earth is controlled by the motion of the stars in the sky.

Following the same analogy, Albumazar explains the slow movement of the fixed stars as controlling the stable elements in the world, and those which change very gradually. The planets, whose movements are relatively rapid and eccentric, control the more fickle details of sublunary life. The moon, the movement of which is most rapid of all, has as a consequence the most profound effect on earthly existence.

Albumazar also discusses the relation of astrology to the doctrine of free will, employing an argument from Aristotle. He distinguishes absolute from contingent necessity. Fire burns, has burned, and will burn. These things we know, and this constitutes absolute necessity. On the other hand we may say that a man is writing a letter, and has written a letter, but we cannot say absolutely that he will write a letter. Man being endowed with a rational soul can control his elemental body. Prediction as to absolute necessity is invariable, for the stars control absolutely the processes of generation and decay. They also control the elemental body of man, and prediction is possible for man also, although at any time his rational soul may abrogate the authority of the stars. As will be seen below, the position of Thomas Aquinas is virtually a restatement of Albumazar in terms of scholastic philosophy.⁹

The *Introductorium in Astronomiam* also contains the number of the stars, a description of the twelve signs of the zodiac, of the planets, of the control of the tides by the moon, of the

⁹ In this summary of Albumazar, I have made use of Wedel, 55-59, and Duhem: *Système du Monde*, II, 375-76, as well as the *Introductorium*.

houses, and a technical discussion of the effects of celestial bodies on bodies terrestrial.

Another famous astrological work variously ascribed to Albertus Magnus and Roger Bacon is the *Speculum Astronomiac*.¹⁰ This is a sort of reader's guide, and has been named as a source for Gower's catalogue of the authors of astrological works. The *Speculum* has as its purpose to name authors whose works are not hostile to the Christian faith, and its somewhat defensive attitude is indicative that even in the thirteenth century opposition to astrology had not completely subsided.

The *Speculum* begins with a division of astrology into the two classes which we should call astrology and astronomy, each of which is called *astronomia*. Astrology proper or the "science of judgments from the stars" is called the union of natural philosophy and mathematics. What more desirable than to have a science which explains the change of mundane bodies by the change of celestial bodies? Is not this one of the best proofs of the existence of a God, supreme in heaven and in earth, that inferior motion obeys superior motion? For if these two motions had separate sources, then God would have a sharer of power in heaven and in earth, and the rule of the sky and the rule of the earth would be separate. The study of astrology, therefore, leads man to love and admire God the more for convincing him of God's supremacy. For God is in himself incomprehensible, and can be known only through his works.

Having thus shown indisputably that astrology, far from being hostile to the Christian faith, is in reality one of its strongest supports, the *Speculum* proceeds to a consideration of the divisions of judicial astrology. There are two main divisions: the introduction and the actual science of judgments. The introduction is concerned with a definition of terms used,

¹⁰ Albertus Magnus: *Opera Omnia* 10.629-50.

and a description of the qualities of the planets and the signs of the zodiac. The *Introductorium in Astronomiam* of Albumazar is an example of this department of the science, and is named by the author of the *Speculum* along with similar treatises by Ptolemy, Alchabitius, Zahel, Haly, and John of Spain.

The actual science of judgments has four departments: revolutions, nativities, interrogations, and elections. The science of revolutions treats of events affecting nations or large territorial areas: war, earthquakes, floods. Nativities is the science of casting the horoscope for individuals. The science of interrogations is concerned with questions as to the success or failure of proposed ventures. The chief function of the science of elections is the choosing of a favorable time for beginning an undertaking, but also includes the science of images.¹¹

The author distinguishes three classes of images. The first class is denominated "abominable." These are the images of Toz and Germath, connected with the cult of Venus, and the images of Belenus and Hermes. The latter are exorcized by the fifty-four names of the angels who serve in the circle of the moon, although there is a strong presumption that these are really the names of fifty-four devils. God sometimes allows the demons to pretend to be coerced by these images for the further deception of sinful men, but the author denies all genuine power to such images.

The second class of images is less reprehensible. The potency of these images lies in the inscription of certain characters. The four rings of Solomon, and the seven names from the book *Uraharum*, and the fifteen from the *Institutes* of Raziel belong in this class. The author of the *Speculum* has nothing but contempt for these necromantic images, and asserts he has for-

¹¹ *Ibid.*, ch.4.

gotten many of the titles and *incipits* of the books dealing with them, "for my spirit was never at rest in them." Having made this disclaimer, he proceeds to quote a bibliography of illicit books which is much longer than any of his lists of licit ones.

In the third class of images, all suffumigations, invocations, exorcizations, and inscriptions are dispensed with, and their power comes solely from the configuration of the sky. The chief function named is that of driving pestilential vermin—in particular, the scorpion—from any given locality.

After having discussed the various divisions and the books on astrology, the author returns to a justification of the science in particular reference to the divisions named. His arguments are for the most part a restatement of his general position toward astrology given at the beginning of the treatise, although there are some additions. He rejects the theory that the planets are endowed with rational souls, and insists upon their being the inanimate instruments of God's will. The *Speculum* is of particular interest in suggesting the intimate connection which existed between astrology and magic.

Thomas Aquinas expresses the view of one whose interest was primarily theological and philosophical rather than scientific. He considers astrology under two heads:¹² (1) "Whether the heavenly bodies are the cause of what is produced in bodies here below?"; and (2) "Whether the heavenly bodies are the cause of human actions?" He answers the first question in the affirmative. "*I answer that*, Since every multitude proceeds from unity;—and since what is immovable is always in the same way of being, whereas what is moved has many ways of being: it must be observed that throughout the whole of nature, all movement proceeds from the immovable. Therefore the more immovable certain things are, the more are they the cause

¹² *Summa Theologica* 1.115.3-4.

of those things which are most movable. Now the heavenly bodies are of all bodies the most immovable, for they are not moved save locally. Therefore the movements of bodies here below, which are various and multiform, must be referred to the movements of the heavenly bodies, as to their cause." The word "movement" in the above passage might better be rendered "change." It is the translation of *motus* in its specialized scholastic sense of the change from potentiality to actuality.

His categorical answer to the second question is "no," but he qualifies his answer in such a manner as to save both free will and the theory of astrology. He distinguishes between intellect and sense, and admits the influence of the stars upon the organs of sense, which are corporeal bodies and therefore subject to the power described in the preceding section. "They [the stars] can act directly indeed on those powers of the soul which are the acts of corporeal organs, but accidentally: because the acts of such powers must needs be hindered by obstacles in the organs; thus an eye when disturbed cannot see well." The intellect and will therefore may be affected indirectly and accidentally by the stars through the sense organs. The intellect is more deeply affected than the will, for by the scholastic dictum: "Nihil est in intellectu quod non prius fuerit in sensu." Astrologers are able to foretell the truth in the majority of cases because most men follow their passions, "which are movements of the sensitive appetite, in which movements heavenly bodies can cooperate." But they may err in any particular case because a man can resist his passions by his free will. "Vir sapiens dominabitur astris."

The expression "vir sapiens dominabitur astris" is found frequently in mediaeval authors, and in each case it takes its meaning from the general philosophy of the particular writer.¹³

¹³ See T. O. Wedel, *op. cit.*, 135-42.

In its origin the *vir sapiens* was probably the astrologer, who, by taking precautions against the events foretold by the heavens, overcame them. In Thomas Aquinas the expression becomes the enunciation of a moral and psychological principle. What did Gower mean when he repeated the phrase in the Latin verses prefixed to the discussion of astrology in the seventh book of the *Confessio Amantis*?

Lege planetarum magis inferiora reguntur,
Ista set interdum regula fallit opus.
Vir mediante deo sapiens dominabitur astris,
Fata nec immerito quid novitatis agunt.

An examination of the body of his astrological references will furnish the most satisfactory answer.

II

The fullest statement of Gower's astrological faith and practical knowledge is in the description of the education of Alexander in the seventh book of the *Confessio Amantis*. What we actually find of positive information in this discussion may be considered conveniently under four heads: planets, signs, the fifteen stars, and the authors who wrote of astronomy.

The movements of the planets are satisfactorily explained.

The more that thei stonden lowe,
The more ben the cercles lasse;
That causeth why that some passe
Here due cours tofore an other.

—7.706-709.

In other words, the nearer the planet is to the earth, the shorter is its orbit. The order of the planets in distance from the earth is given in correct Ptolemaic order. The moon is nearest to the earth (721), and controls the tides of the sea (722-724). The

moon also controls all shell-fish, which thrive or waste away in accordance with its phases. The light of the moon is unique among the stars in being reflected from the sun (731-735). Albertus Magnus would have challenged this point,¹⁴ but opinions differed. The eclipses of the moon are explained on the alleged authority of the *Almagest* (739), as follows:

The Mones cercle so lowe is,
Wherof the Sonne out of his stage
Ne seth him noght with full visage,
For he is with the ground beschaded,
So that the Mone is somdiel faded
And may noght fully schyne cler.

—7.740-45.

In regard to the influence of the moon upon men, Gower ascribes travel as the lot of those under its power (746-748). The influence of the moon is particularly strong in Germany and England (749-752).

The second planet, Mercury, influences men to be studious (759), and loving of ease and money (763-766). Its influence is strongest in Burgundy and France (767-770).

The third planet, Venus, "governeth al the nacion of lovers," is soft and sweet.

For who that thereof takth his berthie,
He schal desire joie and merthe,
Gentil, courteis and debonaire,
To speke his wordes softe and faire,

—7.783-86.

But all is not well for the "venerien." His misfortune is that in matters of sex, he loses all sense of right and wrong, and is powerless to deny the demands of love (791). The power of Venus is particularly prevalent in Lombardy.

¹⁴ *De Coelo et Mundo* 2.3.6.

The next planet is the Sun, giver of light and increase of the earth (801-810). The Sun rides in a car of gold. On his head is a golden crown set with precious stones. The Sun's chariot is drawn by four horses: Eritheus, Acteos, Lampos, and Philogeus (815-864). The Sun is the chief planet and from the middle place rules the other six. The man who is born under the influence of the sun will be of good will, liberal, subtle of wit, able in goldsmithing, and clever in financial affairs. Greece is the country most under the Sun's influence.

The fifth planet is Mars, the "planete bataillous" (889), and affects those born under him with the fierce martial spirit. His influence is most felt in the Holy Land.

Jupiter makes men meek and patient, fortunate in business, and "lusti to delicacie." Egypt comes under Jupiter's benevolent control (907-34).

The highest planet is Saturn, cold of complexion. His influence makes men cruel and malicious, and his domain is in the Orient (935-40).

A source for some of Gower's information is the *Trésor* of Brunetto Latini.¹⁵ What are the facts he could have learned from Brunetto? Brunetto could have furnished him with the order of the planets, the explanation of planetary aberration and of the eclipses of the moon, the control of the moon over shell-fish and tides, and the fact that the moon is the only heavenly body that derives its light from the sun. As has been pointed out by Hamilton,¹⁶ the description of the Sun's crown and chariot are to be found in Martianus Capella's *De Nuptiis Philologiae et Mercurii* and in Fulgentius, although certain discrepancies indicate that Gower was acquainted with the de-

¹⁵ *Trésor* 125-29.

¹⁶ George L. Hamilton: "Some Sources of the Seventh Book of Gower's *Confessio Amantis*," in *Modern Philology*, ix, 323-46.

scriptions at second hand. The descriptions are fanciful and poetic, and have nothing to do with astrology. All of Gower's knowledge about the planets as revealed in the education of Alexander could have been derived from the *Trésor* except the description of the Sun's chariot, crown, and horses, the influence of the planets upon particular localities, and a few of the influences upon men in particular. For example, that the sun influences men to be able in goldsmithing is not to be found in the *Trésor*. The following verbal similarities with Gower's phrases indicate his probable¹⁷ indebtedness to the *Trésor*: Saturn is "cruex et felons et de froide nature"; Jupiter is "dous et piteus, et plains de touz biens"; Mars is "chaus et bataillereus et mauvais, et est apelez Diex de batailles"; the Sun is "bone planete et emperial" and "plus biaux et plus dignes des autres, et siet el milieu des planetes"; Venus is "bele et douce, et est apelée dieuesse d'amors."

III

To assert that any particular passage in Gower's writings is the dullest is to challenge controversy. Any jury sitting on the case, however, would be compelled to give due consideration to the lines in which he describes the signs of the zodiac (7.979-1236). The painstaking enumeration of the stars in the head, belly, and tail of each sign seems altogether pointless.

Macaulay's notes unfortunately support the first impression of the casual reader that skipping is here in order. On line 983, in which Gower ascribes his description to the *Almagest*, Macaulay comments:

It may be observed that (in spite of this reference and that in line 1043) our author's statements about the number and arrangement of stars in the constellations of the zodiac do not at all correspond with those in the *Almagest*.

¹⁷ The expressions are so stereotyped as to make a reservation advisable.

Again, on line 1036, Macaulay writes:

This statement . . . may be taken to indicate that the division of the signs was very uncertain in our author's mind.

It is very difficult not to become exasperated with Gower at times, and Macaulay really cannot be censured for making short shrift of these lines. A more leisurely consideration of what lies back of Gower's zodiac increases the intrinsic interest of the passage, and may even permit one to notice that the descriptions of the months embedded in this unpromising matrix are among the loveliest and freshest that Gower ever wrote.

The description of Sagittarius may be taken as typical of the entire passage.

The nynthe Signe in nombre also,
Which folweth after Scorpio,
Is cleped Sagittarius,
The whos figure is marked thus,
A Monstre with a bowe on honde:
On whom that sondri sterres stonde,
Thilke eighte of whiche I spak tofore,
The whiche upon the tail ben bore
Of Scorpio, the heved al faire
Bespreden of the Sagittaire;
And eighte of othre stonden evene
Upon his wombe, and othre sevene
Ther stonde upon his tail behinde.
And he is hot and dreie of kinde:
To Jupiter his hous is fre,
Bot to Mercurie in his degre,
For thei ben noght of on assent,
He worcheth gret empeirement.
This Signe hath of his proprete
A Monthe, which of duete

After the sesoun that befallerh
The Plowed Oxe in wynter stalleth;
And fyr into the halle he bringerh,
And thilke drinke of which men singerh,
He torneth must into the wyn;
Thanne is the larder of the swyn;
That is Novembre which I meene,
Whan that the lef hath lost his greene.

—7.1140–68.

An analysis of these lines shows that it is composed of the following elements:

1. The figure outlined by the constellation. (i.e., Sagittarius is in the shape of a centaur.)
2. The number of stars in each of three subdivisions of the sign.
3. The "quality" of the sign. (i.e., Sagittarius is hot and dry.)
4. The sign as "dignity" or "debility" of certain planets. (i.e., Sagittarius is the house of Jupiter.)
5. A description of the month over which the sign rules. These are the elements of which the entire discussion of the zodiac is composed. In some instances, one or more of these are omitted. In the discussion of Cancer, for example, there is no description of June. Again, Gemini is not mentioned as the dignity of any planet. The above passage was chosen because it includes all the elements which do appear.

Certain of these details—the qualities, the dignities, and the shape of the constellation—need not detain us. These are commonplaces of astrological lore, and might have been picked up anywhere. Even the description of the months cannot detain us. It is the remaining element—the subdivision of each sign into head, belly, and tail, and the enumeration of the stars

in each of these subdivisions—which is of particular interest. For these subdivisions are

... the eighte and twenty mansions
That longen to the mone . . .

The impression created by Macaulay's notes is that Gower was floundering with something like Ptolemy's description of the zodiac, but getting it mixed up. This impression is incorrect. Gower is actually following his source very carefully, but that source, instead of being in the main current of astrological thought, is a good deal of a curiosity. Descriptions of the zodiac are to be found in almost every mediaeval astrological work. But to find Gower's source, it is necessary to turn, not to the well-known names, Firmicus, Ptolemy, Albumazar, Alchabitius, Alfraganus, Albohazen Haly, Albategnius, Messahala, and their mediaeval European followers, but to one Alchandrus,¹⁸ whose date, city, and correct name even are mysteries.

Alchandrus is accessible to me in the form of a sixteenth century book in Latin¹⁹ entitled *Arcandam doctor peritissimus ac non vulgaris Astrologus de veritatibus et praedictionibus Astrologia* [sic], etc. (Paris, 1542). The author is also called Arcandum and Aleandrinus in this edition.

Of the author of this work, Thorndike writes²⁰ “. . . the name Alchandrus or Alhandreus is found so far as I know in no historian or bibliographer of Arabian literature or learning. . . .” Although Thorndike mentions a reference to Alchandrus by Steinschneider,²¹ he appears to be unaware that

¹⁸ I have followed Thorndike in adopting this arbitrary spelling. The name appears as Alchandrus, Alhandreus, Alchadrinus, Archandrinus, Alkardianus, Alchandiandus, Arcandam, Aleandrinus. *Op. cit.*, 1,710 ff.

¹⁹ During the sixteenth and seventeenth centuries, several editions of French and English translations appeared. Thorndike, 1,716.

²⁰ *Ibid.*, 1,711.

²¹ *Ibid.*, 1,711.n.2.

Steinschneider once wrote a long article, which is of considerable importance to the study of Alchandrus, and also of the mansions of the moon.²²

Neither Thorndike nor Steinschneider succeeds in identifying Alchandrus very satisfactorily. Thorndike mentions a manuscript of the tenth century; two manuscripts of the eleventh century; two fifteenth century manuscripts, one in Oxford and one in Paris; a thirteenth-fourteenth century manuscript which contains a geomancy ascribed to Alkardianus or Alchandiandus, and which resembles to some extent the work ascribed to Alchandrus.²³ He cites references to Alchandrus by William of Malmesbury, Michael Scot, and Peter of Abano.²⁴ Thorndike has presented sufficient evidence to establish the fact that from the tenth through the seventeenth centuries, certain works were current which were supposed to be written by a man whose name was something like Alchandrus. Vague as this identification is, it is adequate for our present purposes.

Steinschneider, although writing at greater length, casts little more light on the identity of Alchandrus. He lists more manuscripts,²⁵ and postulates an author whose real name was el-Kenderi,²⁶ but Alchandrus remains a shadowy figure.

I shall give a brief account of the book which, in some form or other, must have fallen into Gower's hands. The title-page of the edition of 1542 (which is not paged) states that Richard Roussat has rescued the work “not only from a confused and indistinct style, but also from obscurity,” and has freed it from

²² M. Steinschneider: “Ueber die Mondstationen (Naxatra), und das Buch Arcandam,” *Zeitschrift der Deutschen morgenländischen Gesellschaft*, xviii, (1864), 118–201.

²³ *Ibid.*, 1,710–16.

²⁴ *Ibid.*, 1,710.

²⁵ *Op. cit.*, 135–47.

²⁶ *Ibid.*, 135.

innumerable errors. This statement, and Roussat's address to the reader, suggests that liberties have been taken with the manuscript used for the edition. The exact relationship of Gower to Alchandrus could be more satisfactorily established if I had an earlier version in the form of a manuscript before me. From Thorndike's description of the Alchandrus manuscripts,²⁷ it seems possible that Gower may have taken all of his information on the signs, with the exception of the descriptions of the months, from this source. However, a Hebrew version of Alchandrus, which I shall discuss later, furnishes evidence that Gower used another Latin version. The printed book illustrates satisfactorily the main points of similarity.

The introduction contains instructions for reducing the name of the individual whose horoscope is being sought, and the name of his mother, to a numerical basis. These two numbers are added together and divided by 29, "because of the 29 constellations of stars." A page further on, it is stated that there are 30 constellations, and a second introduction, which is placed at the end of the book, is written in terms of 30 constellations. The second introduction also describes how to use the book with 12 for a divisor. The first introduction goes on to explain that there are two ways of considering the zodiac. The first way involves the twelve signs: Aries, Taurus, Gemini, etc. Each of these signs rules a month; for example, Aries rules March.²⁸ The second way of regarding the zodiac involves a subdivision into "partial signs." Taurus, Gemini, Leo, Scorpio and Aquarius are divided into three parts, namely head, belly, and tail ("in caput, ventrem, et caudam"), or into beginning, middle, and end ("in principium, medium, et finem"). Aries,

²⁷ *Op. cit.*, 1.711-14.

²⁸ Although not a major point, it is worthy of notice in passing that Gower's ascription of a month to a sign is to be found in Alchandrus. Actually, the months and the signs overlap. In Gower's time, the sun entered Aries about the 12th of March.

Cancer, Libra, Sagittarius, Capricorn, and Pisces are divided into two parts, head and tail. Virgo is divided into two parts, but the tail is subdivided, so that it actually has three parts. The uncertainty about the number of parts in Virgo leads to the uncertainty as to whether there are 29 or 30 "partial signs" in all.

The introduction then proceeds to describe the mundane houses. Here, as throughout the explanatory passages, is confusion and obscurity.

The main body of the work is divided into twelve tractates, one for each of the twelve complete signs of the zodiac. Each tractate is subdivided into five or six chapters, depending on whether the particular sign has two or three subdivisions. Aries, for example, having two subdivisions, has five chapters. The first treats of the characteristics of those whose "partial sign" is the head of Aries, the second of those whose "partial sign" is the tail, the third of considerations applicable to males born under Aries, the fourth to females, and the fifth to all the children of Aries, male or female. Each tractate has an illustration of the animal or figure of each sign, and each "partial sign" is called by an Arabic name, and has a diagram of the arrangement of its stars. Alchayt, the nineteenth "partial sign," for example, has seven stars thus disposed "ad



modum letitiae geometricae" [sic], that is to say, in the form of the geomantic figure "laetitia."²⁹ The account of Alchayt

²⁹ Although Alchandrus is about on the same intellectual plane as geomancy, this work is not a geomancy. The head of Scorpio, and the

continues, beginning with the physical characteristics of the "native," then giving his moral characteristics, certain vicissitudes of life which he will experience, and diseases which he will suffer.

This should be enough of Alchandrus to show the caliber of the work. Here is astrology reduced to a parlor game. Before going on to a comparison with Gower, I wish to call attention to the fact that, although these "partial signs" are the mansions of the moon,³⁰ and bear the Arabic names, the expression "mansions of the moon" does not appear in the work.

The coincidence with Gower occurs in the number of stars assigned by each author to each "partial sign" of the zodiac. The table on page 73 gives an initial comparison.

At this point, my reader is entitled to a fit of exasperation. Here are correspondences which do not correspond. The situation is, however, not so hopeless as it seems. Gower makes the same set of stars play a rôle in two signs of the zodiac. For example, the tail of Libra is also the head of Scorpio. Now if all these duplicates (marked d in the table) are eliminated, we get the succession on page 74. I use the Arabic names of the mansions of the moon found in Alchandrus. This still is not an identity, although the correspondence is now so close as to leave no doubt that Gower is following the same subdivision of the zodiac as found in Alchandrus.³¹

head of Taurus, also in the form "laetitia," are the only ones which correspond to geomantic figures.

³⁰ Steinschneider's comparison with other treatments renders this statement indubitable. *Op. cit.*, 139 ff.

³¹ It is fair to ask why there are 30 divisions, if these are the 28 mansions of the moon. In the case of Gower, there are actually only 28 sets of stars, the sets named Alcaya and Aliena not being mentioned. In the case of Alchandrus, it must be realized that we have to do with a late and probably corrupt version of a work which, because of its nature, interested

	Gower	Alchandrus		Gower	Alchandrus
ARIES			LIBRA		
Head	3	4	Head	3	4
Middle	2	None	Middle	2	None
Tail	7 (d)	4	Tail	8 (d)	2
TAURUS			SCORPIO		
Head	7	7	Head	8	7
Middle	18	17	Middle	3	3
Tail	2	2	Tail	8	6
GEMINI			SAGITTARIUS		
Head	2 (d)	5	Head	8 (d)	8
Middle	5	4	Middle	8	None
Tail	2	2	Tail	7	7
CANCER			CAPRICORN		
Head	10	10	Head	3	3
Middle	2	None	Middle	2	None
Tail	4 (d)	2	Tail	2 (d)	2
LEO			AQUARIUS		
Head	4	4	Head	2	2
Middle	4	4	Middle	12	12
Tail	1	1	Tail	2	2
VIRGO			PISCES		
Head	1 (d)	5	Head	2 (d)	2
Middle	5	None	Middle	2	None
Tail	5	5	Tail	20	20

In a Hebrew manuscript described by Steinschneider, we find evidence that Gower did not actually use the work of Alchandrus in the form in which it is preserved by the sixteenth century book, or in the manuscripts described by Thorndike.³²

ignorant and simple-minded people. There are actually only 29 figures in Alchandrus, Aliena having no stars.

³² Examination of these manuscripts might make a retraction of this

	Gower	Alchandr		Gower	Alchandr
ARIES			LIBRA		
1. Alnathy	3	4	17. No name	3	4
2. Allothayn	2	4	18. Alcabenech	2	2
TAURUS			SCORPIO		
3. Aldodaya	7	7	19. Alchayt	8	7
4. Colebram	18	17	20. No name	3	3
5. Aliviseri	2	2	21. Elebrah	8	6
GEMINI			SAGITTARIUS		
6. No name	5	5	22. Abbaham	8	8
7. Alcaya	—	4	23. Albeyda	7	7
8. Aldaman	2	2	CAPRICORN		
CANCER			24. Estadap	3	3
9. Abacra	10	10	25. Astaldabor	2	2
10. Alearf	2	2	AQUARIUS		
LEO			26. Astrard	2	2
11. Algobacac	4	4	27. Ascadabra	12	12
12. Alcomencon	4	4	28. Algassaral	2	2
13. No name	1	1	PISCES		
VIRGO			29. Algasayser	2	2
14. Laexa	5	5	30. Luaten	20	20
15. Alacaneth	5	5			
16. Aliena	—	0			

This manuscript is not available to me. As there is no reason to suppose that Gower read Hebrew, and as his account agrees in some respects with the sixteenth century book, and in some with the Hebrew manuscript, it is reasonable to postulate a Latin manuscript of the Alchandrine line, not now known, which combines these two versions. My description is at second hand from Steinschneider.³³

This version is in *Codex München, h. 73*. It is a modern statement necessary. Thorndike's brief description of the manuscripts which he has examined does not sound like the Hebrew copy.

³³ *Op. cit.*, 144-45. Steinschneider has no hesitancy in considering this a Hebrew version of Alchandr.

copy (Steinschneider does not state how modern) of an anonymous work. Shortly after the opening, the statement is made: "Every constellation of the zodiac is divided into three parts: Head, Navel, and End." Libra is an exception to this in being divided into two parts only. These divisions result in the formation of 28 figures, to which the term "mansions of the moon," as in the sixteenth century book, is not applied.

The table on page 76 will illustrate the similarities between Gower and this Hebrew version of Alchandr. In some respects the similarities are more striking here than in the case of the sixteenth century Latin version. These similarities are:

1. Each author assumes a tripartite division of each sign.³⁴ The Hebrew version deviates from uniformity in the case of Libra, which is described as having two parts only, middle and tail. Since Gower is strictly uniform in his threefold division, his Libra does not correspond with the Hebrew Libra, and the seventeenth "partial sign" is both tail of Libra and head of Scorpio, whereas the seventeenth sign is only the head of Scorpio in the Hebrew version. With this exception, the doublings-up are identical, i.e.,

Tail of Aries is Head of Taurus

Tail of Taurus is Head of Gemini

Tail of Cancer is Head of Leo

and so on, in both authors.

³⁴ It should be noted that this division into "partial signs," although clearly influenced by the division into decanates, is not the same as the division into decanates. The division into decanates (i.e., the division of each sign into three equal parts of 10 degrees each) results in 36 subdivisions, not 28 as in the mansions of the moon. The decanates are apparently Egyptian in origin, and are mentioned in Western literature at least as early as Galen. See Thorndike, 1.178.

	Gower	Hebrew Alchan- drus		Gower	Hebrew Alchan- drus
ARIES			LIBRA		
1. Head	3	3	15. { Head	3	—
2. Middle	2	2	{ Middle	2	3
3. Tail; and Head of	7	7	16. Tail	} 8	2
TAURUS			SCORPIO		
4. Middle	18	18	17. Head (in Gower only, also tail of Libra)	} 8	9
5. Tail; and Head of	2	2	18. Middle		
GEMINI			19. Tail; and Head of	8	5
6. Middle	5	6	SAGITTARIUS		
7. Tail	2	3	20. Middle	8	7
CANCER			21. Tail	7	12
8. Head	10	9	CAPRICORN		
9. Middle	2	2	22. Head	3	3
10. Tail; and Head of	4	4	23. Middle	2	—
LEO			24. Tail; and Head of	2	2
11. Middle	4	4	AQUARIUS		
12. Tail; and Head of	1	1	25. Middle	12	12
VIRGO			26. Tail; and Head of	2	3
13. Middle	5	5	PISCES		
14. Tail	5	5	27. Middle	2	20
			28. Tail	20	2

2. Each author looks upon the "partial signs" as a means of describing the zodiac, and is more interested in fitting the pieces together than in the pieces themselves.

3. Neither author uses the Arabic names of the mansions of the moon.

There are eight discrepancies in the number of stars in each

mansion as between Gower and the sixteenth century version³⁵; and 11 between Gower and the Hebrew version.³⁶ It is interesting to note that where Gower disagrees with one he usually agrees with the other, so that there are only two cases (19. Alchayt and 21. Elebrah) in which he fails to agree with at least one of them.

Up to this point I have said very little about what the mansions of the moon are. Everyone is familiar with the horoscope books, "Were you born in September?" These are written in terms of the mansions of the sun. It takes the sun 365 days and a fraction to move through the 12 signs of the zodiac, and it stays in each sign roughly for a month. Anyone born in that month—so the theory runs—will have the characteristics of that sign. The moon traverses the 12 signs of the zodiac in 27 days and a fraction. Therefore, there can be 28 subdivisions, each representing the portion of the zodiac passed through in slightly less than 24 hours. These are the mansions of the moon.

There is reason to believe that the mansions of the moon are Indian in origin, and entered the Latin literature of the Christian Middle Ages through Arabic sources.³⁷ Mediaeval references to the mansions of the moon usually allude to them as Indian learning.³⁸ There seem originally to have been 27 mansions, the mansion in which the sun and moon are together being omitted from the reckoning.³⁹ As we have seen, Al-

³⁵ In signs 1. Alnathy, 2. Allothayn, 4. Colebram, 7. Alcaya, 16. Aliena, 17. No name, 19. Alchayt, 21. Elebrah.

³⁶ In signs 6, 7, 8, 17, 19, 20, 21, 23, 26, 27, 28.

³⁷ Steinschneider, *op. cit.*, 119.

³⁸ For an early example, see *Liber Gaphar* [Albumazar] *de Mutatione Temporis*, Venice, 1507. For a late example, see Cornelius Agrippa, *De Occulta Philosophia* 2.33.

³⁹ Steinschneider, *op. cit.*, 157-64.

chandrus, in a late version, expanded the number to 29 and even 30. The logical and most usual number is 28.

The earliest astrological use of the mansions of the moon was in weather forecasting,⁴⁰ and this connection is still to be seen in Cornelius Agrippa (d.1535) who, however, also asserts their efficacy in magic.⁴¹ The use of the mansions for individual horoscopes has already been described.

Gower probably did not know that he was writing about the 28 mansions of the moon. In the first place, he does not call them such, and he has not given them their Arabic names. He gives no evidence that he recognizes the value of these subdivisions in prognostications, or for any other purpose. In the second place, it is doubtful whether he would have kept such bad company knowingly.

For it must be confessed that the mansions of the moon, at least by the end of the fourteenth century, are not quite respectable. They do not enter into the main current of mediaeval astrological thought.⁴² A *Liber Lunae* is mentioned by the *Speculum Astronomiae* (ch.10) as a condemned book. The mansions of the moon are intimately connected with image making.⁴³ And finally there is the conclusive evidence of the *Franklin's Tale*.

When Aurelius's brother bethought him of his student days in Orleans, he recalled a book of "magik naturel" (397). He remembers it as the kind of book which interests

⁴⁰ As, for example, in Alkindi (d. 873 A.D.), *Astrorum Iudices Alkindi de Pluuiis, Imbribus, et Ventis*, ch. 6. Venice, 1507.

⁴¹ *Op. cit.*, 2.33.

⁴² Although the mansions of the moon are described by Alfraganus, a highly reputable writer, and in a minor work by Albumazar, they are not actually needed in a complete system of astrology. Gower's mansions are not derived from Alfraganus or Albumazar.

⁴³ Thorndike, 2.223.

... yonge clerkes, that been likerous
To reden artes that been curious,
—391-92.

Its contents are

... swich folye,
As in our dayes is nat worth a flye;
—403-404.

This was the book

Touching the eighte and twenty mansiouns
That longen to the mone,
—402-403.

The mansions of the moon are definitely associated in Chaucer's mind with astrological magic, for he comes back to them in the detailed description of the operation of the magician in removing the rocks (545-68). The magician is particularly careful to find the position of Alnath (553), which is the first mansion of the moon.⁴⁴

There is grave doubt in my mind whether Gower was aware that there are two zodiacs—the zodiac of the *signs* and the zodiac of the *constellations*.⁴⁵ He calls his divisions "signs,"

⁴⁴ For the importance of the moon in the magic of the *Franklin's Tale*, see J. S. P. Tatlock: "Astrology and Magic in Chaucer's *Franklin's Tale*," in *Anniversary Papers by Colleagues and Pupils of G. L. Kittredge* (1913), 339-50.

⁴⁵ It may not be amiss to explain this distinction. Because of the precession of the equinoxes, the *constellations* of the zodiac have a very gradual movement from west to east of about 50" annually. At the time of Hipparchus (c. 150 B.C.) the zodiac of the *constellations* roughly corresponded to the zodiac of the *signs*. The zodiac of the *signs* is arbitrarily established each year by calling the point of the ecliptic at which the sun is when it crosses the equator at the vernal equinox 0° Aries, and measuring from that point along the ecliptic, 30° for each sign. The zodiac of the *signs* is not indicated by stars. By the time of Gower (if we assume that the movable zodiac is also divided into equal divisions of 30° each), about 9° Pisces of the constellations corresponded to 0° Aries. In our time Pisces almost corresponds with Aries.

although he clearly thinks of his "signs" as constellations to be seen in the heavens. Of Virgo he writes (1106-9)

In boke *and as it mai be seie*,
Diverse sterres to him longeth,
Wherof on hevede he underfongeth
Ferst thre, . . .

It is clear that Chaucer realized the distinction between the two zodiacs. In describing the activities of the magician in the *Franklin's Tale*, he writes (552-55)

And, by his eighte spere in his wirking,
He knew ful wel how fer Alnath was shove
Fro the heed of thilke fixe Aries above
That in the ninthe speere considered is;

That is, the magician calculated the relation of Alnath, the first mansion of the moon, located in the eighth sphere of fixed stars to the head of (0°) Aries, located in the ninth (starless) sphere of the signs. If Chaucer had come upon a description of the zodiac in terms of the mansions of the moon, I think he would have recognized it for what it was.

IV

After this unusual treatment of the zodiac, Gower next describes the "fifteen stars" (1281-1438). Although recognizing the material as belonging to the realm of natural magic, he includes it in what Alexander learned of astrological lore. The virtue of these fifteen stars is apparently of a more occult nature than that referred to by Vincent of Beauvais. "Some have said that there is no herb on earth which has not a star in the sky: which is concerned for it and causes it to grow."⁴⁶ Gower, however, nowhere gives an explanation of the efficacy

⁴⁶ *Speculum Naturale* 16.53.

of these stars, stones, and herbs, nor of the means by which they become efficacious. Nectanabus taught Alexander

Of certein sterres what thei mene;
Of whiche, he seith, ther ben fiftene,
And sondrily to everich on
A gras belongeth and a Ston,
Whereof men worchen many a wonder
To sette thing bothe up and under.

—7.1308-1308.

The source of this account is a treatise called *Liber Hermetis de xv stellis et de xv lapidibus et de xv herbis, xv figuris*, etc. which has never been printed, and has not been accessible to me.

Cornelius Agrippa lists 15 stars and their corresponding herbs and precious stones.⁴⁷ His list does not entirely correspond to Gower's, but it is clear that they are from the same source. Cornelius Agrippa cites Hermes and Thebit as his authorities. In general, the point is apparently no more than that certain herbs and stones possess the powers of certain celestial bodies, and therefore one could work wonders with them if one knew how.

V

Gower concludes his discussion of the astrological education of Alexander with a list of authorities on astrology. To his previous citations of Ptolemy, the *Almagest*, Albumazar, and Hermes he adds Nimrod, Arachel, Alfraganus, Gebuz, Alpetragus, Abraham, and Moses. The astrological lore of Abraham and Moses may, Gower says, never have been committed to writing. Nimrod, or as Gower calls him, Nembrot, is the mighty hunter of the Bible, the son of Canaan, the son of Shem, the son of Noah. This is the genealogy given by Michael

⁴⁷ *De Occulta Philosophia* 1.32.

Scot and differs slightly from that in the 10th chapter of Genesis.⁴⁸ "When Canaan was slain in war and his books were burned, Nemroth revived the art of astronomy from memory and was, like his father, deemed a God by many because of his great lore."⁴⁹ Two manuscripts have been found which, although not by Nimrod himself, purport to be based on his teachings.⁵⁰ Arachel refers probably to Arzachel (Al-Zarkali), whose astronomical tables were in common use. The *Rudimenta Astronomica* of Alfraganus (Al-Fergani) was translated from Arabic into Latin by John of Spain in 1135. Alfraganus is the principal source of Dante's astronomical knowledge.⁵¹ Gebuz is probably the Jabir ben Aflah of Seville who wrote in the eleventh century a work on astronomy which is important for its trigonometrical portions, although the name Geber is difficult to identify, because a huge quantity of alchemical writings was assigned to that name in the Middle Ages.⁵² Alpetragius (Al-Bitrogi) was the author of *Planetarum Theorica*, which attempts to eliminate the eccentrics and epicycles of Ptolemy.⁵³

Did Gower actually have a first-hand acquaintance with these authors? I have no hesitancy in asserting that he did not. Macaulay suggests that he took his authors from the *Speculum Astronomiac*, or from some similar list. Corruption of a manuscript could explain Gower's mistaking Albategnius (Al-Battani), an important Arabian astronomer, for the name of a

⁴⁸ Michael Scot's *Introduction to Astrology* has not been printed. My account is from Thorndike, 2.321-22.

⁴⁹ Thorndike, 2.321.

⁵⁰ C. H. Haskins: "Nimrod the Astronomer," *Romanic Review* v, 203-12.

⁵¹ Duhem, *op. cit.*, 4.223.

⁵² *Encyclopedia Britannica*, "Geber."

⁵³ Duhem, *op. cit.*, 2.146-56.

book by Arzachel, which Gower calls Abbategnyh (1458). Lack of proper orientation of authorities might pardon his considering Hermes the greatest astronomer of all (1476-78). Not knowing that it was Ptolemy who originally numbered the visible stars at 1022 (1488-89), and thinking that it was Ptolemy who described the zodiac in terms of the mansions of the moon (1043), are historical and not scientific mistakes. I do not believe that Gower was acquainted with the authors whom he lists, for a very simple reason. These are authors of difficult technical works on astronomy. Only a man with a keen interest in astronomy could wade through them. Anyone possessing such an interest would never have turned out as puerile a performance as the astrological portion of the education of Alexander. The works of some, or all, of these writers may have passed through Gower's hands,⁵⁴ but that he had mastered them, and knew in what respect their theories differed is to me incredible.

VI

The section of the education of Alexander, which deals with astrology to the extent of almost a thousand lines, is Gower's principal treatment of the subject. The next most important discussion is in the tale of Nectanabus.⁵⁵ Nectanabus was primarily a magician, but as astrology was so frequently associated with magic, the story must be considered here in regard to its astrological details to insure a complete account of Gower's astrological lore. The first indication that Nectanabus

⁵⁴ For example, Gower ascribes his partition of the quarters of the earth to the signs of the zodiac to Albumazar (7.1237-70). This is correct. Gower's account follows the *De Magnis Conjunctionibus* 4, and differs from Ptolemy's division in the *Tetrabiblos*. I see no way of telling whether Gower's information is at first or second hand.

⁵⁵ *Confessio Amantis* 6.1789-2366.

is an astrologer as well as a sorcerer appears in his visit to queen Olympias.

Sche sende for him, and he com,
 With him his Astellabre he nom,
 Which was of fin gold precious
 With pointz and cercles merveilous;
 —6.1889-92.

He also brought with him an illustrated book describing the stars, and apparently entertained Olympias with a lecture on astronomy until the opportunity came to speak of more personal matters. In the principal source of Gower's version, the *Roman de toute Chevalerie* of Thomas of Kent,⁵⁶ the author gives the details of the lecture. It was chiefly concerned with the color of the planets. The *Roman* makes an astrological interrogation the basis of the prediction that Olympias will bear a child to the God Ammon. According to Gower, Nectanabus pretended to receive this information while worshipping the God in his temple in Egypt.

When Nectanabus goes home, he makes a wax image of queen Olympias "thurgh the craft of Artemage." In the *Roman*, he places the image on a bed, anoints it with certain herbs, and by means of incantations causes the queen to dream of the entrance of Ammon into her bed. Gower reproduces these features, and makes this addition:

He loketh his equacions
 And ek the constellacions
 He loketh the conjuncions
 He loketh the recepcions,
 His signe, his houre, his ascendent,
 And drawth fortune of his assent:
 —6.1959-64.

⁵⁶ Paul Meyer: *Alexandre le Grand* 1.195-235.

It must not be concluded from this that the image is an astrological image such as is described in the *Speculum Astronomie*. All Nectanabus has done is to consult the stars as to the favorableness of the time for his undertaking. Having found "fortune of his assent," Nectanabus anoints the image with herbs and begins to conjure. These are the employments of ordinary magic.

The deception of the queen, and her justification before the king and courtiers are all accomplished by the magic art. In the *Roman de toute Chevalerie*, the time preceding Alexander's birth is described in great detail. As the queen lies in child-bed, Nectanabus scans the heavens. Twice he prevents the delivery of the child, saying the first time that a child born in that configuration of stars would be a beggar and a coward. The second time Olympias begs to be delivered, she is restrained by the information that a child born at that moment would be half-man, half-chicken. The moment finally arrives when the position of the stars promises a mighty emperor, and Nectanabus allows the suffering Olympias to give birth to Alexander the Great.⁵⁷

Gower renders this:

Nectanabus, in privete
 The time of his nativite
 Upon the constellacioun
 Awaiteth, and relacion
 Makth to the queene hou sche schal do,
 And every houre apointeth so,
 That no mynut thereof was lore.

⁵⁷ According to some authorities, Nectanabus was equally solicitous in selecting the hour for intercourse with Olympias. See Albertus Magnus: *De Animalibus* 22.1.3. The effect of the celestial bodies on the formation of the foetus is described in detail in the second chapter of *De Secretis Mulierum*, but Gower displays no curiosity as to these subtleties.

So that in due time is bore
This child, . . .

—6.2251-59.

As Gower may have been restrained from recounting exact details by natural modesty, as well as by failure to understand the value of seconds in nativities, it need not be concluded that in this instance his knowledge of astrology was less than that of the author of the *Roman*.

The death of Nectanabus is of extreme interest in reference to Gower's attitude toward astrology. As far as we know, he was acquainted with two versions of the story: the *Roman de toute Chevalerie* and the Latin *Historia Alexandri de Preliis*. In both the *Roman* and the *Historia*, Alexander pushes Nectanabus from the tower in exasperation for his pretensions of knowledge. This is the feature which Gower selects for amplification. The facts of the story furnish material for moralizing on the inevitability of one's destiny as represented in one's horoscope. In the *Historia*, Nectanabus is aware of his approaching doom. "See the star of Hercules, how it is disturbed," he exclaims. "I see Jupiter giving off sparks. My fates threaten me with approaching death at the hands of my son." The attitude of Gower is not one of admiration for the eternal order of the universe, but of condemnation of Nectanabus for his magical practices. This interpretation is not to be found in the sources. Nectanabus was too presumptuous. When he led Alexander upon the tower from which he plunged to his death, he spoke

As thogh he knewe of alle thing;
Bot yit hath he no knowleching
What schal unto himself befall.

—6.2295-97.

A more sympathetic nature, either to Nectanabus or to astrology, would say that he had a great deal of "knowleching" about himself and his destiny, but Gower does not conceive Nectanabus's death as part of a causal series over which he had no control. On the contrary, it is the just punishment for a life ill-spent.

And thus Nectanabus aboghte
The Sorcerie which he wroghte:
Thogh he upon the creatures
Thurgh his carectes and figures
The maistrie and the pouer hadde,
His creatour to noght him ladde,
Ayein whos lawe his craft he useth,
Whan he for lust his god refuseth,
And tok him to the dieules craft.

—6.2337-45.

VII

In all the examples that have been considered so far, the subject under discussion has necessarily demanded a display of astrological learning and comment. It is well, therefore, to inquire whether Gower ever uses astrological allusion in a way to demonstrate that it occupied an important place in his world-outlook.

In the discussion of the Gorgons, Gower attributes their malformations to celestial influence:

Bot upon here nativite
Such was the constellacion,
That out of mannes nacion
Fro kynde thei be so miswent,

—1.392-94.

The principal source here is Ovid (*Metamorphoses* 4.772 ff.), but certain details of rendering have led Macaulay to con-

jecture another source. There is no reason to suppose, however, that the explanation is not Gower's.

In the tale of Florent, the wise men of the realm are unable to solve the problem on which Florent's life depends:

Such o thing conne thei nocht finde
Be Constellacion ne kinde:

—1.1505–6.

The introduction of the tun mounted for astronomical observations in the story of Alexander's visit to Diogenes appears to be an original contribution on the part of Gower.

(Diogenes) . . . duelte at hom in such a wise,
That nyh his hous he let devise
Endlong upon an Axeltre
To sette a tonne in such degre,
That he it mihte torne aboute;
Wherof on hed was taken oute,
For he therinne sitte scholde
And torne himself so as he wolde,
To take their and se the hevene
And deme of the planetes sevene,
As he which cowthe mochel what.

—3.1207–17.

On two occasions in the dialogues between the Lover and the Confessor, the Lover's lack of success is attributed to planetary influence. The Confessor says:

Per cas the revolucion
Of hevene and thi condicion
Ne be nocht yit of on acord.

—4.1783–85.

In the eighth book, the Lover says:

Ovide ek seith that love to parforne
Stant in the hand of Venus the goddessse,

Bot whan sche takth hir conseil with Satorne
Ther is no grace, and in that time, I gesse
Began mi love,

—8.2273–77.

The prayer of Cephalus to the sun and moon, which seems to be of Gower's invention, shows certain astronomical knowledge. Cephalus prays the sun

And in the Signe of Capricorn,
The hous appropred to Satorne,
I preie that thou wolt sojourne,
Wher ben the nihtes derke and longe:

—4.3222–25.

As the sun enters the sign of Capricorn at the winter solstice, the appropriateness of the prayer is apparent, however startling the request. To make sure that the nights be dark and long, Cephalus further implores the sun

That thou thi swifte hors restreigne
Lowe under Erthe in Occident,
That thei towardses Orient
Be Cercle go the longe weie.

—4.3233–36.

The prayer to the moon is with different intent.

And in Cancro thin oghne hous
Ayein Phebus in opposit
Stond al this time, and of delit
Behold Venus with a glad yhe.
For thanne upon Astronomie
Of due constellacion
Thou makst proliferacion,
And dost that children ben begete:

—4.3242–9.

This configuration would be favorable for the begetting of children.

Gower describes the religion of the Chaldeans as based on astrology (5.750-58).

In the tale of Achilles and Deidamia, the need of Achilles in the siege of Troy is discovered by astrology.

That Protheüs, of his record
Which was an Astronomien
And ek a gret Magicien,
Scholde of his calculacion
Seche after constellacion,
Hou thei the Cite mihten gete:
—5.3082-87.

There are two allusions to the identification of an evildoer by "calculacion," but the technical process is not described. The Greeks discover the cause of the pestilence in this manner,

Thei soghten thanne here evidence
And maden calculacion,
To knowe in what condicion
This deth cam in so sodeinly;
—5.6458-61.

When the Romans discovered the theft of the ring, mantle, and beard from the statue of Apollo,

Thei soghten help upon the nede
And maden calculacioun,
Wherof be demonstracioun
The man was founde with the good.
—5.7162-5.*

There are several astrological allusions in the *Mirour de l'Ommc*. Adultery is called the planet of pestilence by which men are brought to evil (9037-9). The virtue of Prowess is more untiring than the sun, which in one day runs through all

the "cercles et degres" of the sky. The effect of luxury on a man is compared to the effect of the sun on the star known as "cuer du lion" (Regulus), which, although cold by nature, goes so near the sun in its orbit that it kindles from the sun's warmth (16801-8). Christ showed his deity by causing a star to appear over his head the night he was born.

Enqore dieus d'autre manere
La nuyt qant il nasquit primere
Sa deité nous demoustrait;
Car d'une estoille belle et clere
Au tout le mond donna lumere,
Et fermement l'establissoit
Sur la maisoun u q'il estoit.
—28153-59.

Gower's uncritical acceptance of the story of the star of Bethlehem may be contrasted with Albertus Magnus's careful explanation that the star was in reality an appearance in the upper air, and not a star in the sky.⁵⁸ It was contrary to the most elementary conception of the seven spheres of the planets, and the sphere of the fixed stars, to have a star wandering about and coming to rest above Bethlehem, Albert's explanation robbed Christ of none of his divinity, and at the same time saved the self-respect of himself and the rest of the scientists.

In a short Latin poem, Gower refers to a comet of ill omen (*Complete Works* 4.368). This may have been the comet of March, 1402, which is referred to by Adam of Usk, and Walsingham, as Macaulay suggests.

VIII

Although there is a possibility of some of these allusions being explained in reference to their sources, there is a residuum

⁵⁸ *Summa de Creaturis* 3.15.2.

that can be interpreted only as Gower's voluntary and independent use of astrological material. It should not be concluded, however, that Gower's mind was deeply affected by astrological theory. On the contrary, it is fairly certain that his acquaintance with astrology was of a superficial and unimportant variety.

In a long passage in the *Mirour de l'Omme* (26605-27360), Gower expressly rejects astrological theory and asserts the dependence of all nature on the conduct of man. Nature is examined and acquitted of all responsibility for man's misfortunes, and the celestial bodies are included in the review. The sun by its warmth brings only good to field, wood, and man (26701-12). The moon is the mother of moisture, bringer of rain, and illumination of the night (26713-24). The stars are the means by which sailors guide their ships to a safe port (26725-36). They also prevent by their light the thickening of the air which would cause death to mortals (26749-51).

Quoy de Saturne et de Commete?
Sont il qui font nostre inquiete,
Sicomme les clerks vont disputant,
Et dient deinz lour cercle et mete
Qe l'un et l'autre est trop replete
De la malice? Et nepourqant
Un soul prodhomme a dieu priant
Porra quasser du maintenant
Trestout le pis de leur diete:
Dont m'est avis a mon semblant,
Depuisque l'omme est si puissant,
Nous n'avons garde du planete.

—26737-48.

Believers in astrology like Albertus Magnus and Thomas Aquinas did not deny free will to men. They were at great pains to explain that the two beliefs were compatible, and their

explanations are in accord with their ontology and psychology. When Gower attempts to vindicate free will, however, he does it by arguments that are anti-astrological and non-scientific. That is, he insists upon the purely obvious influences of celestial bodies, and tacitly denies the occult emanation upon which all astrology is based. He is more pious than the theologians.

Gower gives his most comprehensive expression of astrological doctrine in the following lines:

Benethe upon this Erthe hier
Of alle thinges the matiere,
As tellen ous thei that ben lerned,
Of thing above it stant governed,
That is to sein of the Planetes.
The cheles bothe and ek the hetes,
The chances of the world also,
That we fortune clepen so,
Among the mennes nacion
Al is thurgh constellacion,
Wherof that som man hath the wele,
And som man hath deseses fele
In love als wel as othre thinges;
The stat of realmes and of kinges
In time of pes, in time of werre
It is conceived of the Sterre:
And thus seith the naturien
Which is an Astronomien.
Bot the divin seith otherwise,
That if men weren goode and wise
And plesant unto the godhede,
Thei scholden nocht the sterres drede;
For o man, if him wel befall,
Is more worth than ben thei alle
Towardes him that weldeth al.
Bot yit the lawe original,

Which he hath set in the natures,
 Mot worchen in the creatures,
 That therof mai be non obstacle,
 Bot if it stonde upon miracle
 Thurgh preiere of som holy man.
 —7.633–63.

The immediate context of the above lines necessitates as strong a case for astrology as Gower can put. He is introducing a discussion of the science. He cannot invite people to listen to nonsense. The case he actually puts is this: astronomers say that all sublunary nature is governed by the stars; priests say otherwise. Gower does not take sides. He contents himself with saying that man is possessed of a body which operates in accordance with the "lawe original." The source of this law is not the stars, but God. It should be noted that the position of the "astronomien" is stated as such, and not as a personal view. When we look elsewhere, as in the passage from the *Mirour de l'Omme* discussed above, we find him taking sides strongly with the "divine."

That Gower was interested in astrology and was sufficiently acquainted with the scientific jargon to use it without glaring blunders cannot be denied. That his actual knowledge was extremely limited and did not involve an intelligent comprehension of the philosophical basis of astrology, or an intimate acquaintance with celestial mechanics, I think the above considerations have demonstrated.

CHAPTER FIVE

DREAMS

OF ALL the treatises on dreams which I have examined, the free commentary of Albertus Magnus on the *De Somno et Vigilia* of Aristotle is the most thorough and systematic.¹ As the title indicates, Albert begins with an analysis of sleep. He describes the origin of the *spiritus*,² which is the vehicle of all the operations of life which proceed from the soul. The *spiritus* is a subtle substance or vapor. He rejects the statement of Galen that the *spiritus* proceeds from the liver, and follows the Peripatetics in tracing it to the evaporation of the moisture of food operated upon by the radical heat of the body and taking place immediately beneath the heart. From the heart, the *spiritus* flows to the liver, where it becomes *spiritus naturalis*, by which digestion is effected. It also proceeds to the brain, where it becomes *spiritus animalis*, by which the functions of sensation, imagination, and thinking are accomplished. The *spiritus* is itself *potentia*, and receives determination as to form, powers, and activities by the particular member to which it goes. Albert finally defines sleep as the withdrawal of the *spiritus* from the external organs with resultant impotence of the senses.³

Albert then discusses why sleep ends in waking and waking in sleep.⁴ The *spiritus* is warm and subtle; it moves outward,

¹ *Opera Omnia* 9.121–207.

² The doctrine of the "spirits" was an important part of medical theory since before the time of Galen, and survives in the expressions "animal spirits," "vital spirits." There are several different interpretations of the doctrine.

³ *Op. cit.*, 1.1.7.

⁴ *Ibid.*, 1.1.8.

opens the pores, and evaporates. When the *spiritus* has evaporated sufficiently, the external organs become cold, drive the *spiritus* inward, and sleep ensues. The organ from which the *spiritus* departs is still perfect in being, but is no longer able to function. He enlarges upon his definition of sleep by remarking that sleep is a cessation of psychological processes and an intensification of physical processes. That digestion is best accomplished during sleep seems to have been held universally.⁵

In addition to the five senses, however, there is a *sensus communis*, which compares sense impressions. The organ of the *sensus communis* is in the front part of the brain. When the chilled humor touches the *sensus communis*, it affects the tactile sense, which being present in all organs of sense renders all the senses impotent. Sleep is therefore explained as *passio communis sensus*. The chief argument advanced by Albert to support the necessity of a single simultaneous binding of all the senses is that a man may be blind or deaf or dumb, that is, impotent in one sense, and still be wide awake.⁶

Albert then proceeds to a discussion of dreaming, and considers first whether dreaming is a function of the intellectual or sensible part of the soul.⁷ This distinction is based on orthodox scholastic epistemology, with its two-fold classification of knowledge. He states that the intensity of sense impressions in dreams is determined by the importance of the sense. For example, a dreamer is hardly ever conscious of smells. It is evident that man is affected sensibly in dreams, and also that the actual senses are bound. These sense impressions therefore have no objective reality, and are from one of two causes: they are

⁵ Cf. Vincent of Beauvais: *Speculum Naturale* 27.48; and Bartholomew of England: *De Proprietatibus Rerum* 6.26.

⁶ *Op. cit.*, 1.1.9.

⁷ *Ibid.*, 2.1.1.

either preserved in the organs of sense, or they come from within the head and body. Albert accepts the latter cause, for by the former, man would dream continually, as the organs of sense have always some content, and a blind man could not dream of visual images. Man accepts the phantasms of dreams for realities because they are judged not by the reason, but by the *sensus communis*.⁸ The same deception occurs when the sun is judged by sense impression to be a foot broad, and we are saved from error only by our intellectual knowledge. The physiological explanation is that the pore through which sense images are transmitted for criticism by the intellectual soul is clogged during sleep.⁹

The third book of Albert's treatise is devoted to divination. Albert admits that it is a difficult question, particularly in assigning a logical reason for events being foreshadowed in dreams.¹⁰ He is led to acceptance of the truth of divination by the facts of experience. He cites certain well-known dreams, and describes one from his own experience.¹¹ His final conclusion is that premonitory dreams are of celestial origin.¹² He distinguishes between his own theory, however, and that of Averroes, Alfarabius, and Isaac Israelita, which it closely resembles.¹³ To Albert's strictly scientific mind, their explanation of the manner in which the celestial force is transmitted to the soul is inadequate. He insists that the form descending from the heavens is form of work and not of knowledge, as they maintained.¹⁴ Albert, always interested in the mechanics of

⁸ *Ibid.*, 2.1.3.

⁹ *Ibid.*, 2.1.3.

¹⁰ *Ibid.*, 3.1.1.

¹¹ *Ibid.*, 3.1.10.

¹² *Ibid.*, 3.1.6-12.

¹³ *Ibid.*, 3.1.7.

¹⁴ *Ibid.*, 3.1.8.

psychological processes, describes the actual process as follows.¹⁵ Celestial forms touch our bodies and impress their power upon them, although they are sometimes not apparent because of the confusion of external stimuli. The imaginative soul to which this power finally comes receives it and determines it by the nature of its being, that is, forms the images which are dreams.¹⁶

This explanation also accounts for the failure of certain dreams to materialize. Since the celestial form is not of knowledge, but of work, and becomes sense knowledge only when it receives determination by the imaginative soul, so also it becomes act only when it receives determination by sublunary bodies. These sublunary bodies are not only operated upon by celestial forces, but also by others, and under certain circumstances the others win in the struggle.¹⁷

I have confined this exposition to what I take to be the essentials of Albert's theory. I have been forced to omit many interesting digressions, and have made no attempt to illustrate Albert's subtlety, penetration, and thoroughness. I shall add only a few more of Albert's observations and then pass on to other writers. Certain dreams are caused by the passions of the soul and body and signify nothing but the existence of such passions.¹⁸ Dreams may be related in a fortuitous, non-causal way.¹⁹ Dreams occur at night because by day the internal images are eclipsed by the stronger images of external objects.²⁰ Although Albert accepts the possibility of dreams being sent by God, he cannot feel that all dreams are of that origin, because of their continual appearance to ignorant people.²¹ Dreams

¹⁵ *Ibid.*, 3.2.9.

¹⁶ *Ibid.*, 3.1.11.

¹⁷ *Ibid.*, 3.1.11.

¹⁸ *Ibid.*, 3.2.1.

¹⁹ *Ibid.*, 3.2.1.

²⁰ *Ibid.*, 3.2.1.

²¹ *Ibid.*, 3.2.4.

must be interpreted in reference to place, time, and complexion of dreamer, but in this Albert will not dabble.²²

Vincent of Beauvais devotes a large part of the 27th book of the *Speculum Naturale* to sleep, dreams, and divination. He also follows Aristotle's *De Somno et Vigilia* in general outline. Vincent introduces many other opinions in addition to Aristotle's, and gains in multiplicity of details what he lacks in systematic treatment. He makes little effort to reconcile divergent opinion. He gives Gregory's classification of causes of dreams: (1) full stomach; (2) empty stomach; (3) illusion; (4) thought and illusion; (5) revelation; (6) thought and revelation:

For the cause is either in the dreamer, or outside of him. And if it is in the dreamer, then it is either from the side of the body or from the side of the soul. If from the side of the body, then it is from the fullness of the stomach or its emptiness. If, however, it is from the side of the soul, then it is from thought alone. If, in truth, it is from without, then it is from good angels or from bad. If from good, then it is revelation; if from bad, then it is illusion. If, however, the cause is partly from without and partly within, then in so far as it is without it is from a good angel or from a bad, and if from a good, then it is thought and revelation; if from a bad, then it is thought and illusion.²³

This idea of the instrumentality of angels was one that Albert could not ignore completely, but he dispensed with it by explaining that the conception belonged to the domain of theology, whereas he was writing a physical treatise.²⁴

Vincent mentions another division of dreams dear to the mediaeval heart of *oraculum, visio, somnium, insomnium*, and

²² "Hoc autem docere magicae scientiae pertinet et non physicae," *ibid.*, 3.2.2.

²³ *Speculum Naturale* 27.60.

²⁴ *De Somno et Vigilia* 3.1.11.

phantasma. He quotes it from Hugo or Augustine through John de Rupella.²⁵ It is probably originally from Macrobius's commentary on the dream of Scipio, and appears also in the *Polycraticus* of John of Salisbury. This is the classification to which Chaucer refers.²⁶ As explained by John,²⁷ the *insomnium* is the result of bodily or mental excess such as drinking or anxiety; the *phantasma* is caused by infirmity of mind or of body and results in abnormal combinations of mental images into such figures as the mermaid. Neither of these classes has any value for interpretation. The *somnium* is the generic name. Specifically, it is the metaphorical representation of future events and must be interpreted. *Visio* is the immediate perception of a future event without symbolic representation. *Oraculum* is the enunciation of the divine will by a human voice.

When the leaves are falling in the Autumn, says John, dreams are likely to deceive.²⁸ John is very cautious. He cannot reject the truth of certain dreams: there are too many examples in support.²⁹ He calls attention to Moses, however, who was skilled in all the wisdom of the Egyptians, and yet forbade the practice of augury. John condemns the dream books common in the Middle Ages. The ordinary book of this type contains an alphabetical list of things seen in dreams with the signification

²⁵ *Speculum Naturale* 27.62.

²⁶ Why that is an avisioun,
And this a revelacioun;
Why this a dreem, why that a sweven,
And nat to every man liche even;
Why this a fantom, these oracles,
I noot;

—*House of Fame* 1.7–12.

²⁷ *Polycraticus* 2.15.

²⁸ *Ibid.*, 2.15.

²⁹ *Ibid.*, 2.17.

of each object.³⁰ John says these books are worthless, because they do not consider the time and place of the dream, the season of the year, the rank of the dreamer, the phases of the moon, and other particular circumstances which alter the significance of the dream. John considers the power of interpreting dreams the gift of God, and something to be shunned by persons to whom God has not vouchsafed the gift.

Bartholomew of England introduces his discussion of dreams³¹ by a general discussion of the nature of sleep, observing that certain animals, fish for example, sleep with open eyes, and have rather poor sight as a result. He records the influence of complexions on dreams: a sanguine temperament will dream of many things; a melancholy, of sad; a phlegmatic, of water; a choleric, of fire. Sometimes a man's desires will control his dream, as—a drunkard will dream of wine. Bartholomew explains that real things are not seen in dreams, but only the *species* of things. Dreams are sometimes true; sometimes false; sometimes peaceful; sometimes disturbed. Of those that are true, some are revealed directly, some symbolically. The origin may be divine inspiration, or angelic ministrations, or the illusions of bad angels. Particular care must be had to escape deception at the hands of a bad angel disguised as an angel of light. If the good spirit assumes human form, he has something useful to convey.³²

I shall summarize very briefly the other dream discussions that I have examined. The *De Divinatione* of Cicero contains a large number of dreams, and was used as a treasury by many

³⁰ Examples of the statements in dreambooks:
Aureum serenum videre lucrum significat.
Intestina sua videre secreta manifesta.

Quoted by Thorndike, 2.295.

³¹ *De Proprietatibus Rerum* 6.26.

³² *Ibid.*, 6.28.

mediaeval writers who did not know, or disregarded, Cicero's final conclusion that divination from dreams is unreasonable. Valerius Maximus recounts several dreams which were fulfilled, but makes no attempt to explain them.³³ Philo Judaeus used dreams merely as the point of departure for his philosophy.³⁴ Hildegard of Bingen contents herself with saying that since the soul of man is from God, it sometimes foresees the future while the body sleeps. False dreams she considers of diabolic origin.³⁵ Tertullian considers some dreams from God, some from the devil, and some from various physical causes.³⁶

II

This discussion of dream discussions is appropriately mediaeval in its fragmentary quality. With the exception of Albert, there seems to have been little consecutive thought; and even Albert does not resolve all the contradictions of his theory.³⁷ All I have attempted to do is to illustrate the nature of the problems considered by serious-minded thinkers. With these facts as background, Gower's knowledge, or rather, lack of knowledge, will stand out in sharper relief.

That dreams sometimes foretell future events is accepted completely by Gower.

Lo thus, mi Sone, it mai thee stere
Of swevenes forto take kepe,

³³ *Factorum et Dictorum Memorabilium* 1.7.

³⁴ *On Dreams Being Sent From God* 2.292-396.

³⁵ *Causae et Curae* 82-83.

³⁶ *Patrologia Latina* 2.769-79.

³⁷ For example, Albert's attitude toward foreknowledge of events is vague. In one place (3.1.4.) he gives a definite statement of the scholastic position of reality as individual reality by explaining that dreams are represented symbolically because the real events are not yet in existence. Later he seems to contradict himself in describing prevision of actual events in certain classes of dreams (3.1.10).

For ofte time a man aslepe
Mai se what after schal betide.
—4.3124-27.

This statement is made at the conclusion of the story of Ceyx and Alcione, which is introduced by the Confessor as evidence of the truth of dreams. At the beginning of the story, the Confessor recognizes that this opinion is not universal.

A man mai finde of time ago
That many a swevene hath be certain,
Al be it so, that some men sein
That swevenes ben of no credence.
—4.2919-21.

Who are these people who say "that swevenes ben of no credence"? Chiefly certain churchmen who feared the magical elements in dream interpretation,³⁸ and a skeptical element in the general population to whom this distich of Cato would appeal:

Somnia ne cures; nam mens humana quod optat
Dum vigilat, verum per somnum cernit id ipsum.³⁹

There can be little doubt that this represents a minority opinion, and of a minority to which Gower did not belong. He was fully aware that certain dreams had no fulfillment in reality, but that knowledge did not shake his confidence in the truth of certain others.

I shall now turn to an examination of all dreams recorded by Gower. As far as I am able, I shall refer each dream to its source,⁴⁰ and by the manner in which Gower follows or deviates from that source conclude how independently and consistently his mind operated in writing of dreams.

³⁸ *Patrologia Latina*: Alcuin, 100.689; Rabanus Maurus, 109.1005; Peter Damianus, 145.561.

³⁹ 2.31.

⁴⁰ I have not attempted to go beyond Macaulay's identification of sources.

The Old Testament contains many examples of dream interpretation, and the mediaeval dream books usually were connected with the name of Daniel, or of Joseph. It is not surprising, therefore, to find several examples of dreams of Biblical origin in Gower. The dream of the "Sarazins" which is used to encourage Gideon⁴¹ is apparently caused by God's will.

Gower is free in his treatment of Nebuchadnezzar's dream.⁴² As recorded in the second chapter of Daniel, the king has forgotten his dream and Daniel supersedes the king's magicians, astrologers, sorcerers, and Chaldeans by his ability not only to interpret the dream, but even to recall it. This he does by means of a night vision sent by God. Gower seems to consider the mere interpretation of the dream sufficient task for Daniel, and has the king tell it to him. Gower accepts the Biblical account of the causation.

The hyhe almyhti pourveance,
In whos eterne remembrance
Fro ferst was every thing present,
He hath his prophecie sent,
In such a wise as thou shalt hier,
To Daniel of this matiere,
Hou that this world schal torne and wende,
Till it be falle to his ende;

—Prol. 585-92.

Another dream of Nebuchadnezzar is recorded, that in which he dreams of the tree which is hewn down.⁴³ The dream is the immediate result of God's will.

Bot for he [God] wolde awhile abide
To loke if he him wolde amende,

⁴¹ *Confessio Amantis* 7.3696-3729. Source: Judges 7.

⁴² *Ibid.*, Prol. 585-662. Source: Daniel 2.

⁴³ *Ibid.*, 1.2785-3066.

To him a foretokne he sende,
And that was in his slep be nythe.
—1.2810-13.

Not only is the dream of God's will, but the power of interpretation is also. Again the king's diviners are powerless, and again Daniel interprets the dream.

To him [Daniel] were alle thinges cowthe,
As he it hadde of goddes grace.
—1.2861-62.

In these dreams of Biblical origin, Gower accepts completely the Biblical theory of God's intervention in both dream and interpretation. This theory is not unknown to weightier thinkers, and in an age so influenced by the Bible could be ignored by none. Even Albertus must take cognizance of it, although he elaborates a system in which the personal intervention of God is superfluous. John of Salisbury considers the ability to interpret dreams as always the gift of God. John, however, differs from Gower in showing acquaintance with other theories of dream causation.

The dream of Constantine⁴⁴ cannot be referred to its source, as it is impossible to determine the exact form in which Gower read the life of Silvester. Peter and Paul are sent by God, and appear to Constantine by night. The saints and the emperor carry on a conversation. The experience is called a "swevene," a "drem," and an "avisioun," without any apparent distinction. By a strict Macrobian classification, this would be either a *visio*, since truth is revealed directly without recourse to symbolism, and without necessity for interpretation, or an *oraculum*, in that the divine will is announced by a human voice. Gower's general practice furnishes no clear-cut evidence that

⁴⁴ *Ibid.*, 2.3325-82.

he either ignored or carefully observed the Macrobian distinctions.

The story of Ceyx and Alcyone is introduced by Gower as evidence of the truth of dreams.⁴⁵ The lover has been describing his torment which pursues him even in sleep.

Bot that I dreme is nocht of schep;
For I ne thenke nocht on wulle,
Bot I am drecched to the fulle
Of love, that I have to kepe,
That nou I lawhe and nou I wepe,
And nou I lese and nou I winne,
And nou I ende and nou beginne.

—4.2894–2900.

The statement tacitly assumes the possible origin of dreams from the predominant waking preoccupation of the dreamer, but this conclusion may be derived as readily from personal experience as from dream treatises. That it was so derived by Gower seems probable, for the theorists ruled this type out as a basis for interpretation, and Gower follows it immediately by the statement of the truth of dreams, and the story of Ceyx and Alcyone as proof of the statement. Although Gower accepts the mythological machinery of Ovid, the dream is the expression of the will of a supernatural, if pagan, deity.

Sche [Juno] bad Yris hir Messagere
To Slepes hous that sche schal wende,
And bidde him that he make an ende
Be swevene and schewen al the cas
Unto this ladi, hou it was.

—4.2972–76.

In Sleep's house,

⁴⁵ *Ibid.*, 4.2927–3123. Source: Ovid, *Metamorphoses* 11.266–748.

The chambre is strowed up and doun
With swevenes many thousandfold.

—4.3022–23.

What an unused dream looks like is a charming subject for speculation. Ovid's picture of the dream at rest is no more definite.

Hunc [Somnum] circa passim varias imitantia formas
Somnia vana iacent totidem, quot messis aristas,
Silva gerit frondes, eiectas litus harenas.

—11.613–5.

It is definitely a poetic rather than a scientific conception.

The following parallel is an interesting example of Gower's treatment of a non-Christian source.

At pater e populo natorum mille suorum
Excitat artificem simulatoremque figuræ
Morphea: non illo iussos sollertius alter
Exprimit incessus vultumque sonumque loquendi;
Adicit et vestes et consuetissima cuique
Verba; sed hic solos homines imitatur, at alter
Fit fera, fit volucris, fit longo corpore serpens:
Hunc Icelon superi, mortale Phobetora vulgus
Nominat; est etiam diversæ tertius artis
Phantasos: ille in humum saxumque undamque tra-
bemque,

Quaeque vacant anima fallaciter omnia transit;
Regibus hi ducibusque suos ostendere vultus
Nocte solent, populos alii plebemque pererrant.

—11.633–45.

Gower renders this:

The ferste of hem, so as I rede,
Was Morpheüs, the whos nature
Is forto take the figure

Of what persone that him liketh,
 Wherof that he fulofte entriketh
 The lif which slepe schal be nyhte;
 And ItheCUS that other hihte;
 Which hath the vois of every soun,
 The chiere and the condicioun
 Of every lif, what so it is:
 The thridde suiende after this
 Is Panthasas, which may transforme
 Of every thing the rihte forme,
 And change it in an other kinde.
 Upon hem thre, so as I finde,
 Of swevenes stant al thapparence
 Which otherwhile is evidence
 And otherwhile bot a jape.

—4.3038–55.

Gower confuses the functions of Morpheus and Icelon, and misreads the names of Icelon and Phantasos, but the idea of personally induced dreams is received with entire approbation. The last four lines quoted above indicate that Gower regarded these supernatural powers not only as cause of all dreams, but sole cause, or at least was able so to regard them at the time he wrote the lines. The equivalent lines in Ovid state that these three spirits are the causes of the dreams of kings and dukes, whereas the other dreams that strew the floor go to the common people. The peculiar significance of a leader's dream is a commonplace of mediaeval dream theory. In the commentary on the dream of Scipio, Macrobius quotes Nestor as saying "Dreams concerning the commonweal, which would be rejected as meaningless if dreamed by another, must be believed if dreamed by a king."⁴⁶ Gower's failure to utilize Ovid's state-

⁴⁶ 3.15.

ment of the theory indicates either ignorance or disregard of its significance.

Two dreams from the *Roman de Troie* are without particular interest. Gower follows his source closely in having Paris render his judgment in a vision, when Mercury appears bringing Minerva, Venus, and Juno with him.⁴⁷ The dream of Ulysses⁴⁸ is the only one described by Gower in which the will of a personal agent, god or magician, is not the initiating force. No cause is stated.

Uluxes, thogh that he be wys,
 With al his wit in his avis,
 The mor that he his swevene acompteth
 The lasse he wot what it amonteth:
 For al his calculacion,
 He seth no demonstracion
 Al pleinly forto knowe an ende;

—6.1575–81.

This was a dream needing interpretation and Ulysses was unable to interpret it. In the *Roman de Troie*, he calls other wise men to his assistance. With this omission, Gower does not deviate materially from his source.

When the three philosophers are summoned before Crassus⁴⁹, they explain that they are able to live in affluence by the fact

That ech of hem hadde a spirit,
 The which slepene a nyht appiereth
 And hem be sondri dremes lereth
 After the world that hath betid.

—5.2098–2101.

⁴⁷ *Confessio Amantis* 5.7408–35. Source: *Roman de Troie* 3851–3910.

⁴⁸ *Ibid.*, 6.1523–1608. Source: *Roman de Troie* 29629–29720.

⁴⁹ *Ibid.*, 5.2031–2224. Source: *Prose Roman des Sept Sages*.

In the prose *Roman des Sept Sages* no mention is made of the attendant spirit. The idea of the spirit is Gower's own addition, and is evidence that in so far as he had any conception of dream causality, it involved supernatural personal instrumentality.

In the story of Nectanabus,⁵⁰ Gower recounts two dreams which are impressed, one upon Olympias, the other upon Philip by Nectanabus. In each case this is done by means of magic. This is the only mention Gower makes of dreams of human origin, and an attempt to reconcile it with the statement of dream causality in the story of Ceyx and Alcyone is futile. It is simpler and more probable to conclude that in each instance Gower followed his source uncritically. Albertus Magnus attributes to Avicenna and Algazel the statement that one soul can impress forms upon another, but he says: "this can hardly be demonstrated by philosophy." He assigns such dreams to the magic art,⁵¹ and following Albert's suggestion, I postpone a fuller discussion of Nectanabus's methods to the chapter on magic.

Although Gower states that his source of the story of Apollonius is Godfrey of Viterbo, there are several indications that he used the prose *Historia Apollonii Tyrii*. The dream in which Apollonius is advised to go to Ephesus is one of the cases in which Gower seems to follow the *Historia*.⁵² No mention of the dream appears in the *Pantheon*, but in the *Historia* we read:

Et cum genero et filia navigans, cum omnibus suis volens per Tharsum proficiscendo in patriam suam ire, in sompnis admonitus est per angelum, ut Ephesum descenderet et intraret templum Ephesiorum cum filia et genero suo ibique omnes casus suos alta voce exponeret, quos passus esset a juventute sua.—p. 102.

⁵⁰ *Ibid.*, 6.1924-2158.

⁵¹ *Op. cit.*, 3.1.6.

⁵² *Confessio Amantis* 8.1789-1802. Source: *Historia Apollonii Tyrii*, in S. Singer: *Apollonius von Tyrus* 153-77.

Gower has:

The hihe god, which wolde him kepe,
Whan that this king was faste aslepe,
Be nyhtes time he hath him bede
To seile into an other stede.

—8.1789-92.

Before turning to the important evidence of the *Vox Clamantis*, I shall summarize the findings from the evidence furnished by the *Confessio Amantis*. These conclusions are corroborated by the *Vox Clamantis*.

1. Gower was almost entirely ignorant of scientific discussions of dreams.
2. His acceptance of the explanation given in his source is uncritical and results in inconsistency.
3. In so far as he had any consistent personal theory as to the causes of dreams, it is a naïve, non-scientific acceptance of a supernatural being showing man the future with the intention of warning or helping him.

III

The first book of the *Vox Clamantis* is cast in the form of a dream. At the conclusion of the vision, certain explanations are made by a celestial voice, called *divina* (1.1889), which concludes by saying:

Quicquid in hoc sompno visus et auris habent,
Scribere festines, nam sompna sepe futurum
Indicium reddunt.

—1.2048-50.

That is, the dream is represented as taking place before the events. It is a premonitory dream. Here, if anywhere, we should find an expression of Gower's personal theory of dream caus-

ality, and we find it to be an expression of divine will as has been seen expressed or implicit in most of the dreams of the *Confessio Amantis*. The prologue of the first book begins:

Scripture veteris capiunt exempla futuri,
 Nam dabit experta res magis esse fidem.
 Vox licet hoc teneat vulgaris, quod sibi nullum
 Sompnia propositum credulitatis habent,
 Nos tamen econtra de tempore preteritorum
 Cercius instructos littera scripta facit.
 Ex Daniele patet quid sompna significarunt,
 Nec fuit in sompnis visio vana Joseph:
 Angelus immo bonus, qui custos interioris
 Est hominis, vigili semper amore favet;
 Et licet exterius corpus sopor occupet, ille
 Visitat interius mentis et auget opem;
 Sepeque sompnifero monstrat prenostica visu,
 Quo magis in causis tempora noscat homo.
 Hinc puto que vidi quod sompna tempore noctis
 Signa rei certe commemoranda ferunt.

—1-16.

This is a comprehensive statement of Gower's dream theory. If it is not so scientific as Albert, neither is it so superstitious as the dream books. If we consider the *Vox Clamantis* as a dream of reality, as Gower did, we must realize that his theory of the good angel would have been approved by Augustine, Tertullian, Gregory, and Hildegard. There is no reason to believe, however, that Gower formed his theory of dreams from any other source than the Bible. The explanation in the dream of Alcyone must be regarded as Gower's uncritical concession to Ovid, and not his personal opinion. Gower's extensive acquaintance with the Bible is continually apparent. Even when no specific reference is made, the influence appears. In such lines as:

Evigilans sompno sic stupefactus eram,
 Vix ego quod potui cognoscere si fuit extra
 Corpus quod vidi, seu quod abintus erat.
 —1.2054-56.

and

Dumque piger sompnus inmotus fixerat artus,
 Iam fuerat raptus spiritus ipse meus:
 —1.165-66.

the echo of St. Paul is heard distinctly:

Et scio huius modi hominem sive in corpore, sive extra corpus
 nescio, Deus scit: quoniam raptus est in Paradisum: et audivit
 arcana verba, quae non licet homini loqui.

—2 Corinthians 3-4.

Beyond the Bible a man could not go, but Albert and Gregory contrived to put the Bible in its proper category of theology, leaving their intellectual curiosities free to explore the domain of physics. Finding an explanation in the Bible, Gower was content to rest there.

CHAPTER SIX

ALCHEMY

ALCHEMY is at once a science and a religion. Although the probability is strong that the scientific preceded the religious elements, and the origins are to be found among the workers in metals in Egypt of the early centuries of the Christian era,¹ the mystic language of occultism was early associated with the craft.² The history of alchemy is long, and naturally enough shows variations of aspiration and doctrine, but the fundamental aim of the alchemist was the transmutation of the base metals into gold and silver. Later alchemists insisted that this was a very minor and vulgar object indeed; but alchemy cannot divorce itself from the transmutation of metals without losing claim to its name.

Although the most recent theory regarding the nature of matter is held by some to constitute support of the basic theory of alchemy,³ the fact remains that no man to date has succeeded in making gold out of what was not gold. When one writes a book of instructions for doing something which cannot be done, it is advisable not to be too clear. Many treatises on alchemy have been written, and most of them in so obscure language as to be almost unintelligible. To avoid exposure as frauds, it was necessary for the alchemists to make a great mystery of their art. It is not to be assumed, however, that all the alchemists were frauds, for it is sure that many were deceived by their own mystifications.

The error of alchemy is the error of false analogy, the error

¹ M. Berthelot, *Introduction A L'Etude de La Chimie* 3.

² M. Berthelot, *Les Origines de L'Alchimie* 2.

³ H. G. Redgrove, *Alchemy* ch.1.

into which mediaeval science was continually tumbling, the error of astrology with its plausible talk of the rule of superiors over inferiors. The false analogy of alchemy was this: substances are continually being changed into other substances by nature; therefore the baser metals may be changed into gold by art. "The worm becomes a butterfly," they said; "therefore we can make gold out of copper."

The obscure language of the alchemists lent itself readily to the uses of occultism, and even to a definite association with the Christian religion. In the *Sophic Hydrolith*, or *Water Stone of the Wise*, a work of the fifteenth or sixteenth century, a comparison is instituted between "Jesus Christ, the heavenly Corner Stone" and "our earthly Philosophers' Stone."

The blind and insensate world has, indeed, through the craft and deceit of the devil, tried many other ways and methods of obtaining everlasting salvation, and has toiled hard to reach the goal; but Christ nevertheless is and remains the only true Saviour and Mediator, who alone can make us appear just in the sight of God, and purify us from our spiritual leprosy, just as, upon earth, there is only one royal, saving chemical Stone by which all imperfect metals must be brought to perfection and all bodily diseases healed (especially that fearful, and otherwise incurable leprosy). All other spiritual remedies—such as those invented and used by Jews, Turks, heathens, and heretics—may be compared to the devices of false and sophistical alchemists; for by them men are not purified, but defiled, not quickened, but enfeebled, and given over to a state of more helpless spiritual deadness.⁴

In its common mediaeval form, however, alchemy was primarily a science, and its obscurities are those of mystification rather than of mysticism. When all the cautions of secrecy, and the allegorical manner of talking are taken away, there remains

⁴ *The Hermetic Museum* 1.104.

a simple and plausible theory, which received the approbation of such minds as Thomas Aquinas and Albertus Magnus. One of the curious features of the history of alchemy is the frequency of false ascription of authorship of the treatises. A number of works on alchemy are ascribed to Thomas Aquinas in fifteenth century manuscripts;⁵ and no less than a dozen separate treatises are represented as the work of Albertus Magnus.⁶ It is almost certain that these works are by other hands.

In their authentic works, however, these two scholastics give their approval of alchemy. Thomas does not show great interest, and contents himself with saying that alchemy is a true, but difficult art, accomplished through proper utilization of celestial power.⁷ Albert, on the other hand, discusses the theories of the alchemists at some length in his treatise on *Minerals*. He distinguishes two leading alchemistic theories, both of which he expresses in terms of the Aristotelian concepts of *form* and *matter*. By the first theory there is only one *form* of metals, and that is gold.

For these [the alchemists] seem to say that only the species of gold is the *form* of metals, and every other metal is incomplete, and as yet to be on the way to the species of gold, just as an incomplete thing which is on the way to perfection. On account of this they hold metals to be sick (*aegra*) which have not the *form* of gold in their *matter*. And they have studied to discover the medicine which they call elixir, through which they may remove the illnesses of metals . . . and thus they say that they bring out that *form* and species of gold. And to this end they discover many and different ways, by which that elixir may be compounded and mixed."⁸

Albert rejects this theory because of his own general position in regard to *form*. He holds with Aristotle that *form* is immanent

⁵ Thorndike, 2.608.

⁶ Thorndike, 2.569.

⁷ Thomas Aquinas, *Meteor.* 3.9. Quoted by Thorndike, 2.607.

⁸ *Mineralium* 3.1.7.

in matter, and therefore that tin cannot exist as tin unless the *form* of tin be in it. The differences among metals are too uniform to be explained as variations from gold due to the recalcitrance of *matter*.

The other school of alchemists holds that in each metal is the *form* of other metals, and that the process of alchemy is the process of bringing out the *form* of gold or silver which is latent in the baser metal which is being used.⁹ Albert rejects this theory too, and holds that each metal is a separate species. His own belief in the truth of alchemy rests in his theory that all metals are not simple substances, but compounds of quicksilver and sulphur, and that by purifying these materials properly, and by imitating the processes of nature, gold and silver may be created. The alchemist must give due attention to the influence of the stars.¹⁰ Although admitting a theoretical basis for alchemy, Albert considers practising alchemists almost without exception to be guilty of trickery.¹¹ Albert says of the alchemists that they try "to conceal their meaning by metaphorical words, which never was the custom of philosophy,"¹² and complains of the difficulty of discovering what they are talking about. In the exposition of Gower's alchemy which I give below, it must be remembered that in writing of alchemy, perfect clarity is gained only at the expense of honest representation of the alchemists, and that a great many of their utterances meant no more to them than they do to us.

II

In 1652, a book was published in London entitled *Theatrum Chemicum Britannicum, Containing Severall Poeticall Picces*

⁹ *Ibid.*, 3.1.8.

¹⁰ *Ibid.*, 3.1.9.

¹¹ *Ibid.*, 3.1.9.

¹² *Ibid.*, 3.1.7.

of our Famous English Philosophers, who have written the Hermetique Mysteries in their owne Ancient Language. Faithfully Collected into one Volume, with Annotations thereon, By Elias Ashmole, Esq. *Qui est Mercuriophilus Anglicus*. Ashmole further announces his intention of rescuing the wisdom of his fellow countrymen from undeserved obscurity. "Past ages have like Rivers conveyed downe to us, (upon the floate), the more light, and sophisticall pieces of Learning; but what were Profound and Misterious, the weight and solidity therof sunke to the Bottome; Whence every one who attempts to dive, cannot easily fetch them up."¹³ Among the pieces which Ashmole succeeded in fetching up were the *Canon's Yeoman's Tale* of Chaucer, and the section of the *Confessio Amantis* which treats of alchemy. Ashmole considered Chaucer and Gower authorities on alchemy, and published their works for the light they would cast on the art. In his note to the *Canon's Yeoman's Tale*, he says: "Now as Concerning Chaucer (the Author of this Tale) he is ranked among the Hermetic Philosophers, and his Master in this Science was Sir John Gower."¹⁴ The fact that Gower taught Chaucer is further affirmed in the note on Gower: "This Piece is the Worke of Sir John Gower, and collected out of his Booke *De Confessione Amantis*. He is placed in the Register of our Hermetique Philosophers: and one that adopted into the Inheritance of this Mistry, our famous English Poet, Geoffrey Chaucer. In this little Fragment, it appears he fully understood the Secret, for he gives you a faithful account of the properties of the Mineral, Vegitable, and Animal Stones, and affirms the Art to be true."¹⁵ Ashmole also asserts of Gower: "He was an eminent Poet, and hath written the story

¹³ *Theatrum Chemicum Britannicum*, Prolegomena.

¹⁴ *Ibid.*, 470.

¹⁵ *Ibid.*, 484.

of the Golden Fleece, like an Hermetique Philosopher: which Philosophicall veine is to be traced through severall other parts of his Works." Neither in the story of the Golden Fleece, nor in any other portion of Gower's works, have I found these traces of Hermetic philosophy. Although Gower is not an authority on alchemy, it is highly probable that he "understood the secret" fully as well as Elias Ashmole.

Gower's discussion of alchemy is entirely devoid of religious mysticism, and is almost entirely free from the symbolic language of the alchemists. It does contain certain technical allusions, however, which escape the attention on casual reading, and as Macaulay's notes are not full enough to elucidate these obscurities, I print the passages entire with running commentary.¹⁶ Gower introduces alchemy among useful arts that men have discovered through labor—

And also with gret diligence
Thei founden thilke experience,
Which cleped is Alconomie,
Whereof the Selver multeplie
Thei made and ek the gold also.

"Experience" means the knowledge gained as the result of experiment.¹⁷ "Alconomie" therefore means here the art of alchemy. Another use will be noted below. The use of the word "multeplie" in connection with the practice of alchemy is common to denote the transmutation of a large amount of baser metal into silver or gold through the application of a small amount of elixir.

And forto telle hou it is so,
Of bodies sevene in special

¹⁶ *Confessio Amantis* 4.2462-2625. As I give the section without omissions, I have not given individual references.

¹⁷ NED, *experience*, 7.b.

With foure spiritz joynt withal
Stant the substance of this matiere.

That is, the materials with which the alchemist deals are seven "bodies" and four "spirits." The definitions of these terms are given by Roger Bacon: "Bodies are those things which do not flee from the fire [i.e., non-volatile], nor evaporate in smoke, as are metals, and certain stones, and other solids. Those things are called spirits which fly from the fire, as quicksilver, sulphur, sal ammoniac and orpiment, which is arsenic."¹⁸ The Middle Ages held that there were seven metals, and these are the particular "bodies" to which Gower refers.

The bodies whiche I speke of hie
Of the Planetes ben begonne:

That is, the planets actually originate metals. Robert Grosseteste gives an explanation of this theory. "For the two philosophers above-mentioned [Plato and Hermes] supposed that the starred firmament moved the element of the earth (elementum terrae). And so Hermes said that the earth is the mother of metals, and the sky the father."¹⁹

The gold is titled to the Sonne,
The Mone of Selver hath his part,
And Iren that stant upon Mart,
The Led after Satorne groweth,
And Jupiter the Bras bestoweth,
The Coper set is to Venus,
And to his part Mercurius
Hath the quikselver, as it falleth,

Gower does not go into great detail about the astrological aspects of alchemy. This omission was common among medi-

¹⁸ *Part of the Opus Tertium*, ed. Little, 83.

¹⁹ *Die Philosophischen Werke des Robert Grosseteste*, ed. Baur, 636-37.

aeval alchemists, and the names of the planets are frequently used merely as synonyms for the corresponding metals. "For lead is called Saturn; tin, Jupiter; iron, Mars; gold, the Sun; copper, Venus; quicksilver, Mercury; silver, the Moon. Anything different which may be found written in the books is the fault of the author, or of the translator, or for purposes of deception. For sometimes it is found that brass (aes) is equated to Mars; but it is false. For brass is only copper colored with calamine dust."²⁰ Gower seems to have been deceived by just such a mistake, for he assigns brass to Jupiter instead of tin.

The following passage from Robert Grosseteste illustrates the connection sometimes made between astrology and alchemy.

In the true preparation of the stone by which transmutation of metals may be accomplished, the choice of hours is not less necessary. For all metals by the intention of nature ought to be gold; for they do not differ from gold except as the imperfect from the perfect. For when the power of the sun stirs up a smoke of pure sulphur, mixing it with quicksilver, and boils it down with a temperate boiling, the result is gold. When, however, the coldness of the moon is combined with the heat of the sun so that the boiling down of the abovementioned materials [i.e., sulphur and mercury] is slight, silver is created. But if the coldness of Saturn is combined with the heat of the sun, since he [Saturn] is earthy, the smoke of sulphur is stirred up with earthy impurity, and is mixed with pure quicksilver and is boiled down with little boiling, and lead is created. If, however, the warmth and moisture of Jupiter are combined with the warmth of the sun, sulphurous smoke is stirred up as a result, and is mixed with pure quicksilver, but on account of the moisture of Jupiter, slight boiling down occurs, and tin is the result. When, however, the dryness and additional warmth of Mars is combined with the warmth of the sun, un-

²⁰ Roger Bacon, *loc. cit.*, 83.

purified sulphur with unpurified quicksilver is boiled down too much, and iron is extracted.²¹ And so on with the other two planets.

The which, [Mercury] after the bok it calleth,
Is ferst of thilke fowre named
Of Spiritz, whiche ben proclaimed;
And the spirit which is secoude
In Sal Armoniak is founde;
The thridde spirit Sulphur is;
The ferthe suiende after this
Arcennicum be name is hote.

Vincent of Beauvais quotes Avicenna to the effect that there are six bodies and four spirits, naming quicksilver as a spirit only;²² but there is a diversity of opinion among the alchemists on this point. According to Geber and the Pseudo-Aristotle, there are seven spirits.²³ Gower is not without good authority, however, for Mercury is named as both body and spirit by Roger Bacon.

In the *Libellus de Alchimia*,²⁴ ascribed to Albertus Magnus, the nature and functions of these spirits are described at length. They are the materials out of which the elixir is made. "Therefore it must be known that there are four spirits of metals, that is: mercury, sulphur, orpiment or arsenic, and sal ammoniac. These four spirits dye metals into white and red, that is, into gold and silver; not however *per se*, unless first they are prepared for this by different treatments, and do not flee the fire; and when they have become non-volatile, they accomplish marvellous works. For they make silver of iron and tin, gold of

²¹ *Loc. cit.*, 6.

²² *Speculum Naturale* 8.62.

²³ M. Berthelot: *Introduction a L'Etude de la Chimie*, 248-49.

²⁴ This spurious work is published in Borgnet's edition of Albert's works, vol. 37. Future references to the *Libellus de Alchimia* will be to this work.

copper and lead."²⁵ Mercury is "a viscous water in the bowels of the earth," and is found in mountains and old sewers. It is the source of all metals and from it all are procreated.²⁶ "Sulphur, in truth, is the fatness of the earth thickened through moderate boiling down in the mines of the earth until it is hardened, and becomes condensed, and when it has been hardened it is called sulphur." Sulphur is to be found in many different colors: white, red, green, yellow, and black.²⁷ Sal ammoniac is of two kinds, natural and artificial. The natural is found in the earth, and is of two varieties, white and red. The artificial is the more desirable for alchemical work. "And it must be known that through this, bodies are made neither white nor red, nor are they transsubstantiated as through the other spirits. But this [sal ammoniac] gives an entrance to the others, and purges and purifies bodies from blackness. Then it leaves the spirits there mingled with the bodies, and coöperates with them and afterward goes away."²⁸ Arsenic or orpiment is a mineral stone which is the product of a dung-pit which has been subjected to a "boiling-down" process for a long time. Its particular function is to change copper into silver.²⁹

With blowing and with fyres hote
In these thinges, whiche I seie,
Thei worchen be diverse weie.

"These things" are, of course, the seven "bodies" and four "spirits." Gower's alchemy is relatively very simple. Even within these moderate limits, however, he recognizes that the alchemists "worchen be diverse weie," that is, have many rec-

²⁵ *Libellus de Alchimia* 10.

²⁶ *Ibid.*, 13.

²⁷ *Ibid.*, 14.

²⁸ *Ibid.*, 17.

²⁹ *Ibid.*, 15, 16.

ipes. Alchemistic treatises abound in different formulae for procuring the same end.

For as the philosophre tolde
Of gold and selver, thei ben holde
Tuo principal extremities,
To whiche alle othre be degres
Of the metalls ben acordant,
And so thurgh kinde resemblant,
That what man couthe aweie take
The rust, of which thei waxen blake,
And the savour and the hardnesse,
Thei scholden take the liknesse
Of gold or Selver parfitly.

These lines contain a large part of Gower's alchemical theory—that if the baser metals be deprived of their impurities, they will become gold or silver. The "rust," "savour"—here meaning unpleasant odor—and "hardnesse" are the impurities of the baser metals.

Bot forto worche it sikirly
Betwen the corps and the spirit,
Er that the metall be parfit,
In sevene formes it is set;

The "sevene formes" in the above lines are commonly recognized operations of alchemy. The author of the *Libellus de Alchimia* writes "Whence in order that I might know and understand what would overcome nature, I began to attend very diligently to decoctions and sublimations, solutions and distillations, cerations and calcinations, and coagulations of alchemy, and in many other labors until I discovered that the transmutation of metals into silver and gold is possible."³⁰

³⁰ *Ibid.*, Introduction.

Gower's seven forms differ slightly from these, as will appear below.

Of alle and if that on be let,
The remenant mai nocht availe,
Bot otherwise it may nocht faile.

The necessity for scrupulous care is a commonplace among the alchemists. The first section of the *Libellus de Alchimia* is devoted to causes of failure. Some have properly executed the operations of decoction, distillation, and sublimation, but by extending the processes over too long a period of time, have not brought their work to perfection. Others fail by hastening these operations unduly. Others have gone astray through using porous receptacles. Others have not had the necessary ingredients.³¹

For thei be whom this art was founde
To every point a certain bounde
Ordeignen, that a man mai finde
This craft is wroght be weie of kinde,
So that ther is no fallas inne.

The alchemists insisted that their art was founded upon nature. "Therefore we say that the alchemist is only the simple administrator of nature. He himself does not transmute metal, but nature. He in truth prepares the material by art, and then nature, who is clever and wise, achieves the work."³²

Bot what man that this werk beginne,
He mot awaite at every tyde,
So that nothing be left aside,
Ferst of the distillacion,
Forth with the congelacion,
Solucion, descencion,
And kepe in his entencion

³¹ *Ibid.*, 1.

³² *Codicillus Raymundi Lulli* 184.

The point of sublimacion,
 And forth with calcinacion
 Of veray approbacion
 Do that ther be fixacion
 With tempred hetes of the fyr.

These terms are not the successive steps in the transmutation of metals, although Gower considers them as such. They are rather common chemical processes, most of them in use with the same names today. They are the processes by which the substances used in alchemy are purified, for one of the essentials of alchemical theory is that the process of transmutation is largely a matter of purification. These operations are described in some detail in the *Libellus de Alchimia*. *Distillation* is a process of purification that is accomplished in three ways. It includes filtration, which is accomplished without fire. The other two methods necessitate the use of fire. One is by using the alembic, which corresponds to a modern still. The other is a process imperfectly described, but corresponding to what Gower calls "descencion," "Quaedam vero est per descensum ut ea quae fit per cannam, et per ignem vasibus superpositum, etc."³⁵ As a result of considering descension a separate process, Gower omits ceration, the process of reducing substances to a wax-like state, from his list of seven operations. "Congelacion" is undoubtedly the same as coagulation. "*Coagulation* is the reduction of a liquid matter to a solid mass through the taking away of moisture." This process is used particularly in the hardening of mercury, and is accomplished in a long and narrow receptacle.³⁶ "*Solution* is the resolution of a powdered substance in water." The process is used to prepare materials for distillation.³⁷ *Sublimation* is the purification of a substance by

³⁵ *Libellus de Alchimia* 35.

³⁶ *Ibid.*, 32.

³⁷ *Ibid.*, 34.

reducing it to a gaseous state and then bringing it back to a solid state.³⁸ "*Calcination* is the pulverization of anything by fire by the removal of moisture holding the particles together." Bodies are calcined to destroy corruptive sulphur. Spirits are calcined in order that they may be "fixed" more readily, and more quickly dissolved in water.³⁹ *Fixation* is the process of rendering substances non-volatile.⁴⁰ Since the object of alchemy is the imprisonment of spirits, which are volatile, in metals, which must stand the test of fire, it is easy to see how fixation came to be synonymous with transmutation. It is in this sense that Gower uses the word. Gower gives no indication of being acquainted with the actual procedure of these operations.

Til he the parfit Elixir
 Of thilke philosophres Ston
 Mai gete, of which that many on
 Of Philosophres whilom write.

That is, the object of the above processes is the production of the Elixir. The elixir and the philosophers' stone are the same thing.

And if thou wolt the names wite
 Of thilke Ston with othre tuo,
 Whiche as the clerkes maden tho,
 So as the bokes it recorden,
 The kinde of hem I schal recorden.
 These olde Philosophres wyse
 Be weie of kinde in sondri wise
 Thre Stones maden thurgh clergie.

By Gower's account, the three stones are not different manifestations of the same substance, but three individual substances.

³⁸ *Ibid.*, 30.

³⁹ *Ibid.*, 31.

⁴⁰ *Ibid.*, 33.

I have been unable to find a similar classification. There is occasional mention of the vegetable, animal, and mineral stones, but all the instances which I have found refer to the materials from which the stone can be made, and not to the uses to which it can be put.⁴¹ A common statement of the alchemists is: "The animal stone is human blood."⁴² Vincent of Beauvais writes: "The elixir is made in two ways: in one way, from mineral spirits and prepared, pure bodies; in the other way, from certain things coming from animals, as from hair, or from an egg, or from blood."⁴³

The idea of the elixir being able to prolong human life is common enough. The belief can be explained readily on the basis of analogy. Just as the elixir is capable of purging away all the impurities of metals, so that they can become gold, so can it purge away the impurities of the body which cause premature death.

The ferste, if I schal specifie,
Was *lapis vegetabilis*,
Of which the propre vertu is
To mannes hele forto serve,
As forto kepe and to preserve
The bodi fro siknesses alle,
Til deth of kinde upon him falle.

The idea that men die before the time allotted them by nature is a favorite of Roger Bacon. The span of the years of the patriarch as recorded in the Old Testament contributed largely to the development of the idea.⁴⁴ In the *Opus Minus*, Bacon

⁴¹ For a full discussion of the manufacture of the elixir from vegetable, animal, and mineral substances, see the *Testamentum Novissimum* ascribed to Raymond Lull, 60-85.

⁴² Ruland, *Lexicon Alchimiae*; and William Johnson in *Bibliotheca Chemica Curiosa*, 1,247.

⁴³ *Speculum Naturale* 8.82.

⁴⁴ *Opus Minus*, ed. Brewer, 373.

writes: "And this [the elixir] is what will bring back infirm bodies to health, and will preserve them against any accident, and will prolong life, if God will it, over centuries."⁴⁵ The same idea is developed at greater length, and again in connection with alchemy in the *Opus Tertium*. "For it [alchemy] not only confers riches and many other benefits on a state, but teaches the discovery of things that can prolong human life to a long period. . . . But we die much sooner than we should, and on account of failure in hygiene in youth . . . whence old age comes too soon, and death before the limits which God has set for us."⁴⁶

The Ston seconde I thee behote
Is *lapis animalis* hote,
The whos vertu is propre and cowth
For Ere and yhe and nase and mouth,
Wherof a man mai hierie and se
And smelle and taste in his degre,
And forto fiele and forto go
It helpeth man of bothe tuo:
The wittes fyve he underfongeth
To kepe, as it to him belongeth.

As the *lapis vegetabilis* assisted the growing or vegetative faculties in man, so the *Lapis animalis* benefits the faculties of the *anima*—the five senses.

The thridde Ston in special
Be name is cleped Minerall,
Which the metalls of every Mine
Attempreth, til that thei ben fyne,
And pureth hem be such a weie
That al the vice goth aweie
Of rust, of stink and of hardnesse:

⁴⁵ *Ibid.*, 315.

⁴⁶ *Opus Tertium*, ed. Brewer, 40.

The vices of "rust," "stink," and "hardnesse" were mentioned above in the same connection as the undesirable qualities of the baser metals. All metals were supposed to have an unpleasant odor because of the sulphur in them, but gold was almost devoid of odor because of the purity of its sulphur. "For in gold there is least stench (minimum est foetoris)."⁴⁷

And whan thei ben of such clenness,
This Mineral, so as I finde,
Transformeth al the ferste kynde
And makth hem able to conceive
Thurgh his vertu, and to receive
Bothe in substance and in figure
Of gold and selver the nature.

These lines reiterate the doctrine that through a process of purification, the original nature (ferste kynde) of metals is transformed, and they become gold and silver.⁴⁸

The statement "in substance and in figure" is an assertion that the alchemists make a gold which is absolutely the same as natural gold. The more conservative writers maintained that artificial gold was almost, but not absolutely, the equivalent of natural gold. The author of the *Libellus de Alchimia* states that the gold of alchemy has not the medicinal powers of natural gold. "In all other respects, however, as malleability, weight, and color, it lasts forever."⁴⁹

For thei tuo ben thextremetes,
To whiche after the propretres
Hath every metal his desir,
With help and confort of the fyr
Forth with this Ston, as it is seid,
Which to the Sonne and Mone is leid;

⁴⁷ Albertus Magnus: *Mineralium* 3.2.4.

⁴⁸ *Libellus de Alchimia* 3.

⁴⁹ *Ibid.*, 10.

The theory of metals desiring to be gold has been discussed above. In the artificial processes of alchemy, fire took the place of the sun in nature. "And what nature does by the heat of the sun and of the stars, this art will do by the heat of fire."⁵⁰

The "Sonne" and "Mone" refer to gold and silver.

For to the rede and to the whyte
This Ston hath pouer to profite.

"To the red and to the white" is a common alchemical way of saying to gold and to silver. In his *Exposition of the Enigmas of Alchemy*, Roger Bacon explains: "To redden (rubificare) is to make gold, and to whiten (albificare) is to make silver."⁵¹

It makth multiplicacioun
Of gold, and the fixacioun
It causeth, and of his habit
He doth the work to be parfit
Of thilke Elixir which men calle
Alconomie, as is befalle
To hem that whilom weren wise.

"Alconomie" is here used as a synonym for the elixir. Morien cites Hermes: "Alchemy is that substance which joins the more precious bodies which are compounded from one original matter and by this same natural union converts them to the higher type."⁵²

Up to this point, Gower has been sympathetic with alchemy and the alchemists. He is fully convinced of the truth of alchemical theory, but despairs of putting that theory into practice. He considers alchemy a lost art.

⁵⁰ Albertus Magnus, *Mineralium* 3.1.9.

⁵¹ *Part of the Opus Tertium*, ed. Little, 84.

⁵² Quoted by Thorndike, 2.215.

Bot now it stant al otherwise;
 Thei speken faste of thilke Ston,
 Bot hou to make it, nou wot non
 After the sothe experience.

That is, in accordance with the true science.

And natheless gret diligence
 Thei setten upon thilke dede,
 And spille more than thei spede;
 For allewey thei finde a lette,
 Which bringeth in poverte and dette
 To hem that riche were afore:
 The lost is had, the lucre is lore,
 To gete a pound thei spenden fyve;
 I not hou such a craft schal thryve
 In the manere as it is used:
 It were betre be refused
 Than forto worchen upon weene
 In thing which stant nocht as thei weene.

Gower differs from the alchemists only in thinking that the effort expended in pursuit of the elixir is wasted. They are all insistent upon the infinite pains that must be dedicated, and the great expense involved. The author of the *Libellus de Alchimia* describes his personal experience as follows:

After I had wandered unceasingly through many regions and very many provinces, states, and castles for the sake of the science which is called alchemy, and had inquired diligently from the lettered men and the wise concerning their art, that I might investigate it more fully; and after I had noted down all their writings, and had frequently worn myself out in their works, nevertheless I did not find truth in those things which their books affirmed. I inspected therefore the books for and against, and I found them devoid of anything useful, and far from anything good. For I found very rich, learned men, abbots, prefects, canons,

physicists, and also ignorant men, who on account of this art made great expenses, and labors, and nevertheless failed, since they were not capable of discovering the art. I did not despair, however, from performing great labors and expenses, watching, and going from place to place all the time, and thinking, just as Avicenna says: "If this thing is, why is it? and if it is not, why isn't it?" Nevertheless I persevered in studying, meditating, laboring, until I found what I was seeking, not of my own knowledge, but of the grace of the Holy Spirit.⁵⁸

Bot nocht forthi, who that it knewe,
 The science of himself is trewe
 Upon the forme as it was founded,
 Wherof the names yit ben grounded
 Of hem that ferste it founden oute;
 And thus the fame goth aboute
 To suche as soghten besnesse
 Of vertu and of worthinesse.

The last three lines above are a reference to Gower's excuse for introducing the digression on alchemy as an illustration of the laudable results of human diligence.

Of whom, if I the names calle,
 Hermes was on the ferste of alle,
 To whom this art is most applied;
 Geber therof was magnefied,
 And Ortolan and Morien,
 Among the whiche is Avicen,
 Which fond and wrot a gret partie
 The practique of Alconomie;
 Whos bokes, pleinli as thei stonde
 Upon this craft, fewe understonde;
 Bot yit to put hem in assai
 Ther ben full manye now aday,
 That knowen litel what thei meene.

⁵⁸ Introduction.

The name of Hermes was attached to a large body of superstitious and mystical works, and naturally enough to a number of alchemical treatises. Works under the name of Hermes Trismegistus were cited by the Greek alchemists in the last years of the Roman Empire, but extant treatises bearing his name are of a later date.⁵⁴ One of these treatises is the work of Morienus, the supposed instructor in alchemy of Khalid ibn Jazid, an Ommiad prince of the seventh century A.D.⁵⁵ The Arabic original has been lost, but the Latin translation of Robert of Chester in 1144 A.D. has been preserved.⁵⁶ Robert says in his preface that there were three great men who were called Hermes. One was Enoch, one was Noah, and the third was an Egyptian king. The work which Robert translated was, he says, originally the work of this Egyptian Hermes.

The other names which Gower mentions are of actual authors of alchemical works. Thorndike states that in the alchemical manuscripts which he has examined, almost as many works are ascribed to Geber, as to Hermes, although the latter is the reputed founder of the art.⁵⁷ Ortolan is an English author, John Garland; and Avicenna is the well-known commentator on Aristotle. It is of course impossible to tell whether Gower was acquainted at first hand with the authors named or whether he took the names from a similar list. The latter seems more probable, in view of his ordinary practice. The question is further complicated by the frequency of false ascriptions in alchemical writings, which I mentioned in connection with Thomas Aquinas. None of the alchemical works of Morienus, Garland, Geber, and Avicenna which have been available to me has been the immediate source of Gower's knowledge. It must be said

⁵⁴ Thorndike, 1.292.

⁵⁵ Thorndike, 2.214.

⁵⁶ It is printed in J. J. Manget: *Bibliotheca Chemica Curiosa* 1.509-19.

⁵⁷ Thorndike, 2.218.

in praise of Gower's knowledge, however, that these are all familiar names in the literature of alchemy, and as reputable as alchemical writers can be.

It is nocht on to wite and weene;
In forme of wordes thei it trete,
Bot yit they failen of beyete,
For of tomoche or of tolyte
Ther is algate founde a wyte,
So that thei folwe nocht the lyne
Of the parfite medicine,
Which grounded is upon nature.

The word medicine is of common occurrence in alchemical treatises as a synonym for elixir. The author of the *Codicillus* ascribed to Raymond Lull declares his intention to be "to compile and treat of the practice of the art through which the composition of the supreme medicine of medicines and its foundation may be demonstrated openly to all intelligences."⁵⁸

Although it cannot be concluded with Elias Ashmole that Gower belongs in the "Register of our Hermetique Philosophers," it is obvious that he had sufficient knowledge of alchemy to give a clear account of that art. In fact, the chief criticism one might make of Gower's alchemy is its excessive perspicuity. Had he known more, I suspect, he would not be so easy to understand. On the other hand, it should be observed that he shows little definite knowledge of the technical processes of the art. His chief interest is in the theory of transmutation, which is capable of the clear statement which he gives of it.

⁵⁸ *Codicillus Raymundi Lulli* 7.

CHAPTER SEVEN

MAGIC

ALTHOUGH no department of mediaeval science is free from fantastic elements which may be called magical, the writers of the Middle Ages used the term magic in a more limited sense. To us, magic may seem, as Thorndike says,¹ "a way of looking at the world" that enlightened men of the twentieth century have abandoned, but it must be remembered that in the Middle Ages men looked at the world with the same eyes and said of one phenomenon "this is science" and of another "this is magic."² The problem of defining magic finally, or even in the terms of the Middle Ages, is fortunately not mine. The subject is too elusive and my knowledge too limited to permit my undertaking the difficult task. All I can hope to show is what mediaeval writers were accustomed to record when they headed a chapter *De Magis* and what Gower had to say, by way of comment and illustration, on the same subject.

The striking characteristic of mediaeval discussions of magic is their lack of informativeness. What one writer said another repeated, frequently word for word, with an air of grave finality, but the student "evermore goes out by that same door as in he went." The attitude of the Church has always been one of hostility to magic, and perhaps accounts for the lack of a clear statement of the art. It is relatively simple to ascertain *why* the Middle Ages believed in astrology, alchemy, and divination

¹ 2.294.

² As, for example, when Albertus Magnus says, after stating that dreams must be interpreted in reference to the place, the time, and the complexion of the dreamer: "the exposition of this, however, belongs to magic science, not to physics," *De Somno et Vigilia* 3.29.

from dreams. These beliefs received rationalistic formulation by powerful minds. When we ask, "Why did men believe in magic?" there is no sympathetic interpreter to rationalize what appears to us highly irrational.

One reason for belief in magic in the Middle Ages was the universal belief in demons. This answer, of course, merely substitutes one mystery for another, and we are little wiser unless we can explain belief in demons, which leads into the shadowy regions of anthropology whither I dare not venture. But the Middle Ages were not so critically scrupulous about explaining mysteries by mysteries, and seem to have considered mention of demons in connection with magic an eminently satisfactory explanation. Once having granted the existence of demons, the Church's attitude was determined. It could condemn; it could not deny. This is the position of the Catholic Church at the present day. A sister of Notre Dame of Namur in a recent doctoral dissertation writes:

Finally, the teaching of the Church, on the moral aspect of the matter is briefly this: all magic and magic practices are sinful even when indulged in merely from motives of curiosity and hence are to be abstained from by all who profess to belong to her fold. The most definite opinions of accredited theologians have been those of the nineteenth century, who although not specifying particular practices unhesitatingly condemn them all. On the purely historical side of the question, it is not possible to deny the existence and power of evil spirits and still follow the teachings of the Church, even though she has given no precise definition of the extent of this power.³

Although "the Church has given no precise definition of this power," Church fathers did not hesitate to describe the nature

³ Sister Antoinette Marie Pratt: *The Attitude of the Catholic Church toward Witchcraft and the Allied Practices of Sorcery and Magic*, 79.

of demons, and at a very early date. Tertullian insisted that the power of demons, great as it was, was inferior to the power of Christ.⁴ Lactantius ascribes magic power to the agency of demons.⁵ It was St. Augustine, however, whose formulation of early belief in magic was to exert the greatest influence on later ages.⁶ In a brief treatise entitled *De Divinatione Demonum*,⁷ Augustine discusses the demon with the same calm assurance that a modern ornithologist might use in telling of the ruby-throated warbler. The demons are endowed with extremely delicate senses, more sensitive than those of men; their movements are more rapid, not only than those of men and quadrupeds but even than the flight of birds. This keenness of sense and swiftness of motion are the result of the aerial composition of the demons, and enable them to arrive at knowledge of events long before the torpid senses of men. The demons, moreover, have lived longer than men, and therefore have had "a far greater experience of things."⁸ They are therefore extremely useful in divination. Although Augustine condemns magic practices and asserts that an actual working knowledge is gained only by those who make a compact with the demons, he shows an acquaintance with the outward forms of magic in stating that the demons are summoned by means of stones, plants, trees, animals, incantations, and ceremonies.⁹

Another author whose remarks on magic were frequently copied is Isidore of Seville. In the *Etymologiae*, under the

⁴ *Patrologia Latina* 1.470.

⁵ *Patrologia Latina* 6.336.

⁶ One of the fullest accounts of magic in the later Middle Ages is that of St. Ivo, bishop of Chartres in the twelfth century. A large portion of Ivo's account consists of verbatim extracts from Augustine. See *Patrologia Latina* 161.1517-26.

⁷ *Patrologia Latina* 40.581-92.

⁸ *Ibid.*, 586.

⁹ *De Civitate Dei* 10.9.

chapter heading *De magis*, Isidore records that the first of the Magi was Zoroaster, king of the Bactrians, who was killed in war by Ninus. The magic art was amplified by Democritus and was common among the Assyrians. The rods of the Egyptians, Circe, Saul, and the witch of Endor are given as examples of the exercise of magical powers. "Magicians are those who are commonly called *malefici* [the ordinary word for sorcerer] on account of the magnitude of their crimes. They agitate the elements, disturb the minds of men, and kill without any draught of poison, merely by the violent power of their enchantment. . . . They dare to summon demons and so to work that anyone may kill enemies through their evil arts."¹⁰ Isidore concludes his discussion with an enumeration of certain types of divination, giving a brief definition in each case.

Hugh of St. Victor in two places in his writings gives a classification of the parts of magic. In each case, the general topic is the origin and division of the arts and sciences, and the chapter is added as the concluding one; for Hugh of St. Victor considered magic too nefarious to be undifferentiated from the other branches of human knowledge, and too widespread to be ignored totally. In the discussion of the origins of the magic art, Hugh follows Isidore of Seville. His classification, the wording of which I believe to be his own, possesses the virtue of compression, which made it popular for purposes of quotation by later writers,¹¹ and merits quotation here because of its mediaeval popularity rather than for the positive information it conveys.

Magic is not received in philosophy; but is outside the pale because of its lying declarations—the mistress of all iniquity and malice,

¹⁰ *Etymologiae* 8.9. *Patrologia Latina* 82.310.

¹¹ It was chosen, for example, by Vincent of Beauvais; *Speculum Doctrinale* 2.9.

which, lying about the truth and truly injuring spirits, seduces them from divine religion, urges the cult of demons, effects the corruption of morals, and impels the minds of its devotees to every manner of crime and wickedness. In its general acceptance, it embraces five classes of evil doing [maleficiorum]: *mantice*, which signifies divination; *mathematica vana*; *sortilegia*; *maleficia*; *praestigia*. *Mantice* in turn contains five divisions: first, *necromantia*, which signifies divination from the dead, for the Greek *νεκρός* is the Latin *mortuus*, and *νεκρόν* means *cadaver*. This is the divination which is accomplished through the sacrifice of human blood, for which the demons thirst and in which they delight.

The other modes of divination are dealt with even more summarily. Geomancy is divination from the earth; hydromancy, from water; aeromancy, from air; pyromancy, from fire. The subdivisions of *mathematica* are *aruspicina*, the inspection of the entrails of animals; *augurium*, from the flight and song of birds; *horoscopia*, or the casting of nativities. *Sortilegia* is divination from lots.

The above branches of magic are all modes of divination. Through them men seek to know, not to do. The two latter classes, however, are active. "Sorcerers [malefici] are those who through demoniacal incantations, or ligatures, or certain other execrable kinds of charms (remediorum), through the coöperation and instruction of demons accomplish wickedness. *Praestigia* are the deceptions of the human senses by demoniacal art through fantastic illusions of transformations of things."¹²

Of this nature are most of the mediaeval accounts of magic which I have read. The interest is in classification and definition, the enumeration of varieties of magic practices rather than in exposition and interpretation of the mysteries.

¹² *Eruditionis Didascalicae* 6.15. *Patrologia Latina* 176.810-11.

II

Gower's discussion of sorcery and witchcraft, which is introduced as a warning to the lover against using magic to gain his ends, is confused and not very informative. Gower seems to have been aware of its deficiencies, for the Lover replies to the Confessor's questionings:

Min holi fader, be youre leve,
Of al that ye have spoken hier
Which toucheth unto this matiere,
To telle soth riht as I wene,
I wot noght o word what ye mene.
—6.1360-64.

The modern reader is in very much the same plight, not because of recondite allusion, but for lack of information.

Although the theme of the *Confessio Amantis* necessitates a connection between magic and love—if magic is to be introduced at all—the connection is not an artificial one in the light of mediaeval belief. Gower expresses a prevalent idea when he writes of the recourse of the despairing lover.

Ful many a wonder thing he doth,
That were betre to be laft,
Among the whiche is wicchecraft,
That some men clepen Sorcerie,
Which forto winne his druerie
With many a circumstance he useth,
There is no point which he refuseth.
—6.1286-92.

In reading the mediaeval accounts of magic, one is continually beset by the questions: "How much of this represents actual practice? How much is the barren heritage from Roman civi-

lization?" We are safe, for example, in discarding divination from the entrails of sacrificial animals as an actual mediaeval practice, because there were no sacrificial animals. We are equally safe in accepting the actuality of the use of magic in matters pertaining to sex. The exact nature of the means used and effects produced remains usually ill-defined, but the fact of the connection received recognition and an explanation by the Church. In the words of Thomas Aquinas: "it must be said that since the first corruption of sin, through which man is made servant of the devil, came to us through the act of generation, therefore the power of sorcery is permitted to the devil by God in this act more than in others, just as more power of magicians appears in serpents than in other animals, since the devil tempted the woman through the serpent."¹³

That Gower considered the use of magic to attain one's sexual desire an actuality is further affirmed by the following lines from the *Mirour de l'Omme*, in which he clearly has in mind a sorceress who can compel love by magic means, probably by the use of philtres and charms.

Et tiele y a q'en sa vielesce
 Devient d'amour la sorceresse;
 Dont, qant ne puet par autre voie,
 Les cuers d'amer met en destresce:
 Mais plus que deable elle est deblesce,
 Quant foldelit ensi convoie;
 Et qui par tiele se pourvoie
 De l'amour dieu loign se desvoie;
 Car il au primes se professe
 Au deable, et puis son dieu renoie:
 Vei la tresdolorouse joye,
 Q'ensi laist dieu pour la duesse.

—9493-9504.

¹³ *Utrum maleficium possit matrimonium impedire*, 4.34.1.3.

The introduction of a discussion of sorcery into the *Confessio Amantis* is therefore less strained than that of many other scientific discussions.

Gower's attitude toward magic is the orthodox one of believing in its efficacy and condemning its practice.¹⁴ He defines his position in the final comment on the story of Nectanabus:¹⁵

I not what helpeth that clergie
 Which makth a man to do folie,
 And nameliche of nigromance,
 Which stant upon the mescreance.

—6.2363-66.

He qualifies his wholesale condemnation of magic to some extent, however, for he grants that geomancy, hydromancy, pyromancy, and aeromancy are permissible if used for good purposes.

For these craftes, as I finde,
 A man mai do be weie of kinde,
 Be so it be to good entente.

—6.1303-6.

A passage from Cornelius Agrippa will cast more light on these four methods of divination by the four elements:

Geomancy foretells future events from the movements, noises, swellings, shakings, splittings, gapings, vapors, and other impressions¹⁶ of the earth. . . But there is also another kind of geomancy which prophesies by means of points inscribed at random on the earth with some instrument. Hydromancy also furnishes prophe-

¹⁴ This is the position of Augustine, Abelard, Hugh of St. Victor, Hildegard, Alexander Neckam, Michael Scot, Albertus Magnus, Thomas Aquinas.

¹⁵ The same thought is expressed in *Confessio Amantis* 6.1286-89; 1373-75; 1386-87; 1768-76; 2090-96; 2377-80.

¹⁶ Technical use. See p. 44 for explanation.

cies through impressions of waters, their ebb and flow, risings and fallings, storms and colors, and the like. To this are added the visions which are seen in waters. . . Aeromancy furnishes prognostications by means of aerial impressions, gusts of winds, rainbows, circles around the sun and moon, fogs and clouds, shapes in clouds and visions in the air. . . So also pyromancy foretells by means of fiery impressions, comets, fiery colors, shapes and appearances in fire.¹⁷

There is no reason to assume that these methods of divination were more than so many names to Gower. He shows no acquaintance with the processes.

After making the above exception to magic practices, Gower inserts one of his frequent condemnations. Continuing his description of the desperate lover, he writes

Bot he goth al an other wente;
For rathere er he scholde faile,
With Nigromance he wole assaile
To make his incantacioun
With hot suffumigacioun.

—6.1307–11.

The use of suffumigations—the casting of certain herbs on fire in order to produce a drugged smoke—was a matter of common knowledge. Depending on the herbs used, men could prophesy, produce rain, lightning, and thunder, summon demons, and bring about many other marvels.¹⁸ Gower shows no information about the extent of power and the composition of suffumigations.

Although “nigromance” is used in the above lines in con-

¹⁷ *De Occulta Philosophia* 1.57.

¹⁸ H. Cornelius Agrippa, *De Occulta Philosophia* 1.43.

tradistinction to the permitted forms of magic, Gower does not discriminate carefully in his use of terms. Magic, sorcery, witchcraft, and necromancy are all synonymous. He identifies witchcraft and sorcery explicitly:

Ful many a wonder thing he doth,
That were betre to be laft,
Among the whiche is wiccheecraft,
That som men clepen Sorcerie,

—6.1286–89.

The power of Nectanabus is variously called “artemage” (1957), “magique” (2120), “nigromance” (2001), and “sorcerie” (2344).

The basis of the distinction between the permitted and the forbidden varieties of magic is not very definite. Gower evidently believed that magic was permissible under two conditions: (1) that the end to be gained be a good one; (2) that the means employed be “be weie of kinde.” It is the second restriction which is somewhat vague. It is probable that geomancy, hydromancy, pyromancy, and aeromancy are “be weie of kinde” because they resort to the four elements. The Latin gloss further emphasizes the distinction between “natural” magic and the forbidden variety: “Nota de Auctorum necnon et de librorum tam naturalis quam execrabilis magice nominibus.” In the writings of William of Auvergne is found a distinction which closely resembles Gower’s. Natural magic is the working of wonders neither by sleight of hand nor by recourse to devils, but by utilizing the occult powers resident in natural objects. Not all natural objects, however, possess occult virtues, or the number and magnitude of the works achieved would be much greater. For this reason, magic is more

flourishing in India than elsewhere, because materials possessing occult virtue abound there.¹⁹

In his customary manner Gower gives a list of authors of magic, and in his customary manner fails to demonstrate that he is acquainted with any of them. Macaulay has cited the resemblance of this passage to a list of authors and titles in the *Speculum Astronomiae* ascribed to Albertus Magnus, and these resemblances are printed below.

Thilke art which Spatula is hote,
And used is of comun rote
Among Paiens, with that craft ek
Of which is Auctor Thoaz the
Grek,
He worcheth on and on be rowe;
Razel is noght to him unknowe,
Ne Salomones Candarie,
His Ydeac, his Eutonye;
The figure and the bok withal
Of Balamuz, and of Ghenbal
The Seal, and thereupon thymage
Of Thebith, for his avantage
He takth, and somewhat of Gibiere,
Which helplich is to this matiere.
Babilla with hire Sones sevene,
Which hath renonced to the hevене,
With Cernes both square and
rounde,
He traceth ofte upon the grounde,
Makende his invocacioun;
And for full enformacioun
The Scole which Honorius
Wrot, he poursuieth:

—6.1311–32.

Spatula is the art of divination from the shoulder blades of ani-

¹⁹ Thorndike, 2.343–47. I am forced to use Thorndike's account, as William of Auvergne's works are not available to me.

"Ex libris vero Toz Graeci est liber
de *stationibus ad cultum Veneris*. . .
(Est autem unus liber magnus
Razielis, qui dicitur liber *insti-
tutorum*) . . . Ex libris autem Salo-
monis est liber de *quatuor annulis*,
quem intitulat nominibus quatuor
discipulorum suorum, qui sic in-
cipit: *De arte eutonica et ideica*,
etc. Et liber de novem candariis, . . .
(. . . cui adjungitur liber Beleni de
horarum opere) . . . Et alius parvus
de *sigillis ad daemoniacos*, qui sic
incipit: *Caput sigilli gendal et tan-
chil*. . .
Super istis imaginibus reperitur
unus liber Thebith eben Chorath,
qui sic incipit: *Dixit Aristoteles qui
philosophiam*, etc. in quo sunt ima-
gines. . ."

mals. A treatise *De Spatula* was translated from the Arabic by Hugh of Santalla in the early part of the twelfth century.²⁰ Gibiere is probably Geber. Although Geber is ordinarily associated with alchemy, his was one of those popular names to which a treatise on magic might well have been ascribed. I am unable to identify Babilla and her seven sons. "Cernes" are circles or other peripheral figures used in magic. Honorius was the supposed author of the *Liber sacratus* or *Liber juratus* as it was sometimes called because of the oath which had to be taken to gain possession of the volume.²¹

What information can be gleaned from this passage in regard to Gower's knowledge of magic? It must be said that with the exception of Geber, the authors named *are* reputed magicians. On the other hand, Gower fails to display any knowledge of the contents of these authors' works. He writes nothing which could not be found in some such list as that of the *Speculum Astronomiae*.

Gower recognized the existence of good and bad angels.

Je lis que toute creature
Chascune endroit de sa nature
Est au prodhomme obedient;
Car le bon angel pardessure
Du compaignie l'omme assure
Sicomme son frere proprement,
Et le mal angel ensement
Sicomme soubgit et pacient,
Malgré q'il doit a sa mesure,
Falt faire le commandement
Del homme,

—27001–13.

²⁰ Thorndike, 2.86.

²¹ The *Liber juratus* is described by Thorndike, 2.283–89.

Elsewhere Gower alludes to the doctrine that evil spirits inhabit the atmosphere immediately beneath the circle of the moon, ascribing his information to Fulgentius.²² Gower at no time, however, represents magic as being performed through the instrumentality of demons.

The power of words impressed Gower greatly:²³

In Ston and gras vertu ther is,
Bot yit the bokes tellen this,
That word above alle erthli thinges
Is vertuous in his doinges,
Wher so it be to evele or goode.
—7.1545-49.

The occult power of herbs, stones, and words received wide recognition in the Middle Ages. Gower, however, makes a strange combination of occultism and rationalization. In support of his statement of the efficacy of words, he advances the power of lying, prayer, and apologies along with the overcoming of wild beasts, charming serpents, healing wounds, and enchantments.²⁴

III

In addition to these speeches of the Confessor and the Lover, which may be taken as Gower's expression of personal opinion, there are instances of magic in a number of the stories which he tells. Although the magic elements are largely due to the sources which he uses and would not without the explicit state-

²² *Mirour de l'Omme* 13861-72. Further casual allusions to the devil and demons occur in *Mirour de l'Omme* 5081-83; 5793-96; 15553-640; 20905-17; *Vox Clamantis* 1.793-96; 1.1021-24; 6.907-8.

²³ See *Confessio Amantis* 4.437-38; *Mirour de l'Omme* 25585-96; *Balades* 19.1-8.

²⁴ *Confessio Amantis* 7.1560-85.

ments discussed above constitute evidence of Gower's belief in or knowledge of magic, a consideration of these stories is necessary to gain as complete an understanding as possible of his attitude.

The great magician of the *Confessio Amantis* is Nectanabus. His magical proclivities have been mentioned in connection with dreams and astrology. He was an astrologer, but he was also a magician, and the story of his adventures at the court of Philip of Macedon is introduced as an example of the evil end to which those come who resort to sorcery.

There are five details of the story of Nectanabus which may definitely be classified as manifestations of magic. Each of these is to be found in the *Roman de Toute Chevalerie*²⁵ in as much, and usually in more, detail.

1. Nectanabus foresees his defeat in battle—

Thurgh magique of his Sorcerie
—6.1799.

and flees. The *Roman* describes Nectanabus's method of making images of wax before fighting a battle, and judging the outcome of the battle from the mimic warfare through which he puts them. Although the author of the *Roman* describes the use of images and charms, he modestly confesses—

ne sai pas le jargoun
—72.

2. Nectanabus induces a dream in Olympias by making a wax image bearing her name, anointing the figure with herbs, and reciting incantations. A comparison with the *Roman* will illustrate the nature and extent of Gower's dependence on his source for magical procedure.

²⁵ P. Meyer: *Alexandre Le Grand dans La Littérature Française au Moyen Age*, 1.195-216.

And thurgh the craft of Artemage	Canque mestier li fu à cel art pur-
Of wex he forgeth an ymage.	chaça
He loketh his equacions	Les herbes acceptables concoilli et
And ek the constellacions	tribla,
He loketh the conjuncions,	Puis en après les jucs par son sen si
He loketh the recepcions,	medla,
His signe, his heure, his ascendent,	E puis de virgine cire une ymage
And drawth fortune of his assent:	molla;
The name of queene Olimpias	Le non de la reïne par lettre figura,
In thilke ymage write was	En un lit que ot fait cele ymage
Amiddes in the front above.	cocha,
And thus to winne his lust of love	Environ icel lit chandeles aluma,
Nectanabus this werk hath diht;	Del jus qu'il ot des herbes
And whan it cam withinne nyht,	cel'ymage arusa,
That every wyht is falle aslepe,	Par charmes qu'il saveit souvent la
He thoghte he wolde his time kepe,	conjura.
As he which hath his heure	Qanque Nectanabus à l'ymage parla
apointed.	La reïne en son lit par avision
And thanne ferst he hath enoignted	songa:
With sondri herbes that figure,	
And thereupon he gan conjure,	
So that thurgh his enchantement	
This ladi, which was innocent	
And wiste nothing of this guile,	
Mette, . . .	

—6.1957-80.

Gower has introduced certain astrological details which are not to be found in the *Roman*, and has omitted certain magical details. It should be observed that the consultation of the stars is to find the proper time for action, and has no immediate effect in causing Olympias's dream.

3. To protect Olympias from the wrath of her husband, Nectanabus charms a sea-fowl which he sends to Philip, thereby causing him to dream of the dragon's entrance into Olympias's bed. Gower only adds to the account in the *Roman* that Nectanabus performed a few rites at home while the sea-fowl was operating on Philip.

4. Nectanabus assumes the shape of a dragon to convince Philip that Olympias is really with child by a God. The terror of the court, the obeisance of the dragon to Olympias, the change from a dragon into an eagle, are faithfully reproduced by Gower from the *Roman*.

5. While Philip is hunting, a Pheasant drops an egg out of which a serpent crawls. After a brief expedition, the serpent attempts to return into his shell, but dies in the hot sun. A "clerk" interprets this as the career of Alexander. This event is really a portent, for neither the *Roman* nor Gower ascribes it to the instrumentality of Nectanabus. Gower does say that it was done "for the gretere evidence," but does not explain by whom.

Another man who came to a bad end through magic was Ulysses. Gower tells the story from the *Roman de Troie*,²⁶ and gives it a peculiar twist by finding there an object-lesson against sorcery. The moral is rather far-fetched. When Ulysses found himself on the same island with those two sorceresses, Circe and Calypso, it seems singularly fortunate that he was himself a magician of no mean ability.

Thei couthe moche, he couthe more;
Thei schape and caste ayein him sore
And wroghte many a soutil wyle,
Bot yit thei mihte him noght beguile.

—6.1441-44.

But Ulysses pressed his advantage to the point of getting Circe with child. This child, Telegonus, ultimately is the cause of Ulysses's death, and as sorcery was responsible for Telegonus, sorcery was therefore responsible for Ulysses's undoing. There are no descriptions of magic processes in the story, and no

²⁶ 28571-28666; 29629-30092.

—233-45.

references to magic which cannot be found in the *Roman de Troie*.

Gower makes briefer reference to Zoroaster and Saul as illustrations of the bad end to which followers of magic come. Zoroaster is named as the founder of magic,²⁷ and the omen of his laughing as soon as he was born, found originally in Pliny, is repeated. The episode in Saul's life referred to is his consultation with the witch of Endor.²⁸

Although the story of Jason and Medea²⁹ is introduced against the sin of perjury, it contains a considerable amount of magical lore. Medea gives Jason a magic ring, an incantation, an ointment, and a powerful glue. The glue is to throw into the mouths of the guardian bulls. The ointment is to protect him from the flames which issue from their nostrils. The stone in the ring has the power of making its possessor invisible and of protecting him from all peril.

The incantation is described with some confusion. It was recited three times immediately upon Jason's arrival at the island. It was written out and apparently had some connection with the power of the stars, since it seemed to Jason "an heavenly figure." As far as I can make out, the enchantment was something like the second type of astrological image described in the *Speculum Astronomiae*.³⁰

The second part of the story of Jason and Medea which is important for its magic is the rejuvenation of Eson. Gower takes this part of the story from Ovid³¹ and follows his source

²⁷ This popular statement is found in Pliny, Isidore, Michael Scott, Roger Bacon, Peter of Abano, Cecco d'Ascoli.

²⁸ *Confessio Amantis* 6.2367-90.

²⁹ *Ibid.*, 5.3247-4242.

³⁰ *Supra*, 57-58.

³¹ *Metamorphoses* 7.159-293.

closely. In Ovid he found the details of the midnight hour; Medea's bare feet and loosened hair; her turning around, wetting her hair, and groaning three times; her prayer to the stars and to Hecate; the descent of the dragon-drawn car from the sky; the names of the mountains she visits in Thessaly and in Crete; the gathering of herbs, some of which are pulled up by the roots, some of which are cut; the nine-day journey; the building of the two altars, one to Hecate, one to Youth; the digging of the two pits into which she puts the blood of a black sheep; the prayer to Pluto and Proserpine; the placing of the sleeping Eson on a bed of herbs; the lustration by burning brands, water, and sulphur; the witches' caldron which is boiled until a white foam appears; the olive branch which blooms; the letting out of Eson's blood, and injection of the magic fluid; the magic draught.

There are some deviations from Ovid, most of which are insignificant. Ovid says in one place that the time of the incantation was at the full moon, in another that only the stars were shining. Gower is more consistent in having the rites enacted by starlight only. Gower's geography is slightly awry, but as we have seen, he was not a distinguished geographer. The introduction of the Red Sea is his own, and Macaulay very reasonably suggests that he read "rubrum mare" for "refluum mare." Ovid does not call Pluto or Proserpine by name, but merely designates them as king of the lower world and his wife. There is no mention in Ovid of the fire which kindles the sacrifice on the altars being summoned from the sky by the charms of Medea. The lustration by sulphur is performed only twice, as against three times in Ovid. The only important addition by Gower is the passage in which Medea imitates the noises of the cock, the hen, and the lark, taking upon herself the shapes

of these animals as she does so. I am unable to find these particular transformations, although similar transformations can be found in the accounts of the witch trials.³²

The final demonstration of Medea's magical power is the destruction of Creusa by means of a poisoned robe which burns her to death. Gower describes this incident at greater length than Ovid, but there are no details deserving comment.

Gower mentions two cases of transformations. One is the river God Achelous.

This Achelons was a Geant
A soubtil man, a deceivant,
Which thurgh magique and sorcerie
Couthe al the world of tricherie:
—4.2075-78.

In the *Metamorphoses*³³ Achelous says "meas divertor ad artes." The forms into which he changes himself, a serpent and a bull, are the same in Ovid and in Gower. The second case of transformation is Mercury.

Of Sorcerie he couthe ynowh,
That whanne he wolde himself transforme,
Fulofte time he tok the forme
Of woman and his oghne left; ;
—5.940-43.

This passage is in the description of the false gods of the Greeks and is taken from the *Vita Barlaam et Josaphat*. Although the original does not mention the particular change from man to woman, it says of Mercury that he was "magus et versipellis."³⁴

Gower recounts briefly several other stories of magic. He

³² See M. A. Murray: *The Witch Cult in Western Europe*, 230-38.

³³ 9.31-88.

³⁴ *Patrologia Latina* 73.551.

tells of Robert Grosseteste's speaking head of brass,³⁵ which was destroyed after seven years of labor by the carelessness of a few moments. This story is told of a number of mediaeval scientists.³⁶ He also tells of Virgil's mirror, in which the approach of an enemy could be detected when they were still thirty miles distant.³⁷ In the *Mirour de l'Omme*³⁸ may be found references to Simon Magus, who rose in the air through magic art, but fell because of his too great pride. Following Peter Comestor,³⁹ Gower states that Moses made a ring which caused the wearer to forget his or her lover.⁴⁰ None of these stories contains more than the recountal of the bare facts.

³⁵ *Confessio Amantis* 4.234-44.

³⁶ Thorndike, 2.825.

³⁷ *Confessio Amantis* 5.2031-2224.

³⁸ 1897-1900; 18997-99.

³⁹ *Patrologia Latina* 198.1144.

⁴⁰ *Confessio Amantis* 4.647-65.

CHAPTER EIGHT

CONCLUSION

WE ARE led to the conclusion that Gower's knowledge of science was neither profound nor vital. In the discussion of alchemy, probably his most complete and satisfactory treatment of any of the sciences, and in his theory of man the microcosm, he is interested in general principles and underlying natural laws. For the most part he is content to record unrelated and at times barely understood facts. His physiology, medicine, meteorology, geography, geometry, and zoölogy are distinctly limited. In dream theory, he displayed no interest. His astrology, most important of the mediaeval sciences, would have failed to gain Alexander a place even in the classrooms of the doctors of Paris or Oxford. There is no hint of knowledge of the precession of the equinoxes, of the theory of trepidation, of Ptolemy's system of eccentrics and epicycles. There is no reason to believe that Gower could have used an astrolabe or cast a horoscope. On the basis of his observations on science, we are justified in considering Gower's mind as almost completely non-speculative.

Chaucer's eager curiosity and extensive learning in the sciences stand out in striking contrast.¹ It is not merely that the extent of Chaucer's knowledge is much greater. It is clear that Chaucer had studied the sciences until he had become at home with them, and was capable of thinking in terms of them. In Chaucer, the stuff of science is woven into the fabric of his stories. In Gower, the science is always superficial, unassimilated. It is in his formal treatment of the various sciences

¹ W. C. Curry's *Chaucer and the Mediaeval Sciences* illustrates admirably the extent to which Chaucer had assimilated scientific lore.

rather than in his stories that we must look for his science. If we had only the evidence of Chaucer, we might conclude that the cultivated fourteenth century audience was well grounded in the sciences. The evidence of Gower, who presumably wrote to the same audience, precludes any such possibility. We must regard Chaucer's knowledge as something unusual and distinguishing.

We should realize that along with the scientific writings of a philosopher like Albertus Magnus, an encyclopedist like Vincent of Beauvais, a practical astrologer like Michael Scot, a practical physician like Arnold of Villa Nova, there existed another type of mediaeval scientific work—the popular encyclopedia in the vernacular. The popular encyclopedia was sometimes in verse, as *L'Image du Monde*, sometimes in prose, as the *Trésor* of Brunetto Latini. Apparently the only qualification for authorship of this type of work was literary facility, the ability to express one's thought in pleasing fashion. Gower's scientific writings should be thought of not only as to a large extent deriving from this type of writing, but actually as belonging to it. The scientific portion of the "education of Alexander" is really a rimed encyclopedia. If we think of it as such, written to fill a popular demand of people who wished to be amused by being told things about the natural world, rather than to follow a knotty argument, we shall see it in clearer perspective. As such, it compares not unfavorably with the scientific portions of the *Roman de la Rose*.

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